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Why Teach? Exploring the Motivations and Expectations of First-Year, Alternatively Certified Agriscience Teachers

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School-Based agricultural education increasingly depends upon alternatively certified (AC) teachers to teach agriculture across the United States. Understanding why these individuals become teachers is an important step to better recruit and retain educators who do not complete traditional preparation programs. The purpose of our study was to explore the backgrounds, motivations, and expectations of AC agriscience teachers joining the profession. Our study was guided by the social cognitive career theory and utilized a qualitative phenomenological approach. We interviewed seven AC agriscience teachers in Florida during their first-year teaching to explore their journey into teaching agricultural education. Six major themes were found, including background and interest in agriculture, positive teaching self-efficacy expectations, positive teaching outcome expectations, right location and right time, exciting but challenging, and more than expected. We recommend providing support programs tailored for AC agriscience teachers that are guided by the similar backgrounds, motivations, and expectations of AC teachers.

Keywords: alternative certification, career decision-making, teacher education, teacher induction

Introduction and Problem Statement

One of the most urgent problems facing school-based agricultural education (SBAE) is the national deficit of qualified teachers needed to fill vacant positions across the country

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(Eck & Edwards, 2019; Foster et al., 2019). To combat teacher shortages, governing agencies in education have offered routes for individuals to become teachers other than by completing traditional teacher education programs. The term alternative certification is used to describe the process in which a state licenses an individual to teach who has not completed a post-secondary teacher education program (Hoepfl, 2001). The requirements to become alternatively certified (AC) vary highly by state (Devier, 2019). In Florida, individuals seeking to become AC must have earned a bachelor's degree and have passed the Florida Teacher Certification Examinations (Florida Department of Education, 2017). Over the past 35 years, the percentage of AC teachers entering the profession has increased (National Academies of Sciences, Engineering, and Medicine, 2020). In SBAE, Rocca and Washburn (2006) reported that AC teachers represented over half of all new teachers in Florida. Due to the increasing reliance on AC teachers to fill wide-spread teaching vacancies in SBAE, the profession must be able to successfully recruit and retain them. While no differences in turnover intentions between AC and traditionally certified teachers in SBAE have been found (Claflin et al. 2020), most AC teachers uniquely enter the profession and face explicit challenges (Rocca & Washburn, 2006). Several studies in broader education have reported that actual teacher turnover is higher among AC teachers compared to traditionally certified teachers (Carver-Thomas & Darling-Hammond, 2019; Redding & Smith, 2016). The aim of this study was to explore AC agriscience teachers' motivations to enter the teaching profession and their initial expectations about teaching. This information can guide needed recruitment and retention initiatives for AC agriscience teachers (Cannon et al., 2022).

Theoretical Framework

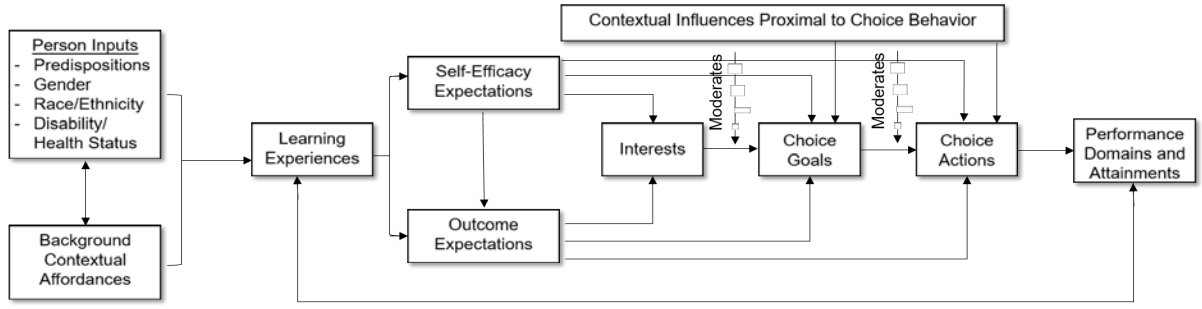
This study was guided by the social cognitive career theory (SCCT) (Lent et al., 1994). Heavily influenced by Bandura's (1986) social cognitive theory, SCCT explains how individuals develop career interests, make occupational choices, achieve levels of success and stability in the workplace, and experience satisfaction in their work environment. The theory presumes individuals have some level of personal agency over their occupational decisions, in addition to a variety of modifying factors outside of the individual's control. Two primary factors influencing interest development and career choices are self-efficacy beliefs and outcome expectations. Self-Efficacy beliefs, or the belief in oneself to be able to perform a task, are primarily developed through previous experiences, including personal performance, observing others, and persuasion from others (Bandura, 1986). The individual considers if they can perform a given task based on their prior experiences or perceptions. Outcome expectations refers to an individual's beliefs about the consequences of their behavior (Bandura, 1986; Vroom, 1964). These are developed in a similar way to self-efficacy beliefs, through both direct personal experiences, and observations of others' experiences. Positive self-efficacy beliefs can induce people to pursue certain career paths, while negative self-efficacy might cause them to avoid others (Hackett & Betz, 1995).

