Perceived Factors that Influence the Success of Vertical Transfer Students in Agricultural Education: A Delphi Study

by

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A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Auburn, Alabama
August 4, 2018

Keywords: vertical transfer, agricultural education

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Abstract

Community college students face a unique set of challenges when making a vertical transfer to a four-year university. This study utilized a Modified Delphi technique to identify the perceived factors that influence bachelor's degree completion of vertical transfer students. Factors related to the classroom, meaningful relationships with faculty, belief in academic competence, and clear goals were indicated as influential to bachelor's degree attainment of vertical transfer students in Agricultural Education.

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Chapter One: Introduction

In 1947, President Truman presented the nation with an earnest need to improve the educational structure of the United States. Truman claimed that colleges and universities were not equipped with enough teachers to meet the demand (Truman, 1947). He also declared that higher education was a key component in "our national effort to strengthen democracy at home and to improve our understanding of our friends and neighbors everywhere in the world" (Truman, 1947, para. 2). The recommendations of Truman to improve higher education can be divided into two broad categories: improving college access and equity and increasing the role of community colleges (Gilbert & Heller, 2013).

Although many of Truman's recommendations never came to fruition, parts of the report are aligned with The White House Summit on Community Colleges of 2010. Truman called for doubling the number of students attending college and for an extension of public education through the first two years of college (Truman, 1947). After the 21st Century Commission on the Future of Community Colleges made a similar recommendation that community colleges increase their graduates by 50% by 2020 (American Association of Community Colleges, 2015a), President Barak Obama convened the first White House Summit on Community Colleges in 2010. At this summit, President Obama issued a challenge to increase community college graduates to 5 million by 2020 (The White House, 2011). These bold challenges significantly mirror the recommendations made by Truman in 1947.

Since Joliet Junior College was founded in 1901, the influence of community colleges in the United States has continued to increase. Boggs (2010) claimed that community colleges provide opportunities for anyone willing to attend by creatively meeting economic and workplace needs and providing benefit to the communities which they serve. In the fall of 2014,

the number of students attending community colleges accounted for approximately 45% of all United States undergraduate students (American Association of Community Colleges, 2016). Likewise, 35% of students at a public-four year institution have previously attended a community college (American Association of Community Colleges, 2015b). The American Association of Community Colleges (2016) reported that during the 2013-2014 year, 795,235 associate degrees and 494,995 certificates were awarded to community college students.

Although community colleges have historically provided alternative pathways to degree completion, there is still a need to increase the total number of community college graduates. The most recent statistics released from the American Association of Community Colleges (2015a) indicated that in the year 2013-2014, community colleges had only graduated 17% of the students needed to meet a 50% increase. Projections show that community colleges may be able to come close to reaching the goal with continued steady growth, but the success of incoming students will be a major factor in recognizing the desired increase of students (American Association of Community Colleges, 2015a).

The most recent data concerning year round enrollment, as reported by the U.S. Department of Education (2015), indicates that 10.1 million students were enrolled in public two-year institutions during the 2012-2013 year. Often, these students face a unique set of challenges. For many of these students, community colleges offer opportunity to attend college while working, raising a family, or completing remedial courses (The White House, 2015). Bers and Scheutz (2014) reported that first-time, full-time students complete community college at rates less than 25% and the rates are even lower among part-time students.

The attrition rate for community college graduates is not a new problem. In 1987, Vincent Tinto drew attention to the college student persistence situation in his book titled

Leaving College: Rethinking the Causes and Cures of Student Attrition. Tinto (1987) identified a plethora of factors that influence student attrition in college. Since that time, studies have tried to identify the factors that influence students decisions not to complete a degree and how to best mediate these factors (Hotchkiss, Moore, & Pitts, 2006; Luke, Redekop, & Burgin, 2015; O'Keeffe, 2013). Nevertheless, student retention remains as a top focus and concern for community colleges.

While attrition is problematic at the community college level, transfer of students from community colleges to senior institutions, also known as vertical transfer, is an ever present concern. Monaghan and Attewell (2015) reported that students who begin at a two-year college are 21% less likely than students who begin at the senior institution to obtain a bachelor's degree, and that only 58.8% of community college students who earn 60 or more hours and intend to matriculate to a senior institution follow through with this plan. However, Monaghan and Attewell (2015) also found that students who successfully transfer, graduate at a rate comparable to native students. As such, special attention must be given during the transition of community college students to senior institutions.

A number of factors have been identified as significant in the vertical transfer of community college students. Students who are primarily full-time, work between 1-19 hours per week, are enrolled as a STEM, humanities, or education major, increased their first year GPA by 0.1, and frequently participated in academic advising were more likely to transfer to a four-year institution compared to other community college students (LaSota & Zumeta, 2016). Xueli (2012) found that race, socioeconomic status, high school test scores, self-concept, full-time enrollment, continuous enrollment, and marital and parental status are influential factors in vertical integration of community college students.

Statement of the Problem

Only 25% of community college students actually transfer to a 4-year institution (Jenkins & Fink, 2015). Although several studies have looked at factors that influence transfer in general, (Freeman, Conley, & Brooks, 2006; LaSota & Zumeta, 2016; Xueli, 2012), to date, little has been done to investigate the specific factors that influence transfer students in Agricultural Education. Cejda (1997) indicated a need to evaluate the academic performance of community college transfer students by academic discipline.

Purpose of the Study

The purpose of this study was to develop an instrument that can be used to identify factors that influence the success of vertical transfer students in Agricultural Education.

Objectives of the Study

1. Identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.
2. Develop an instrument to assess the factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.
3. Analyze the trends which impact students' completion of a bachelor's degree in Agricultural Education.

Theoretical Framework

Validation Theory. The Validation Theory claims that students who are validated in their college experiences are more likely to persist (Rendón, 1994). Although validation is critical for all students, it is most significant for students who doubt their ability to succeed (Patton, Renn, Guido, & Quaye, 2016). Such students need exposure to validating experiences early in their college career in order for the impacts of validating experiences to be of

significance (Rendón, 2002). Validation may occur in-class or out-of-class and may be academic or interpersonal in nature (Rendón, 1994). Regardless of the source, an understanding of validating experiences can be used to identify strategies that impact college student success, encourage student development, and improve teaching and learning (Linarez & Muñoz, 2011).

Adaptation to Transition Model. When a change in assumptions about self and the world occurs, a transition is said to take place (Schlossberg, 1981). The stage of transition is "marked by relational and personal changes, including attempts to deal with upset, tension, or fatigue and attempts to find new sources of support" (Schlossberg, 1981, p. 6). An individual remains in the transition stage until a stable organization of perception is established (Schlossberg, 1981). The process by which an individual moves from a period of total preoccupation of a transition to integrating the transition is known as adaptation (Schlossberg, 1981).

Framework. The framework of this study is based on a union of the Schlossberg's Transition Theory (1981) and Rendón's Validation Theory (1994). The potential interaction of these to theories creates a model for the effect of validation within the transition phase. The process of moving from a community college to a four-year university is recognizable as a time of transition for students. While students will respond differently to the transition phase based on the characteristics of the transition, the environment, or the individual, validating experiences during this time are capable of supporting student adaptations to the new situation. Figure 1 shows a model for the adaptation of community college students as they transfer to a four-year university. This model demonstrates the contribution of the Validation Theory (Rendón, 1994) to the Transition Theory (Schlossberg, 1981) as applied to community college transfer students.

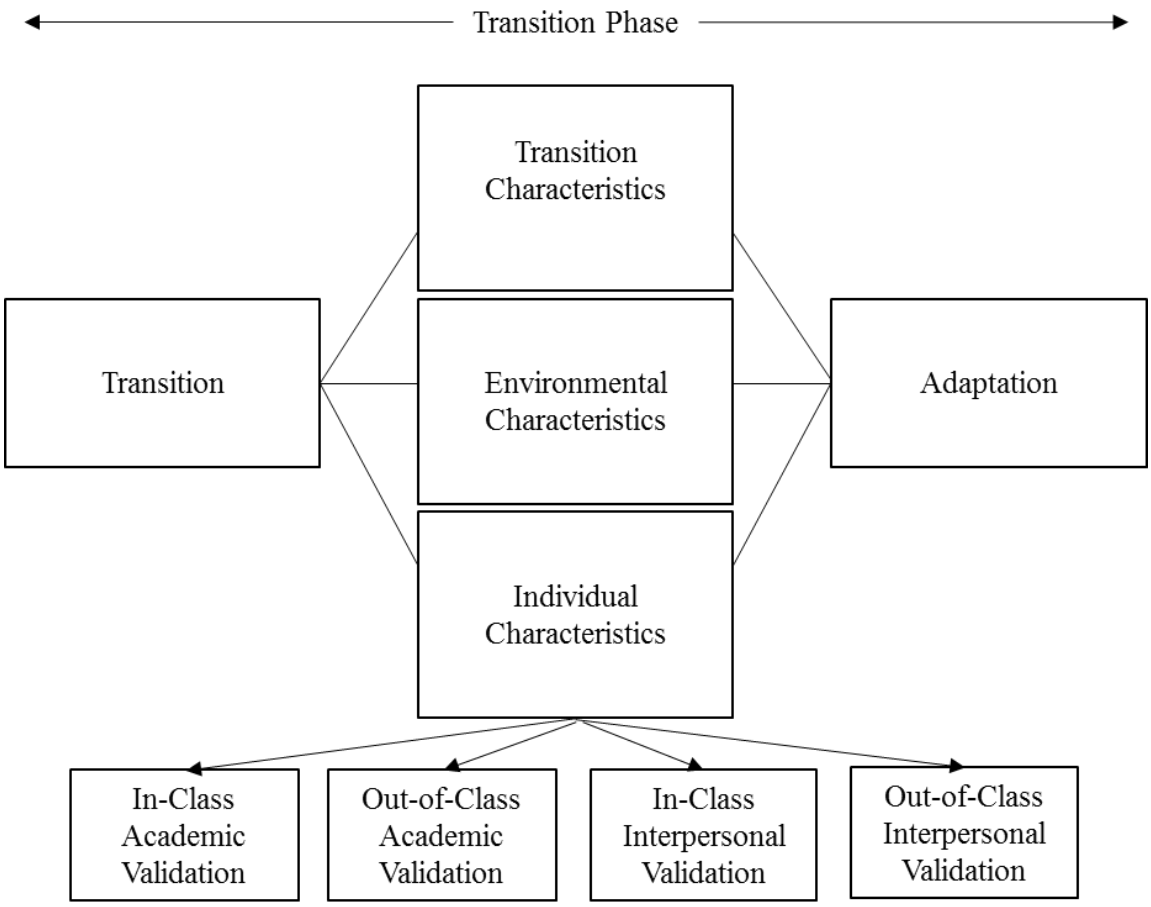

Figure 1 Theoretical Framework for Community College Student Adaptation

In 2016, the American Association for Agricultural Education (AAAE) released its research agenda for the next five years (Thoron, Myers, & Barrick, 2016). Research priority five, Efficient and Effective Agricultural Education Programs, asks "[w]hat methods, models, and programs are effective in communicating with diverse audiences?" (Thoron, Myers, & Barrick, 2016). Rocca and Washburn (2005) identified community college students as an alternative possible population that could potentially boost agricultural education enrollment at senior institutions. As a response to this need, this study will utilize the Delphi technique for consensus utilizing an expert panel of Agricultural Education professors at 4-year universities. This study attempts to identify the factors that are effective in the successful degree attainment of community college transfer students in Agricultural Education.

Population

A panel of 10 experts was selected from Agricultural Education instructors at both land grant and non-land grant universities and from the three regions of the AAAE. Participants must have demonstrated expertise by:

1. publishing at least five peer reviewed articles,
2. being a teacher educator of agricultural education at a senior institution for at least five years, and
3. having involvement in a related professional organization.

Scope of the Study

The scope of this study will focus on Agricultural Education teacher educators from the three American Association for Agricultural Education regions. Experts will be selected from both land grant and non-land grant universities across the United States.

Definition of Terms

Attrition – Loss of students from an institution; this loss may be a result of dropout or transfer (Bean, 1979)

Native Student – A native student is one who began their post-secondary career at a single institution and continues to persist at this institution until completion of a degree

Matriculate – Student enrollment in a college or university

Preservice Teacher – A preservice teacher is one who is placed in the classroom to instruct students, but has yet to fulfill the requirements to complete a teacher education program

Senior Institution – Any institution that accepts transfer students and offers bachelor's, master's or doctoral degree programs

Teacher Educator – A faculty member of a senior institution who is employed by a teacher education program for the purpose of training preservice teachers

Transfer Shock – appreciable loss in grades when community college students transfer to a senior institution (Hills, 1965)

Vertical Transfer **–** The process that occurs when a student leaves a community college to attend a senior institution

Vertical Transfer Student – A student who has transferred from a two-year institution, or community college, to a senior institution

Assumptions

- Participants in the study answered each question with due diligence to ensure an honest response.
- Participants in the study responded to each round of questions without discussion amongst themselves.
- Participants in the study have an interest in the progression of community college transfer students through agricultural education programs.
- Participants in the study are representative of the expert panel population.

Limitations

- Accuracy of responses in this study is based on participant's willingness to answer questions in a thoughtful and thorough manner.
- The responses in this study are bound to a specific group of experts in Agricultural Education. The factors identified cannot be imposed across disciplines.
- The findings of this study cannot be generalized to populations other than those included in the study.