The agentic decisions to pursue or not pursue various career paths lead to establishment of personal goals, which are directly affected by their self-efficacy and

outcome expectations (Lent et al., 1994). In addition to these factors, other contextual factors, background factors, and personal identities influence decision-making and goal-setting. While there are times when individuals' intentional choices lead to career decision-making based on personal interests, there are times when environmental conditions force career decisions. For example, being geographically limited as to where an individual can work due to the work location of the spouse (Geist & McManus, 2012). Job-driven moves tend to follow the husband's career path in heterosexual couples, and the wife becomes a "tied-mover" in that she has to move because she is tied to the relationship, regardless of her employment status (Geist & McManus, 2012). When a spouse has limited opportunities to seek employment outside of a geographic region due to their partner's job, they are referred to as a "tied-stayer." Clearly, there are times where the relationship status of the individual impacts their employment opportunities and decisions. The SCCT asserts that a series of ongoing dynamic processes and influences lead to career choice actions. Figure 1 illustrates how these factors interact to lead to career pursuit behaviors.

Figure 1

Model of Person, Contextual, and Experiential Factors Affecting Career-Related Choice Behavior



Note. Direct relationships are represented by solid lines; dashed lines represent modifying variables which strengthen or weaken the relationship. Copyright 1993 by R.W. Lent, S.D. Brown, and G. Hackett. Reprinted by permission.

The SCCT provides an appropriate lens to investigate why AC teachers made the decision to enter the teaching profession. Prior research has reported that AC teachers enter the profession due to a desire to help students and to contribute to society, while also being able to share their passion for a specific discipline (Salyer, 2003). Teachers' prior exposure with teaching and job availability have also been shown to positively influence their career decision (Salyer, 2003). In SBAE, Cannon et al. (2022) reported that AC teachers' prior teaching and learning experiences and social influences (e.g., support from family and community) were factors motivating their decision to become teachers. The researchers also reported that the AC teachers in their study shared agricultural backgrounds and held agriculture-related degrees, but ultimately became

teachers unexpectedly when the opportunity arose. Claflin et al. (2022) described AC agriscience teachers' passion for agriculture content as a primary factor influencing their decision to enter the profession

Purpose

Since AC agriscience teachers may not have originally chosen to intentionally pursue a career in agricultural education, as evident by not having completed a traditional teacher education program, it is important to account for their career decision-making. A better understanding of why and how AC agriscience teachers enter the profession can inform teacher recruitment and retention efforts. The purpose of this study was to explore the backgrounds, motivations, and expectations of Florida AC agriscience teachers joining the profession. The two research questions that guided our investigation were:

1. What background and motivational factors influenced AC agriscience teachers to pursue teaching?
2. How did AC agriscience teachers' initial expectations for teaching compare with their actual experiences teaching during their first year?

Methods

This research was part of a larger study where we conducted interviews with first-year, AC agriscience teachers in Florida (Barry et al., 2022). Working from a philosophical perspective of constructivism (Crotty, 1998), we used a phenomenological research design (Creswell & Creswell, 2018). All members of the research team are former secondary agriscience teachers who are now university faculty who work to prepare and support agriscience teachers.

To ensure trustworthiness of our findings, a variety of strategies were used to promote validity and reliability. A semi-structured interview guide (see Appendix A) was used during teacher interviews. The interview guide was first piloted with a teacher who had just completed her first-year teaching and modifications to the guide were made. For consistency, all interviews took place in May of 2018 and were held in each teacher's respective classrooms following the school day. Only interview data obtained from portions of the interview guide that pertained to background, career motivation, and first-year expectations were reported in this study. Each teacher interview was conducted by two members of the research team. Notes were taken during each interview and member checking techniques were used (Lincoln & Guba, 1985). Interviews were recorded and later transcribed, and transcripts were shared with respective participants.

Three members of the larger research team were responsible for the coding and analysis of the transcripts. The three researchers worked toward aggregation of the data into a small number of themes, allowing codes or key words to emerge during the data analysis (Creswell & Creswell, 2018). Transcripts were coded by each researcher individually, and then the three researchers met to share their initial codes to ensure inter-coder reliability. Common themes among the three researchers' codes were established for each participant. Once these themes were established, the three researchers

individually returned to these themes and identified overall themes across the seven participants. The researchers, again, collaborated to ensure the themes identified were consistent across the researchers. Finally, these themes were compared back to the SCCT model (Lent et al., 1994) to identify elements of the model present in our findings.