Chapter Two: Review of Literature

Background

When the first community college was opened in 1901 as an extension to public high school, few students attended (Kasper, 2003). Initially, these junior colleges were designed to help prepare students for transfer to four-year liberal arts institutions (Jurgens, 2010). It wasn't until a need for workforce training rose out of the Great Depression that community colleges began to gain popularity as a post-secondary option for students (Jurgens, 2010). At the end of WWII, the Truman Commission advocated for expanding the number of community colleges to help retrain employees who previously produced materials for war and to help train war veterans for employment (Quigley & Bailey, 2003). With the post-war expansion of community colleges, the stage was set for an increasing number of students to populate these institutions. The 1960's proved to be a time of exponential growth in community college attendance as enrollment more than doubled from 1965 to 1970 (Kasper, 2003). Enrollment in community colleges continued to increase until the number of students in higher education enrolled in community colleges accounted for 45% of undergraduate students in the United State (American Association of Community Colleges, 2016)

Community colleges provide a particular set of services to the communities in which they are located. Beyond formal education, community colleges have often evolved into centers of cultural, social, and intellectual opportunity for the members of the communities in which they are located (Vaughan, 2006). From a student viewpoint, community colleges often make post-secondary education accessible to individuals who could not afford the tuition at a four-year university (Kasper, 2003). Community colleges also provide an opportunity for academically underprepared students to have a chance to earn a credential beyond the secondary level

(Hoachlander, Sikora, & Horn, 2003). The programs offered at community colleges provide "a gateway for opportunity for many young people who otherwise would have been denied access to higher education" (Kasper, 2003, p. 16).

While some students see the community college as their final destination, a significant portion of the population will continue their education at a four-year institution. The students who move from a community college to a four-year university are labeled as vertical transfer students and generally bring with them a unique set of barriers that must be overcome. This chapter outlines the current research related to the characteristics of vertical transfer students, the barriers these students must overcome during the transition from community college to four-year university, and the factors that have been found to be influential to transfer student success.

Community College Students

According to the U.S. Department of Education (2016) more than 9 million students were enrolled at two-year institutions during the 2015-2016 academic year. In comparison with the entire population of college students in America, students at two-year institutions make up 45% of total college student population (U.S. Department of Education, 2016). These students represent a diverse population with a unique set of challenges. Community college students are more likely to be enrolled part-time, belong to a minority group, be a first-generation student, have low income, and be an adult student (Ma & Baum, 2016). During the 2011-2012 academic year, more than two-thirds of community college students worked full time in order to help support themselves and their families (Ma & Baum, 2016).

Despite the opportunities provided by community colleges, such as proximity to home, lower tuition, and open admission, the number of students who complete an associate's degree has proved unimpressive (Goldrick-Rab, 2010). In 2012, a mere 29% of first-time, full-time

students at two-year institutions completed the program within 150% of the time required (U.S. Department of Education, 2017a). As such, attention has been placed on the factors that promote degree complete of students at two-year institutions. Potential practices to improve graduation rates of community college students include: College completion funding, performance-based funding, simplification of the FAFSA, articulation agreements, community college baccalaureate, career pathways, contextualized learning, learning communities, student success centers, lowered counselor-student ratios, targeting dual enrollment students, early assessment programs, performance-based scholarships, and emergency financial aid (Goldrick-Rab, 2010).

Despite the low number of students who complete a degree or certificate at a two-year institution, community college transfer students make up a significant portion of the total population at four year institutions. Of the students who completed a bachelor's degree in 2015-2016, 49% had attended a two-year institution at some point in the last ten years (National Student Clearinghouse Research Center, 2017). Many of these students were only enrolled at a two-year institution for a short period of time, yet, 49% of these students completed a bachelor's degree within three years of being enrolled at their respective two year institutions (National Student Clearinghouse Research Center, 2017).

Institutional Departure

Van Gennep (1960) used marriage to explain the separation stage as occurring with a change in residence. Tinto (1988) used Van Gennep's *The Rites of Passage* to describe the longitudinal processes of student adjustment to college in three basic stages: separation, transition and incorporation. Vertical transfer students may experience separation if their selected senior institution is located farther from home than a reasonable commute would allow. The transition stage occurs as an individuals move from "one seasonal form of life to the other" (Van

Gennep, 1960, p. 180). The culture of a two-year institution in comparison to a four-year institution may serve as a stage for transition amongst vertical transfer students. Finally, incorporation is a permanent stage in which the individual has been joined to a new environment (Van Gennep, 1960). Based on these stages of progression, timing of retention practices is critical to ensure that students receive adequate support during each stage (Tinto, 1988). For each student, the length of time required to reach incorporation will vary from student to student.

Effective retention practices are diversified across locations and across audiences (Tinto, 2006). Tinto (1988) indicated that adult students and those who transfer have a special need for support that is designed to address the unique manner these populations progress through the stages of adaption. Nevertheless, institutions of higher education must move beyond recognizing the factors that influence student departure to develop an understanding of why students remain enrolled in college (Tinto, 2006).

Transfer Student Capital

Transfer Student Capital refers to the increase in information a student acquires while moving through the transfer process from a community college to a four-year institution (Rosenberg, 2015). During this transition period, the more information the student gathers, the more transfer credit the student accumulates (Laanan, Starobin, & Eggleston, 2010). Information that contributes to transfer student capital includes information about potential schools, requisite academic skills, campus engagement, personal concerns, admission requirements, transfer agreements, and prerequisite course selection (Laanan et al., 2010; Rosenberg, 2015). Accumulation of transfer student capital has been noted as influential in the student's intent to successfully transfer and graduate (Rosenberg, 2016).

Many students in the American higher education system turn to the community college option as a pathway to pursue a bachelor's degree (Taylor & Jain, 2017). Four-year institutions can offer supports to these students that help increase the transfer student capital each individual is able to accrue. When outcomes are focused, measurable, and emphasize that everyone has a shared responsibility to promote student success, institutional performance is likely to improve (Harbour, 2016). In order to build transfer student capital and improve transfer performance, the four-year institutions can develop a collection of transfer student programs that reach a variety of student groups (Mooring & Mooring, 2016). Four-year institutions should also consider transfer orientations or workshops, counseling services, and improved information about transfer students in developing programs that increase transfer student capital (Laanan, et al. 2010). As transfer students increase their transfer student capital the likelihood of a successful transfer and graduation is increased (Rosenberg, 2015).

Transfer Shock

Some would argue that the lowered costs, reduced class sizes, and opportunity to explore college better equips students to successfully complete a college program (Rhine, Milligan, & Nelson, 2000). However, Ishitani (2008) found that transfer students persist in college at a lower rate than native students. One suggestion for the lower persistence rate of transfer students is that students who transfer experience transfer shock.

Transfer shock, first introduced by Hills (1965), has been explained as "a decline in grade point average (GPA) during the first semester at a four-year institution" (Cejda, Kaylor, & Rewey, 1998, p. 1). A great deal of research has indicated that transfer students do experience a drop in GPA after transfer (Cejda & Kaylor, 1997; Glass & Harrington, 2002; Ishitani, 2008). In

order for administrators, counselors, and teachers to combat the possible negative effects felt by transfer students, a better understanding of influential factors is needed (Johnson, 2005).

Retention Factors

Research has been conducted that identifies a variety of factors which influence student retention. These factors have generally been divided into three main categories, academic, nonacademic, and socioeconomic (Lotkowski, Robbins, & Noeth, 2004). Academic factors include measures such as GPA and standardized test scores; nonacademic factors include aspects such as academic goals, achievement motivation, academic self-confidence, academic related skills, contextual influences, general self-concept, institutional commitment, social support, and social involvement (Lotkowski et al., 2004). From an academic standpoint, transfer students who participate in class and those who have a perception of academic fit are more likely to persist in college than those who do not experience these factors (D'Amico, Dika, Elling, Algozzine, & Gin, 2014). From the nonacademic viewpoint, students who do not feel that they are accepted are at a higher risk of attrition; thus, colleges should strive to develop an atmosphere of acceptance and inclusion (O'Keeffe, 2013).

The factors that influence college student attrition was divided into four broad categories by Tinto (1975) in his Theory of Student Departure: family characteristics, personal characteristics, educational experiences prior to college, and expectations about future education attainment. Miller (2013) found five factors that are especially challenging to transfer students: lack of engagement, financial aid problems, academic problems, specific transfer services, and integration of the curriculum. However, developing an understanding of why students depart from college does not directly provide guidance to the factors that cause students to persist until graduation (Tinto, 2006).

Garton, Ball and Dyer (2002) found that high school GPA can be a predictive factor of retention for agricultural science students. However, prior college credit is a stronger indicator that students will persist in college and complete a degree (Smith, Garton, Killingsworth, Maxwell, & Ball, 2010). Regardless of the historical factors that influence student retention, faculty members in a study conducted by Myers and Dyer (2005) identified faculty advising as an important factor in student retention. As noted by Lee and Schneider (2017), advising of vertical transfer students is often an area that faculty may have limited experience. Many times, faculty at four-year universities are trained to meet the needs of the non-transfer population which vary significantly from the needs of community college transfer students.

Retention Practices

As the number of transfer students continues to increase, community colleges and four-year universities must have steps in place to help ease the transfer process (Rhine et al., 2000). Specific recommendations suggest that information for transfer students should be made available through different avenues, transfer units should be quickly evaluated, services should be provided early for students with disabilities, and additional support should be available for online students (Chin-Newman & Shaw, 2013). Colleges should nurture supportive faculty-student relationships, provide support services that focus on student retention, and promote diversity (Lee & Schneider, 2017; O'Keeffee, 2013). Pritchard and Wilson (2003) found that no single factor is adequate to indicate student success, but instead, many factors should be considered when instituting retention practices for students.

The following paragraphs present the current research related to the potential retention factors considered in this research study.

Formal agreements. The most recent statistics published by the U.S. Department of Education (2017b) indicated that in the year 2014, there were more than 17 million students enrolled in postsecondary institutions in the United States, and 38% of these students were enrolled at two-year institutions. As a result of the number of students who never persist to a bachelor's degree, there is a need for two-year and four-year institutions to work in collaboration to create formal transfer agreements (Zamani, 2001). The creation of formal transfer agreements, also known as articulation agreements, can help provide direction to students that keeps them within the designated number of hours for their specific degree plan (Rhine et al., 2000). Formal agreements between institutions can help students manage the costs of education, provide students a level of flexibility in choices, and provide a broader access to a bachelor's degree (Zinser & Hanssen, 2006).

Formal agreements also help address the growing need for college graduates in the workplace. Formal agreements can meet the needs of those students who are not able to complete a bachelor's degree through the traditional path, but instead must use an alternative path to reach degree completion (O'Meara, Hall, & Carmichael, 2007). The creation of these agreements has provided students an option for a 'smooth transition' from the community college to a four-year institution (Zinser & Hanssen, 2006). Formal agreements also provide the opportunity to move students through the educational plan to degree completion (O'Meara et al., 2007).

Creation of a formal agreement cannot be a single-handed effort. Community colleges and four-year institutions should commit to creating agreements that provide a seamless pathway from one institution to the next (Chin-Newman & Shaw, 2013). In some instances, state-wide efforts have been instituted to provide information to students that helps them make a more informed choice in the transfer process (LaSota & Zumeta, 2016).

Financial Aid Guidance. In order for students to persist in college, they must be able to afford the cost of attendance. The impact of financial aid on student persistence continues to gain attention. Three key factors have been noted as significant in regards to the influence of student financial aid on student retention: financial aid positively influences student retention, institutional commitment to provide additional financial support improves retention, and financial aid deficiencies impact other aspects of student life (St. John, 2000). Students who work less than 15 hours per week maintain higher retention rates than students who work more than 15 hours per week (Perna, 2010). The U.S. Department of Education (2017c) reports that 42% of full-time undergraduate students at four-year institutions are employed. Often, these students must work in order to pay for the cost of attendance (Perna, 2010).

Research has shown that financial aid positively influences the persistence of college students (Fike & Fike, 2008; McKinney & Novak, 2013). Miller (2013) noted that financial aid is often an area which presents unique challenges to community college students. Not only do community college students have the potential to miss deadlines during the transition, but they also must relearn the system of financial aid at the senior institution (Miller, 2013). Without timely guidance, these transfer students may miss out on institutional funding that has already been awarded to native students (Miller, 2013).

Transfer Credits. When students make the transition from community colleges to a senior institution, the credits they have earned must be audited to determine how many credits will count toward graduation at the senior institution. On average, students who transfer in the United States lose 13 credit hours with a range from no transfer of credits to complete transfer of credits (Simone, 2014). The loss of credits in transfer has a negative impact on degree completion (Monaghan & Attewell, 2015). Such a loss may result in students being required to

take additional courses that are required for their degree program which can result in extended time to graduation and increased costs (Miller, 2013).

Statewide policies that create a common curriculum can assist with minimizing credit loss among transfer students (Lichtenberger & Dietrich, 2017). Development of common courses in foci for the first two years of college can also help reduce the number of credits that are forfeited in a transfer (Lichtenberger & Dietrich, 2017). Four-year institutions can develop articulations that prevent credit loss during the transition from community college to four-year institutions (Roksa & Keith, 2008). Senior institutions should also give consideration to providing credit audits in a timely manner so that vertical transfer students know earlier in the transfer process what will be required upon enrolling at the senior institution (Chin-Newman & Shaw, 2013).

Childcare. Community colleges provide access to higher education that would not be available for many underserved students (Bailey et al., 2004). Many of these students are considered non-traditional and often have a number of challenges to overcome. For students with family responsibilities, a lack of childcare has been noted to have a negative effect on degree completion (Thomas, 2002). In a study by Benshoff and Lewis (1992), non-traditional students have indicated the need for quality, inexpensive childcare.

When working with non-traditional community college students, childcare may be the barrier from success (Porter, 1989). Not only does the need for childcare increase the cost associated with pursuing a degree, but also may make proximity an important factor in finding compatible childcare options (Leathwood & O'Connell, 2003). In response to this need, some institutions have offered child care support to help overcome logistical barriers (Miller, 2013).

Extended Office Hours. Community college students often have significant responsibilities outside the classroom. According to the Community College Research Center (n.d.), 69% of students in community colleges work while enrolled in school. Thirty-three percent of community college students work a minimum of 25 hours per week (Community College Research Center, n.d.). In a review of students in a rural community college, Hlinka, Mobelini, & Giltner (2015) realized that community college students feel the stress of fulfilling family expectations. In an effort to accommodate for the community college student who has significant, non-academic responsibilities, several institutions have provided extended-hour services to students (Miller, 2013).