All seven participants in this study were first-year, agriscience teachers in Florida who were alternatively certified. These participants represented all first-year, AC agriscience teachers in Florida during the 2017-2018 school year, none of whom held previous teaching experience in SBAE. A majority of the participants were women (5/7), married (4/7), and taught in a single-teacher agriculture program. For a more complete description of participants, see Table 1.

Table 1

Descriptive Profiles of the AC Agriscience Teacher Participants

T#	Pseudonym	Participant Profiles
T1	Natalie	Natalie joined a single-teacher SBAE program at the middle-school level. She was not exposed to SBAE growing up, but developed a keen interest in the environmental sciences through an advanced high school curriculum. Prior to becoming an agriscience teacher, Natalie earned an advanced degree in the technical sciences and has prior experience in non-formal education. Natalie is in a long-term, domestic relationship.
T2	Mary	Mary is a young woman who is not married. Although she did not participate in SBAE as a student, she developed an interest in agriculture through her work experiences. After earning a bachelor's degree in a technical agriculture field, she worked in the agriculture industry for a couple of years before deciding to join a two-teacher SBAE program at a high school due to the job being closer to home. She liked the idea of teaching because her parents were both teachers.
T3	Allison	Allison was involved in showing animals for both 4-H and FFA during her youth. She continued her higher education in the animal sciences in college where she met her husband. Allison's career prospects were limited to the geography of her husband's work and family. Allison found employment within a single-teacher SBAE program at the high school level.

T4	Cathy	Cathy grew up heavily involved in agriculture and FFA. She earned a technical degree in agriculture and intended to enter a career in production agriculture. However, her job prospects were limited due to the geographical location of her husband's career. Cathy was excited to join a single-teacher SBAE program at the high school level.
T5	Paige	Paige is a young, single woman who developed an interest for agriculture through her love for animals and participation in FFA. She earned a degree in an environmental-related field. Before entering into a single-teacher, middle school SBAE program, she held a full-time position for several years as a non-formal educator.
T6	Ron	Ron was involved in both 4-H and FFA during his youth, and both of his parents were teachers. Although Ron initially was interested in pursuing an agricultural education major in college, he switched his major to a technical field. Before joining a two-teacher, middle school SBAE program, Ron married his wife and held a long-term job in the natural resources industry.
T7	Steve	Steve grew up in a rural small town and was exposed to lots of animals growing up. He was active in 4-H and the outdoors, which led him to obtain a science degree. Before entering the teaching profession, he held a variety of long-term environmental jobs. Steve is married and entered a single-teacher SBAE program at the middle-school level.

Note. All teacher names have been changed to pseudonyms to protect participant identity.

Findings

Six themes emerged from our study and were organized based on our research questions. The four themes that emerged to address Research Question 1 were: (1) *Background and Interest in Agriculture*; (2) *Positive Teaching Self-Efficacy Expectations*; (3) *Positive Teaching Outcome Expectations*; and (4) *Right Location and Right Time*. The two themes, (1) *Exciting but Challenging* and (2) *More than Expected*, pertained to Research Question 2. Results are presented by teacher number (e.g., T1 = teacher 1) and teacher pseudonyms presented in Table 1.

Research Question #1: What Background and Motivational Factors Influenced AC Agriscience Teachers to Pursue Teaching?

Theme #1: Background and Interest in Agriculture. All teachers described establishing a connection to agriculture or natural resources during their youth. Participants [T3 - T7] recounted positive childhood experiences involving animals and the outdoors. Several teachers raised and showed animals during their youth, as Cathy described, "I've had cattle growing up since I was about eight." Steve shared a similar experience, "I've been raising animals pretty much my whole life." Additionally, a majority of teachers [T3 - T7] reported exposure to formal or informal agricultural education through 4-H and/or FFA programs. Paige described becoming involved in agriculture through her experiences in SBAE, "eventually all my electives were FFA, like ag-related electives." She continued by describing how she took leadership roles in FFA, "I was in FFA all four years of high school. I was treasurer two of those years … then in my senior year I was president of my chapter."

All teachers described pursuing postsecondary education in agriculture or a closely related field with the intent of finding a career related to their specific discipline of study. Although one participant [T6] initially pursued a degree in agricultural education with an intent to become an agriculture teacher, he decided to switch college majors. No other teachers indicated an initial pursuit of teaching agriculture as a career. In addition to pursuing a degree in agriculture or a related discipline, all teachers reported obtaining full-time or temporary (e.g., internship) work experience in agriculture or a closely related field prior to becoming an agriscience teacher. However, for two participants [T3, T4], teaching agriculture was their first full-time job out of college.