Transportation. Transfer students often have a number of personal responsibilities that may act as barriers to degree completion (Duggan & Pickering, 2008). Friesen and Purc-Stephenson (2016) found that students often view the distance to a university as a barrier to matriculation. Students who must commute to the university face an increased costs associated with traveling expenses (Leathwood & O'Connell, 2003). In an attempt to help reduce barriers, several institutions have attempted to provide transportation services to students that alleviate the variety of challenges these students must overcome (Miller, 2013).

Class Attendance. Classroom engagement has been found to encourage learning in a variety of classes (Carini, Kuh, & Klein, 2006; D'Amico et al., 2014). St. Clair (1999) claimed that engaging classroom environments encourage an intrinsic motivation in students to attend class. When the number of absences from class is reduced, student performance is improved (Bonet & Walters, 2016). Although the decision to attend class is the choice of the student (St. Clair, 1993), when faculty members take attendance in courses students with attendance issues can be identified and the issue can be addressed (Sydow & Sandel, 1998).

Academically Challenging Courses. Holding students to high expectations was listed as a good practice for undergraduate education (Chickering & Gamson, 1987). When schools effectively set high expectations, student achievement is encouraged (Smith, Sheppard, Johnson, & Johnson, 2005). To foster this environment, faculty members should strive to challenge students with questions that provoke a deeper level of understanding (Braxton, Milem, & Sullivan, 2000). Academically challenging courses have been linked to overall student learning (Carini et al., 2006).

Peer Collaboration. In a review of the National Survey of Student Engagement data, Kuh (2003) found that most college students report collaborating with their peers outside the classroom. Collaborative learning, such as working with other student on projects or class assignments, promotes student engagement in the academic setting (Carini et al., 2006). Collaborative learning extends learning beyond the traditional, faculty-dictated lecture hall to an active, student-driven atmosphere (Tinto, 2006). To prove successful, students must understand and embrace the personal accountability necessary to make collaborative learning an engaging activity for all involved (Lau, 2003). When properly implemented, cooperative learning can "increase student retention, cognitive skills, and active participation" (Lau, 2003, p. 132). For vertical transfer students, studying with peers outside the classroom may contribute most significantly to social acclimation (D'Amico et al., 2014).

Prompt Faculty Feedback. Faculty-student interactions are an important component in developing desirable student behaviors such as improving academic abilities, supporting students from underrepresented backgrounds, and encouraging student retention (Baker & Griffin, 2010). Adequate faculty-student interactions focused on coursework can be a positive factor for student engagement (Carini et al., 2006). On campuses where faculty are focused on students, the

students report a higher overall level of satisfaction with their experience (Astin, 1997). Student departure from college can be influenced by the behaviors of faculty in the classroom (Braxton et al., 2000). Particularly, the timing of faculty feedback can have a significant role in student retention. When faculty provide feedback in a timely manner, problem areas may be identified with enough time to make the appropriate corrective actions (Tinto, 2006). Furthermore, in order for students to perform well in a class, they need frequent suggestions for improvement that move them towards mastery of the content (Chickering & Gamson, 1987).

Diversity of Courses. College students may find that they become bored with college courses and repetitiveness of the college routine (Weinstein & Cox, 1989). For students to learn, there must be some level of interest in the curriculum (Pregitzer & Clements, 2013). To encourage student engagement with the content in a given curriculum, a diversity in coursework has been found as a positive factor of influence (Carini et al., 2006). Student interest in the subject area and engagement with the content may be encouraged by a diverse menu of educational components (Lotkowski, et al., 2004).

Sense of Personal Academic Competence. Bandura (1994) described self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (p. 1). People's beliefs about their abilities can change their feelings, thoughts, and motivational behaviors (Bandura, 1994). Teachers can structure feedback in a manner that nurtures the development of the student's belief that he or she can be successful while also improving the student's content knowledge (Bandura, 1997). In the classroom, teachers should attempt to look for those students for whom self-efficacy may be a problem and provide supports that encourage those students to persist (Hsieh, Sullivan, & Guerra, 2007).

Students who believe they are capable of academic achievement, set high career standards for themselves (Bandura, Barabaranelli, Caprara, & Pastorelli, 2001). As a result of the belief in one's abilities, students with a high perception of their abilities are more likely to perform well academically and maintain enrollment despite challenges (Chemers, Hu, & Garcia, 2001; Schunk, 1981). Students who believe they have the ability to succeed are generally motivated toward academic attainment (Zimmerman, Bandura, & Martinez-Pons, 1992).

Dual Enrollment. Dual Enrollment courses provide the opportunity for high school students to be exposed to college level work prior to entering college while earning both college and high school credit (Bailey, Hughes & Karp, 2003). Research has shown that participation in dual enrollment courses in high school can provide a variety of benefits to the student. Not only do dual enrollment courses prepare students academically for the rigorous work of college, but these courses may also be able to reduce the financial burden on students by decreasing the amount of time required to complete a degree once a student is enrolled in college (Allen & Dadgar, 2012; Hoffman, Vargas, & Santos, 2009).

Dual enrollment courses can promote the successful achievement of academic goals by promoting college readiness, integration and student validation (Farrell & Seifert, 2007; Karp, 2012). Although dual enrollment courses tend to have a positive influence on all students, the influence on students of low income has been found to be more significant (An, 2012). A study of Florida students found that Career and Technical Education (CTE) students who participated in Dual Enrollment courses were more likely to enroll in college, were more likely to persist in college, and made faster progress towards graduation than those CTE students who did not participate in Dual Enrollment Courses (Karp & Hughes, 2008). However, Hofmann (2012) claimed that further research is needed on the topic of dual enrollment.

Real-World Applications of Classroom Information. Engaging students in the curriculum is important to student learning and retention. When faculty design the curriculum to be authentic and relevant, student engagement with the subject matter content is encouraged (Crosling, Heagney, & Thomas, 2009). As such, it is important that faculty be more practical in planning lessons that prepare students for their future careers (Lau, 2003). By emphasizing real-world situations, students may develop critical thinking and analysis skills that provides academic preparation and personal motivation to succeed at the senior institution (Miller, 2013).

Easy Access to Student Support Services. At a federal level, the U.S. Department of Education provides a federally funded Student Support Services grant program for students of disadvantaged groups. The purpose of the program is to increase retention and graduation rates, increase vertical transfer, and provide support for low-income, first-generation, or disabled students (Brewer & Clippard, 2002; Chaney, Muraskin, Cahalan, & Goodwin, 1998). The particular services provided may include counseling, tutoring, workshops, labs, cultural events, specials services, and instructional courses (Chaney et al., 1998).

Institutionally, each college may decide to offer student services specific to their institution such as financial aid, placement services, counseling and testing, or advising, to name a few (Migden, 1989). For these efforts to become effective at promoting student success, each institution must determine what services to offer based on their individual needs (St. Clair, 1993). Despite the disparity in specifics, institutional student support services have been found to increase student retention (Fike & Fike, 2008). By focusing on convenience and personal attention, many institutions have been innovative in using student services as an avenue to retain students (Miller, 2013).