Theme #2: Positive Teaching Self-Efficacy Expectations. Although teaching SBAE was something most participants initially had not planned to do, over half of teachers knew of teaching agriculture as a career option due to their own previous involvement with agricultural education and FFA. Most participants recalled how their former teachers in ag-related disciplines, including in high school [T1, T3, T4, T5, T6, T7] and in college [T3], were able to make a positive difference in themselves and other students. Participants believed they could have a similar impact on their students. Natalie described her experience by saying, "[My agriculture teacher] showed me how much of an impact [teachers] can have on someone at that age … so I wanted to maybe have that kind of an impact." Steve had a similar experience and added, "if they can do it, I'm pretty sure I can handle it." A similar observation occurred when participants [T2, T5, T6, T7] described having parents or relatives who were teachers. For example, Mary believed that she would be an effective teacher because both of her parents and her brother were teachers. Mary stated, "[My parents] did fine. My brother was fine. It can't be too bad."

Natalie first learned about teaching SBAE as a career because someone she knew recommended she apply for a job opening for teaching agriculture. In fact, for most teachers someone recommended this career path due to an immediate agriculture teacher opening [T1, T2, T3, T6]. These individuals not only recommended the job to our participants, but encouraged our participants to apply because they believed they had the traits and content knowledge required to be a good agriculture teacher. These words of encouragement seemed to improve participants' teaching self-efficacy expectations. Most

teachers [T3, T4, T5, T7] considered themselves to have an ingrained talent or aptitude for teaching. Allison described taking career aptitude tests in middle school and high school and her test results recommending teaching as a career. She states, “I always thought that I might be good at it.”

Despite teachers believing they had an ingrained talent to teach, most teachers [T1, T2, T3, T4, T7] described being confident in teaching agriculture, as opposed to other subjects, because of their background knowledge in the discipline. For example, Allison stated, “I knew from the get go, if it’s not agriculture, I can’t teach it. There’s no way. But because I felt comfortable in agriculture … I’m fully comfortable teaching.” Like other teachers [T2, T3, T4, T7], Mary described her ability to bring her previous agricultural experiences into the classroom by saying, “I like teaching students about animal science since I’ve been around animals. It’s nice to bring my personal experiences from my previous jobs.” Teachers considered themselves to be knowledgeable in areas within agriculture, and even prior to entering the teaching profession, believed they would be successful sharing their passion and knowledge about agriculture to the younger generation.

Theme #3: Positive Teaching Outcome Expectations. Overwhelmingly, teachers held positive outcome expectations for teaching SBAE prior to entering the profession. All but one teacher [T2] described a personal fulfillment for teaching the next generation and believed they could make a positive difference in the lives of youth through teaching agriculture. Cathy recounted her primary influence of becoming an agriscience teacher by saying, “[to] improve our future, because the children are the future.” She continued by describing that teaching agriculture can “change [students’] mindsets.” Allison found it appealing to make a positive difference in students’ lives and believed that by teaching agriculture and exposing students to FFA, she could “impact the students in some way, even if it’s small or big.” In fact, Allison believed that by teaching agriculture, she could positively impact “[students’] families and the community.” Notably, one teacher [T6] described having positive outcome expectations and enjoyment for advising FFA. Ron described FFA as “the main part of what [he] enjoys doing,” and stated that without it he would likely “go back to [his] old job.”

Theme #4: Right Location and Right Time. Teaching agriculture as a career would not have been likely for our participants if it was not for unique circumstances. Several teachers [T1, T2, T3, T4, T6] described applying for the position due to location. For example, two teachers [T3, T4] described being limited on career options within range of their spouse’s employment or family. Cathy stated, “I realized that I needed a job when I moved here, and they mentioned they wanted to start an Ag program. I figured that would be something good for me.” Allison said if she could be “more mobile, [she] probably would not have gone into teaching,” while Mary described leaving her former employment in favor of the teaching position, because she “wanted something that was a lot closer [to home] and still had to do with Ag.” Ron mentioned that he considered teaching agriculture in the past, but never pursued it until “the [local] opportunity presented itself.”

Research Question #2: How did AC Agriscience Teachers' Initial Expectations for Teaching Compare with Their Actual Experiences Teaching During Their First Year?

Theme #1: Exciting but Challenging. Overall, teachers [T1, T2, T3, T4, T5] were excited and held a positive attitude entering teaching, despite expecting challenges. Two teachers [T1, T3] anticipated their lack of experience with planning. Natalie indicated planning would be challenging by saying, "I knew it was going to be challenging, at least in terms of developing materials and understanding how lessons work… I had to come up with lessons, which I knew was going to be difficult." Similarly, Allison stated,

> I also was just very wary because I did not have the Ag Ed background. That made me very nervous, because of lesson planning…I knew lesson planning and having to figure out exactly what you're going to teach... I was a bit overwhelmed by that. I knew I could tell them about Ag, but as far as planning to teach them and having a well-thought-out plan on how to keep them engaged, how to keep them interested, those things were what I worried about.

Mary revealed that simply speaking in front of her classes would be challenging. She stated, "I wasn't a public speaker and, you know, 25 to 30 new faces looking at me, waiting for me to say something [would be challenging]." In addition to planning and teaching, classroom management was an expected challenge [T5, T7]. Paige acknowledged, "I knew that I was going to have to try to figure out classroom management, which I'm still not great at."

In addition to expecting classroom challenges, several teachers [T1, T3, T5] anticipated major time commitments. "I knew there's going to be more hours involved than just the time from the morning bell ringing to the bell ringing at the end of the day," said Natalie. Likewise, Paige stated, "I knew it was going to be more than a 40-hour week job." Cathy also admitted to expecting challenges based upon her age. She remarked, "I'm so young. That's why I was really nervous, especially, you know, will the kids take me seriously? Will they respect me?"

Overall, teachers recalled looking forward to setting up their classroom and anticipated students being interested in the content and eager to learn [T2, T3, T4], especially through hands-on experiences. When discussing her classroom, Cathy stated, "I couldn't wait to get in here and get it set up." Mary said she thought she would "have a lot of kids that are super interested in Ag." She continued by saying, "I really thought, like, oh, this is going to be a great year." Similarly, Allison expected to enjoy her position. She remembered thinking, "it would be fun. … these kids are good kids and are going to love it." Cathy shared that she wanted her students "to enjoy coming to class and have more hands-on [experiences] than what they see in their other classes."

Teachers also expressed expectations for a prepared curriculum [T5, T7] and working with the local community [T3, T4]. Paige shared, "I initially thought that there was a particular curriculum that was set up and then I was just going to follow. That's

funny, right?" Ron revealed, "I was worried about retaining my job as a teacher and teaching first. So, the first year was focused more on classroom management and learning the curriculum." In addition to having initial expectations about the curriculum, Cathy noted her expectations for community engagement, such as "getting used to the community." She also realized, "some of the teachers didn't know what FFA was or what [agricultural education] was," and discussed how she and the students had to help them understand.

Theme #2: More Than Expected. All teachers indicated that some of their initial expectations were recognized. Among the met expectations, were the additional time commitment of being an agriculture teacher [T1, T3, T5, T7] and involvement with FFA [T6, T7]. For example, Paige stated, "I knew it [was going to] be more than a 40-hour week job, but the first two months, three months it was like 80-90 hours in the week that I was trying to figure out my life."

Teachers had mixed feelings toward prioritizing program duties. While Steve confirmed the importance of teaching in the classroom over FFA activities by stating, "I had to put FFA on the back burner, because it is overwhelming," Ron noted, "The contests are basically exactly what I thought they would be like. Working with kids on their animal projects, that's what I thought it'd be like."

When comparing their actual experience to their expectations, one teacher, Natalie, identified two ways in which the experience was easier than she expected. She noted, "The animals have not been as difficult as I thought it was going to be." She also noted that resources from other teachers have decreased her planning concerns. Natalie stated,

> There have been very helpful other Ag teachers that have been sharing their lessons on materials that they have that I can kind of work with, so I have a starting point as opposed to starting from scratch with everything. [This] is what I thought I was going to have to do, so I actually had guidelines to kind of work with and past lessons from other Ag teachers and teachers that were here before that I could kind of update and tweak and put my flair on it. So that was helpful.