Academic Advising. Colleges and universities have tried a plethora of techniques to provide students with adequate academic advising. Shared advising distributes advising responsibilities across a department; centralized advising capitalizes on the advantage of having a single location for students to be advised; intrusive advising requires the student to become involved in the decision-making process (MacDonald & Aman, 2014). Gordon (2006) proposed inquiry, information, and integration as the 3-I approach to interactive advising. Despite the overabundance of tested programs, the pedagogy of advising must be "relational, learning focused, and student centered" (Darling, 2015, p.91).

In order for advising to make a difference, it must be easily accessed by students and must provide accurate information in a timely manner (Tinto, 2006). It is the role of the academic advisor to assist the student in creating an educational plan and in navigating through the various channels at the institution (Darling, 2015). In response to transfer students, four-year institutions should give serious consideration to increasing the availability of academic advisors to transfer students (Berger & Malaney, 2003). In working with community college transfer students, the advisor must recognize the unique challenges and assist the student in evaluating the options available to overcome those challenges (Darling, 2015). Although group advising may have its place, one-on-one advising assists in building a relationship between the advisor and student (Gordon, Habley, & Grites, 2011). Meetings with an advisor have been known to positively predict earned hours and GPA (D'Amico et al., 2014).

Learning Communities. A learning community can be described as a group method to help students integrate learning across the curriculum by taking two or more linked courses with a cohort of other students (Kuh, 2008). By having students enroll in a block of classes with the same cohort of peers, these students are able to build social connections and learning supports

that promote success (Tinto, 2006). Specifically, students enrolled in learning communities have been found to have an increased engagement with faculty, content, and peers, have improved attendance, and earn higher grades (Bonet & Walters, 2016). Research has also found that participation in learning communities increases retention and student learning (Hegler, 2004; Zhao & Kuh, 2004).

Classroom Engagement. Classroom engagement has become a common buzz word in the field of education. The more students engage with a subject, the more they come to understand the complexities of the subject and are assumed to build the foundational skills needed to be successful after college (Kuh, 2009). Student engagement has been found to be an indicator of retention of students into the second semester (D'Amico et al., 2014). Engagement has also been found to promote learning outcomes in the areas of critical thinking and improved grades (Carini et al., 2006). Conversely, like other components of learning, student engagement is not a one-size fits all, and thus, engagement data must continue to identify the forms of engagement that are effective with different groups of students (Kuh, 2009). The transfer student population is no exception to this suggestion.

Because many transfer students often commute, the classroom may be the only place that transfer students engage on campus, especially if they maintain significant obligations beyond the educational setting (Tinto, 2006). As noted by Kuh (2003), transfer students are more likely to spend more time each week on non-academic related responsibilities and be less engaged in out-of-class educational experiences.

Meaningful Relationships with Faculty. Research has found that student-faculty interactions have positively reinforced favorable classroom experiences and supported academic achievement (Endo & Harple, 1982; Lau, 2003). Carini et al. (2006) reported a positive

correlation between student faculty interaction and student learning. Xu (2017) found that personal contact between faculty members and students positively influenced retention and success. Despite the positive influences of student-faculty interactions, these connections may be difficult for transfer students who are accustomed to smaller class sizes (Townsend & Wilson, 2006). For students any interaction with faculty has been noted to improve learning, but face-to-face interactions may play a more significant role in student success (Guerrero & Rod, 2013). For students who do not live on campus, interactions with faculty may be the factor to build social integration and promote persistence (Dwyer, 2017).

Extracurricular Activities. Research has been indecisive on the influence of extracurricular activities to student retention. Habley and McClanahan (2004) found that extracurricular activities make a mild contribution to attrition. On the other hand, Miller (2013) claimed that lack of engagement with the institution is a challenge faced by community college transfer students in Texas. Likewise, Lenning, Saucer, and Beal (1980) found that extracurricular activities are often associated with student retention. For students of Agriculture, Dyer, Breja, and Wittler (2002) found that 4-H or FFA membership, when combined with agricultural background and size of hometown, positively affected the degree attainment within the colleges of Agriculture.

Overall Satisfaction with the College Experience. In 2004, Ken Bain claimed that "if students emerged from the class hating the experience, they were less likely to continue learning, or even to retain what they had supposedly gained from the class" (p. 7). To the contrary, students who have a satisfactory experience with the postsecondary institution have a tendency to remain in school (Lau, 2003). Student satisfaction is met when performance meets or exceeds expectations (Elliott & Healy, 2001). In order to retain students, institutions often focus on those

strategies that meet expectations and keep students coming back year after year (Elliot & Haley, 2001). Satisfied students are more likely to show loyalty to their institution and continue to persist towards degree completion (Brown & Mazzarol, 2009).

Coming to Class Prepared. Student engagement is the "student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote" (Lamborn, Newmann, & Wehlage, 1992, p. 33). The 2017 National Survey of Student Engagement reported that 74% of postsecondary, first-year students go to class sometimes without completing the course assignments. This is a disturbing finding since the amount of time spend studying and completing homework is a predictor for academic success (Astin, 2005). Homework completion has also been found to improve college students' sense of responsibility and personal self-efficacy (Kitsantas & Zimmerman, 2009).

Transfer Student Orientation. When a student transfers from a community college to a senior institution, there are significant social and psychological transitions that must occur in order for the student to be successful (Laanan, 1996). The student must learn to navigate through new geographic spaces and learn a new set of policies and services. If the educational sector is to improve the overall quality of education, finding ways to ease the transition period for transfer students is necessary (Kuh, 2003). In an attempt to help students through the transition, some colleges have opted to require transfer student participation in some form of a transfer orientation (Miller, 2013).

Transfer students have indicated that formal orientation programs helped them build effective study skills, adopt efficient time management skills, recognize academic demands, and establish a better understanding of professor expectations (Mayhew, Vanderlinden, & Kim,

2010). In a study by Davis, Morelon, Whitehead, and Hossler (2006) the influence of orientation or transition programs was found to be stronger on student retention than counseling programs, mentoring programs, learning communities, or student-faculty interactions.

Residence near Family. Community colleges are often located geographically close to students but universities may require students to move away from home. In a study by Freeman et al. (2006) transfer students indicated that proximity to family was important to them. Transfer students from rural areas have noted that moving to attend a university would isolate them from friends and family; these students are often more concerned with maintaining relationships with family than earning a degree (Friesen & Purc-Stephenson, 2016). For students who are close enough to commute to a university, family responsibilities and work commitments prove to be a distractor that limits the engagement on campus (Darling, 2015). Additional time is also required to make the drive to and from home, which can also prove to be a distraction (Darling, 2015). The requirement of the student to divide time between school and personal responsibilities can cause the student to have a decreased commitment to the institution (Allen, 1993).