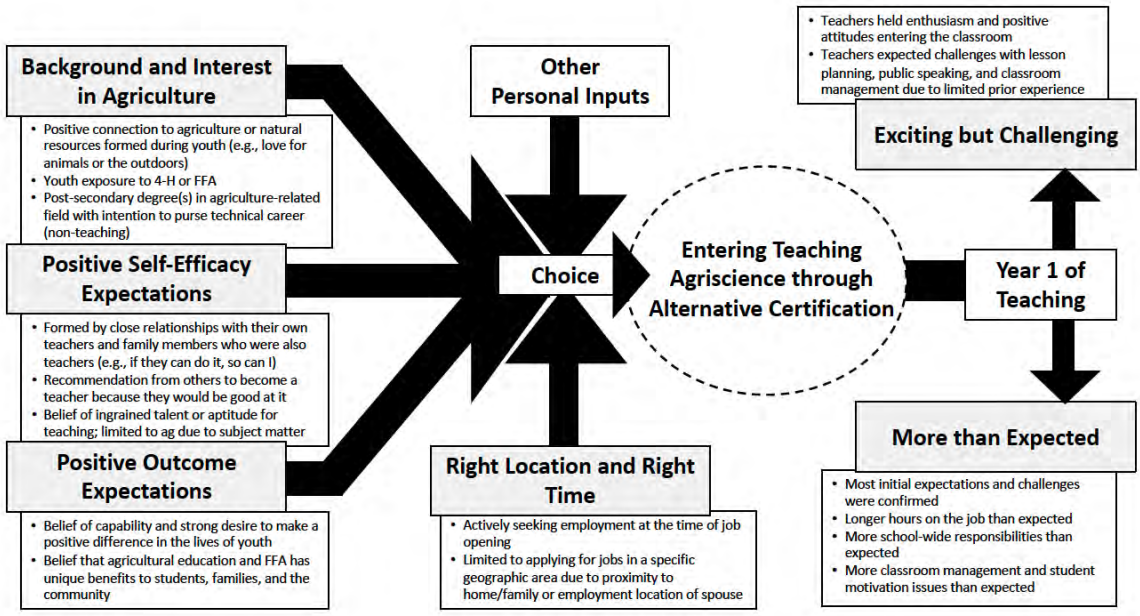
The remaining six teachers identified experiences that amplified the challenges they expected. "I was expecting it to be way easier than what it is for sure," admitted Allison. Ron mentioned, "There's definitely a lot more responsibilities at the school that I had no idea I was coming into." Several teachers [T2, T4, T6] mentioned having additional classroom management issues than they expected. Mary reflected, "I realized that there are some students who would fall behind a little bit, and that not everyone would be at the same level. So, there's some students that need a little extra attention, a little extra time, more one-on-one." Additionally, Cathy noted, "Sometimes they think that they can be my friend, and that's not the case. So that was a little awkward." Two teachers [T2, T6] mentioned differences in student interest and motivation. Mary said, "I thought they'd be all motivated and stuff, but there's some they just kind of threw in my class, that weren't interested in Ag, [and] didn't have any business being in Ag." Others [T6, T7] recognized additional, unanticipated responsibilities. Ron stated, "There's

definitely a lot more responsibilities at the school that I had no idea I was coming into. I just came from bus duty. We do cafeteria monitoring in the morning. There's a lot of extra things that I didn't know that went along with it." Steve added, "all the legislation … and protecting the farming industry, that's important too. So, a lot of things that I didn't really realize before."

Conceptual Model of Results. A conceptual model was created to provide a holistic illustration of the findings for Research Questions 1 and 2. The model demonstrates the integrated relationship between the themes *background and interest in agriculture*, *positive self-efficacy expectations*, and *positive outcome expectations* when making the decision to enter teaching agriscience through alternative certification. Additionally, the theme of *right location and right time*, highly influenced our participants' decision to become AC agriscience teachers, however it was found to have less of an integrated relationship with the prior three themes. Because additional variations impacted our participants' decisions to enter teaching, "other personal inputs" were added to the model. The themes *exciting but challenging* and *more than expected* summarized are findings for how participants' initial expectations for teaching compared with their actual experiences teaching during their first year. These themes were added as outputs to the model. Figure 2 shows the conceptual model which illustrates the themes found in this study, provides a summary of each theme, and highlights the relationships between the themes.

Figure 2

A Conceptual Model to Entering Teaching Agriscience through Alternative Certification



Discussion

The findings from this study are closely aligned with the SCCT model (Lent et al., 1993) that describe how career interests start from background and contextual affordances. A predominant factor that led AC agriscience teachers to pursue teaching was their strong background in and passion for agriculture. In fact, their disposition toward teaching agriculture was so strong, none described interest in teaching other subjects. Some of our participants also indicated that the position was in the "right place at the right time," which was particularly prominent for married participants who were brought to an area due to their spouse's job, supporting previous work by Geist and McManus (2012). Our participants, uniformly, described a connection to agriculture or natural resources that began from childhood, and most had involvement in formal or informal experiences in agricultural education during their adolescence. Their interest in the subject of agriculture led them to obtain college degrees in agriculture-related fields and work experience in the agricultural industry. These findings are congruent with prior reports that AC agriscience teachers held backgrounds embodied in agriculture (Cannon et al., 2022; Claflin et al., 2022).

Also aligning with the SCCT model, our participants described having aspects of a positive teaching self-efficacy before entering the profession. Having a strong belief in one's teaching ability has been shown to be a major influence on choosing teaching as a career (Watt & Richardson, 2007). Although our participants did not have training in education prior to becoming teachers, many believed they had an ingrained talent to teach. Furthermore, their perceived ability to teach was bolstered through encouragement by role models and mentors, many of which were teachers themselves, and in some cases from parents or relatives who were teachers. Our conclusions confirm findings from Pozderac et al. (2022) who described role models and mentors, particularly parents who were teachers or their own teachers, as being highly influential to one's decision to teach SBAE.

Lemons et al. (2015) described that agriculture teachers hold high expectations about teaching when entering the profession. Similarly, and aligned with outcome expectations of the SCCT model, we found that AC teachers in our study believed they would make positive impacts to students and the community. Watt and Richardson (2007) describe that for most entering the broader teaching profession, the choice to become a teacher was a primary career choice. However, we found that this is not the case for AC teachers. Our participants identified that the opportunity to teach presented itself and it was never explicitly planned. For many of our participants, career selection was limited to geographical locations, either by preference or by spousal commitments. These results confirm prior findings on AC teachers (Cannon et al., 2022; Claflin et al., 2022; Salyer et al., 2003). Our participants expected challenges prior to entering their first year of teaching. They acknowledged their lack of formal teaching preparation, and described expecting challenges with lesson planning, classroom management, and time. Despite expecting challenges, our participants described being very excited to begin teaching, working with students, and sharing their passion for agriculture. Similar to

findings from Zulkifli et al. (2018), we found some AC teachers were surprised by larger than expected challenges.

Conclusions and Recommendations

The recruitment and retention of teachers is of paramount significance as wide-spread teacher shortages are occurring across the United States (Lindsay, 2021). Providing pathways to alternative teacher certification is one strategy to combat the teacher shortage. Although these teacher shortages are not limited to career and technical education, alternative means to attract teachers into such programs, like SBAE, should consider approaches to recruitment and retention that fit the needs of individuals entering teaching through alternative certification. The findings from this study illustrate that AC agriscience teachers share similar characteristics that influenced their decision to enter the SBAE program. Our findings show that AC agriscience teachers tend to have a background and interest in agriculture that was formed by childhood experiences with animals, the outdoors, and educational experiences (e.g., FFA, 4-H). Furthermore, these individuals had high self-efficacy of their teaching ability. They believed they had a talent for teaching, and this belief was confirmed by others. Lastly, these teachers believed they would make a positive difference in the lives of their students, especially by teaching agriculture. However, despite these characteristics, many individuals would not have entered the classroom if it were not for the opening of the teaching position at the right place and at the right time.

As school administrators attempt to fill vacant agriscience teaching positions and rely on AC teachers, considerations should be given to posting vacant positions on jobs boards outside of standard education-focused platforms. For example, posting these positions within job boards for the broader agricultural industry may attract additional qualified candidates. Considerations should also be given to recruit recent graduates of post-secondary technical agricultural and natural resource programs, especially graduates with prior involvement in FFA or 4-H.

As AC agriscience teachers enter the classroom and begin teaching, understanding their expectations and meeting their needs are essential to their retention. Our findings illustrate that teachers retained their excitement toward teaching, and many of their expectations, including challenges, were confirmed during their first year. However, we also found that AC teachers experienced additional challenges they were not expecting. Teachers were surprised to encounter unmotivated students, issues with classroom management, and additional school-wide responsibilities.

Differentiated professional development for groups of teachers with similar needs can improve teachers' effectiveness and career retention (Rose & Sughrue, 2020; Touchstone, 2015; Yopp et al., 2020). Based upon our study, we recommend using tailored support programs for new AC agriscience teachers that harness the shared backgrounds, motivations, and expectations of these individuals. We recommend these programs to confront collective challenges that arise from unexpected challenges. Based on our findings, it is recommended tailored professional development programs for AC teachers should focus on classroom management, lesson planning, and motivating

students. Eck et al. (2019) described the need for teachers to maintain work-life balance, and this topic is especially important for AC agriscience teachers entering the teaching profession.

There are several limitations to this study. Due to the qualitative methodology employed, results should not be generalized beyond the participants in this study. The experiences of AC teachers entering the profession are likely to vary on a state-by-state basis as requirements and programs for alternative certification are unique at the state-level. The participants in this study represented all first-year AC teachers in Florida, however it should be recognized that experiences of first-year AC agriscience teachers in other states may vary. We recommend conducting similar studies in other states to see if AC teacher motivations to enter the teaching profession and first-year experiences are similar to the findings from the study. Additionally, our study only briefly explored the impact of gender and family status in AC teacher recruitment and retention. Future research is recommended to further investigate how gender and family status influences career migration within career and technical education.

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Appendix A

SEMI-STRUCTURED INTERVIEW GUIDE
1st YEAR ALTERNATIVELY CERTIFIED TEACHERS

Location: **Date:**

WELCOME/ PROCESS & PURPOSE (2 minutes)

Moderator reads: Hello. Thank you for taking time to provide your insights to our research today. My name is [Name] and this is [Name] and we will be conducting the interview with you today.

You have been selected because we are interested in hearing about your experiences as an alternatively certified agriculture teacher. Our purpose is to examine the overall motivation and well-being of alternatively certified (AC) first-year agriscience teachers - those that hold a temporary teaching certificate.

Our role here is to ask questions and listen. I'll be asking around ## questions. We welcome all opinions and will keep them confidential, so please feel free to say what you think. This session will be recorded so that we are able to consider your views later. For the sake of clarity, please be sure to speak loudly and clearly so that our recorders can pick up your comments. Also, please try not to tap on the table. It makes it more difficult to hear you when we go back to listen to the audio.