Social Adjustment. Once community college students transfer to a four-year university, they may not be prepared for social challenges at the four-year institution (Laanan, 1996). A study of students in Iowa found that community college students often expect the academic challenges upon transfer but often do not anticipate the social stresses associated with the transition (Chrystal, Gansemer-Topf, & Laanan, 2013). These students often do not share the same social experience as their native student peers. Transfer students often find that native students with a similar number of earned credit hours have already established a social position (Miller, 2013). In order to fully understand the adjustment process of community college students, an exploration of the social and psychological experiences is needed (Laanan, 1996).

Despite the challenges commonly faced by transfer students, making social connections can help these students transition after the transfer (Bahr, Toth, Thirolf, & Massé, 2013). Tinto (2006) claimed that academically and socially involved students are more likely to graduate. Helping student integrated socially and academically at their respective institutions may improve retention (Gerdes & Mallinckrodt, 1994).

Long Term Strategic Goals. Goals establish "clear and usable targets, or objectives, for learning" (Moeller, Theiler, & Wu, 2012, p. 153). Within the realm of education, students may be able to build motivation by establishing clear goals that provide direction towards a career and build momentum to overcome challenges (Tuffley & Antonio, 2013). When specific goals are set, students can assess the amount of effort required to achieve their goals and can track progress against these set goals (Schunk, 1990). Advisors can assist students in setting visionary goals for the future that will help them succeed (Friedman & Mandel, 2010). It is important to set goals that are not so far in the future that they seem to be irrelevant, but are adequately timed to provide guidance for the current endeavor (Bandura, 1997). When students can easily link the components of a plan with their interest they are more likely to succeed (Antonio & Tuffley, 2015). Without goals to serve as a guide, students are likely to lack motivation to continue in their path, however, clearly defined goals are a prominent factor promoting retention. (Hull-Blanks et al., 2005).

Background of Agricultural Education in America

In 1862, the Morrill Act for Land-Grant colleges provided the support needed to establish institutions of learning that would bring together the best scientists and farmers to promote agriculture and the mechanical arts (Scott & Sarkees-Wircenski, 2008). The passage of the Land-Grant Act brought about the birth of integrated academics which resulted in better agricultural

practices (Gordon, 2008). Thirty-two years later, the Smith-Lever Act created the cooperative extension service as a vehicle to deliver agricultural information outside the confines of the university (Gordon, 2008). The Smith-Hughes Act of 1917 further promoted the development of Agricultural Education by proving funding for teacher preparation in trade and industry, home economics, and agriculture (Scott & Sarkees-Wircenski, 2008).

As the nation evolved, it became evident that the Smith-Hughes Act did not meet the growing demands of the national economy (Celebrezze, 1965). The Vocational Education Act of 1963 was passed and required that vocational education programs remain current by investing the time and money required to provide quality programs to all students (Celebrezze, 1965). Vocational Education again received attention in the 1984 Carl D. Perkins Act which changed the focus of vocational education from expansion of programs to program improvements (Van Horn & Schaffner, 2003). The Carl D. Perkins Act has been amended four times since its inception. The most recent amendment of the Carl D. Perkins Act was approved in 2006 and provided for increased flexibility to states to provide technical education services, supported collaborative efforts between secondary institutions, post-secondary institutions, and industry, and promoted training programs to help keep workers relevant throughout their career (Carl D. Perkins, 2006).

Agricultural Education Teachers

Agricultural Education is faced with a variety of problems from enrollment to funding to licensed teachers (Smith, Lawver, & Foster, 2017). Currently, "there are approximately 11,000 middle and high school ag teachers, in all 50 states, Puerto Rico and the Virgin Islands" (National Association of Agricultural Educators, 2016). According to the Bureau of Labor Statistics (2015), the employment growth for Career and Technical Education Teachers is

expected to be 10,200 between 2014 and 2024. Although this number represents a slower than average growth rate (Bureau of Labor Statistics, 2015), the National Association of Agricultural Educators (2016) noted that there is still a shortage of agricultural teachers in the United States.

Agricultural Education Students

Post-secondary agricultural education students indicated positive beliefs about teaching and viewed the career as a possible way to gain respect or social status (Lawver & Torres, 2012). However, post-secondary, pre-service agricultural education students are not without concern. Pre-service teachers demonstrated higher levels of concerns related to self and to non-teaching items than did first year teachers (Stair, Warner, & Moore, 2012). Although Agricultural Education preservice teachers were found to be varied in their learning styles, personality styles and teaching styles (Cano, Garton, & Raven, 1992), Stripling, Ricketts, Roberts, & Harlin (2008) found that the self-efficacy of pre-service teachers increased as the students progressed through their respective Agricultural Education programs.

Validation Theory

In 1994, Rendón addressed the issue of persistence in college of underrepresented groups. From the 1994 study, the Validation Theory emerged as the in-class and out-of-class factors that contribute to academic and social development. The Validation Theory can be divided into two broad classifications: academic and interpersonal (Linarez & Muñoz, 2011). Academic validation occurs when factors, in or out of class, help a student believe that they are capable of succeeding as a college student (Rendón, 1994). Interpersonal validation is established when students recognize their value as a person, not just a student (Rendón, 1994). According to Patton et al. (2016) validation is most critical for "adult learners, first-generation college students, part-

time students, international students, student that discover that their pre-college preparation was different from that of their peers, and minoritized students" (p. 41).

Rendón, in a later study, indicated that the Validation Theory contains six fundamental components:

1. The responsibility for initiating contact with students is placed at the institutional level.
2. Validation can cause a student to gain confidence in their ability to succeed in college.
3. Students who receive consistent validation are more likely to be involved.
4. Validation may occur across a variety of platforms with multiple agents.
5. Validation is a process that can improve academic and personal experiences over time.
6. Students need validation early in their college career (2002).

Adaptation to Transition Model

The Adaptation to Transition Model recognizes the variations in individual experiences while providing a structural understanding for how adults progress through changing situations (Anderson, Goodman, & Schlossberg, 2012). Transitions require the individual to relinquish prior perceptions to accept new realities (Anderson et al., 2012). The progression through a transition is different for each individual based upon a variety of factors including role change, positive or negative affect, source, timing, onset, duration, and degree of stress (Schlossberg, 1981). However, there are three main factors that influence the degree to which an individual is able to adapt to transition: characteristics of the transition, characteristics of the transition pre- and post-environments, and the characteristics of the individual (Schlossberg, 1981).

Adaptation occurs when the individual is able to integrate a particular transition into a new stable reality as opposed to being consumed with the transitional situation (Schlossberg, 1981). Like transitions, people progress through the stages of adaptation differently. Factors that affect adaptation include interpersonal support systems, institutional supports, physical settings, psychosocial competence, sex, age, state of health, race-ethnicity, socioeconomic status, value orientation, and previous experience with a similar transition (Schlossberg, 1981).

Chapter Three: Methods

The purpose of this study was to identify the factors that are perceived to have an influence on the success of vertical transfer students after they transition to a four year institution in Agricultural Education. To accomplish this purpose, a questionnaire was created from a review of the current literature related to transitions and student retention. The methods and procedures used in this study will be described in this chapter.