We will be on a first-name basis during our interview, but in our later reports there will not be any names attached to comments. You may be assured of confidentiality.

Our session will last about an hour and 15 minutes. Do you have any questions before we begin?

Introduction (2 minutes)

- Tell us a little about yourself?

Objective 1: Determine the reasons that AC agriscience teachers pursued an agriscience teaching position (20 minutes)

- What was your previous career experience(s)?
- What were your previous educational experiences?
- How or from whom did you learn that school-based agricultural education was a career option?
- When did you decide you wanted to teach?
    - When did you decide you wanted to teach agriculture?
- Why did you decide you wanted to teach?
    - Why did you decide you wanted to teach agriculture?
    - What attracted you to this profession?
- Were there specific circumstances, experiences, or individuals that developed/supported your interest in teaching?
    - Teaching agriculture?

    - What would you say had the greatest influence on encouraging you to pursue an agriscience teaching position?
- Can you identify any factors that discouraged or challenged your decision to teach school-based agricultural education?
    - If yes, can you explain these?
    - What would you say had the greatest influence on discouraging you to pursue an agriscience teaching position?
- From a career perspective, what aspect(s) of school-based agricultural education are particularly appealing to you?
    - Why?
- What aspect(s) of school-based agricultural education are least appealing to you?
    - Why?
- What would you say had the greatest influence on encouraging you to pursue an agriscience teaching position?

Objective 2: Identify the challenges faced by AC agriscience teachers (15 Minutes)

- What were your initial expectations for coming into teaching?
- Have your experiences in teaching aligned with your expectations coming into teaching?
    - Similarities?
    - Differences?
- Do you feel like you are managing the demands of teaching…
    - well most of the time,
    - feeling stressed and overwhelmed at times, or
    - feeling overwhelmed most of the time?
- What significant challenges have you faced in teaching Ag?
    - Which of these is an everyday or ongoing challenge?
    - What do you think has caused some of these challenges?
- On a scale of 1-10, how difficult has it been for you to respond to the challenges you've experienced?
- What impact have these challenges had on your
    - personal well-being,
    - performance,
    - confidence, and
    - satisfaction in teaching?

Objective 3: Discover the successful coping/response strategies employed by AC agriscience teachers (20 minutes)

- What specific strategies have you used to address the challenges you've faced in teaching?
    - Where did you learn these strategies?
    - How did you develop these strategies?
- How confident are you at this point that you can effectively address the current and future challenges you will encounter in teaching?
    - Please explain.
- Who has been the most supportive of you as a 1st year teacher?
- What kind of support do you receive from your administration?
    - School district?
    - County CTE/Ag Supervisor?
    - Other ag teachers?
    - Other teachers in your building?
- What training did you receive prior to entering the classroom?

    - What was most useful/effective?

    - What was least useful/effective?
    - What else do you wish you had?
- What areas in this career field do you feel you need the most support at this time?
- On average, how many weeknights do you do spend on work related to your teaching?
- On average, how many hours do you spend during the weekend on work related to your teaching?
- Do you enjoy teaching?
    - Why or why not?
- Do you intend to keep teaching?
    - Why or why not?
    - If so, for how long?
    - Is this view different from your intention when you began the profession?
- Is your confidence in your teaching effectiveness higher, lower, or about the same as it was in your first two months of teaching?
    - Why?
- Based on your experiences, what advice would you offer to a new alternatively certified teacher entering the classroom?

Resiliency Questions (5 Minutes)

- If you are willing to share, what were your childhood and schooling years like?
- Did you have chores and responsibilities growing up?
    - Please explain these.
- Do you believe you grew up in a loving and supportive home?
- How were you treated by your teachers and peers during your schooling years?
- Ask them to complete the mindset inventory. (at another time)

Concluding Questions (5 minutes)

- After today's discussion, how would you summarize your thoughts about your overall motivation and well-being as an alternatively certified agriscience teacher?

- What recommendations would you give to those who serve in a role to support alternatively certified agriscience teachers?

CONCLUDING DISCUSSION (5 minutes)

As we've talked today about your experience as an alternatively certified ag teacher:

- Have you thought of anything else you'd like to say that we have not discussed?

I am now going to try to summarize the main points from today's discussion (key messages and big ideas that developed from the discussion). The main topics were:

- Is this an adequate summary?

As was explained at the beginning of the session, the purpose of this interview was to examine the overall motivation and well-being of alternatively certified agriscience teachers. Your comments today will be useful in developing more effective professional development and support structures for the future.

- Have we missed anything or are there any other comments at this time?

Thank you for taking time out of your day to share your opinions. Your participation is greatly appreciated and has provided valuable insight into this topic.