The study employed a modified Delphi technique to reach a consensus among a panel of experts in regards to the factors they perceived as influential in the success of vertical transfer Agricultural Education students at four-year institutions. By controlling the "noise" or communications that occur in group settings that are not related to the research, the Delphi method allows for a well-organized, intentional distribution of comments from the entire group (Hsu & Sandford, 2007). The Delphi method may also be used to improve efficiency and cost effectiveness and to guide a group toward consensus (Beech, 1999).

Originally developed at the RAND Corporation by Dalkey and Helmer (1963), the Delphi method was introduced to curriculum and planning in 1968-1969 (Judd, 1972). Since that time, it has evolved into a variety of forms including the use of online collaborative systems (Linstone & Turoff, 2011). Although the Delphi does not have one singular structure that is always implored (Judd, 1972), this study will be based on the Conventional Delphi. The Conventional Delphi is structured so that set of questions is sent to a panel of experts with subsequent questionnaires based on a collection of group responses (Stitt-Gohdes & Crews, 2004).

The Delphi Study

Development. In the 1950s, the RAND Corporation developed the Delphi technique as a method to bring a group of experts closer to a consensus (RAND Corporation, n.d.). Since that time, the Delphi has become an established research technique to generate a group consensus on best policy (Beech, 2001). The key components of this research method were initially intended to ensure the anonymity of participants and to repeat the questionnaire until stability in response was attained (Linstone & Turoff, 2011). Since inception, the method has evolved as a manner in which to obtain the opinions of experts within a particular group (Landeta, 2006). When the Delphi is implemented, researchers are able to assimilate the statements of experts into one, concise statement (Stitt-Gohdes & Crews, 2004).

For a Delphi to be successful, it is critical that the researcher give careful consideration to decisions concerning determination of the main question, selection of panelists, determination of the number of rounds, selection of a timeframe, and selection of the communication strategy (Sitlington & Coetzer, 2015). Judd (1972) identified three areas in higher education in which the Delphi technique is appropriate for use: development of educational goals and objectives, curriculum and campus planning, and development of evaluation criteria. More specifically, the Delphi can be used in the development of a scale to evaluate educational components, as well as, to evaluate the effectiveness of practices in higher education (Judd, 1972).

The Delphi Process. The design, sample, and process of each Delphi study is unique, and thus, requires the researcher to be explicit about the development of rigor in each study (Hasson & Keeney, 2011). In this study, a group panel was used to review the initial questionnaire statements for content validity. As recommended by Hasson, Keeney, and McKenna (2000), a pilot test was conducted prior to implementation of the full Delphi to ensure

that the study was designed to fully recognize the expert views of the participants. The participants of the pilot study were a reflective sample of the research sample (Beech, 1999). A group panel and pilot study were used to improve the reliability and validity of the instrument.

Key Characteristics. Administration of the Delphi method may take on many forms (Van de Ven & Delbecq, 1974). Three basic structures are found within the Delphi family: Policy Delphi Model, Trend Model, and Structural Model (Stitt-Gohdes & Crews, 2004). This study took on the form of a Structural Model Delphi with the intent of producing a final research instrument based on participant ideas (Stitt-Gohdes & Crews, 2004).

Purpose and Objectives

Purpose. The purpose of this study was to develop a consensus among participants in regards to the factors that influence the success of students who transfer from a community college to a four-year intuition in Agricultural Education. Utilizing a review of literature, the researcher developed a series of statements that were included in the initial instrument for review. A panel of experts evaluated the items in the research instrument in an effort to identify the factors that affect the success of community college vertical transfers in Agricultural Education.

Objectives.

1. Identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.
2. Develop an instrument to assess the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.
3. Analyze the trends which impact students' completion of a bachelor's degree in Agricultural Education.

Institutional Review Board

The U.S. Department of Health and Human Services (2016) issued the Federal Policy for the Protection of Human Subjects in 1991; the purpose of this policy was to guide ethical research in the use of human subjects. The Office of Research Compliance (ORC) at Auburn University is responsible for the Institutional Review Board of Protection of Human Subjects in Research (IRB). The IRB reviews research proposals involving humans to ensure that federal, state, local, and institutional polices are followed (Auburn University, 2017). The researcher applied for and was granted permission by the Auburn University IRB to proceed with the collection of data from human subjects. The study was assigned the protocol number 17-272 EX1709.

Study Design and Analysis

Instrumentation. Based on the current research related to student retention and vertical integration, 26 items were identified by the researcher as potential influential factors of vertical transfer student success. From the list of potential factors, a survey instrument was created (Appendix A). The items included for review have been found to represent the various factors that influence the graduation rates of community college transfer students at the four-year university.

Instrument Development: Item Construction. The review panel should consist of least two reviewers with expertise in the content area and at least one reviewer with expertise in instrument construction techniques (Benfield, 1992). The researcher utilized a review panel of 4 participants to evaluate and revise the instrument for content validity purposes. The review panel was comprised of one student services counselor, one director of student success, one English professor, and one dean of Instructional Design. The expert review panel was asked to review the

initial 26 statements for ambiguity, structure, and readability. The pilot study was completed ensuring content and face validity of the survey instrument.

An email invitation (Appendix B) was sent to each review panelists requesting their assistance in reviewing the proposed research instrument. Each panel member was asked to review the pre-populated list of potential survey items and to provide feedback for each item. Panelists were also given opportunity to provide additional comments and suggestions for potential survey items. Responses from the review panel were cumulated and a revised list of questions was sent to the review panel to assess validity.

Instrument Development: Validation. The review panel was asked to review the list of revised, pre-populated items. Panelists were asked to rate each potential survey item using a five -point interval scale: 1) strongly agree, 2) agree, 3) neither agree nor disagree, 4) disagree, and 5) strongly disagree indicating their perceived relevance of the statement to analyzing vertical transfer student success (Appendix C). The review panel was also given the opportunity to provide additional feedback related to each individual question, as well as, the survey instrument itself.

The researcher reviewed the instrument a third time to implement changes as recommended by the review panel during the validation process.

Pilot Study. A pilot study was conducted prior to the full Delphi. Members of the pilot study were selected based on their similarity to the expert panel. Landeta (2006) stated that a pilot study not only helps to identify potential issues related to the expert panel but also improves precision and comprehension in development of the questionnaire. When the pilot reflects the selection processes of the Delphi, recruitment problems are more likely to be identified prior to the full Delphi (Clemons, 2015; Clibbens, Walters, & Baird, 2012).

Potential pilot study participants were sent an email invitation (Appendix D) to participate via email on September 26, 2017. Fourteen individuals were invited to participate in the study and 10 individuals had responded (64.2%). A reminder email was sent on October 3, 2017. No additional responses were received. Participants were asked to rank 26 items on a 5-point interval scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4= disagree, 5 = strongly disagree). Participants were also provided an opportunity to provide additional comments related to the survey. The researcher used Qualtrics, a secure online survey platform, to distribute the survey to pilot study participants (Appendix G).

The responses collected from the pilot study respondents was used to test the internal consistency reliability of the instrument (Gliem & Gliem, 2003). A Cronbach-alpha >.7 is generally considered to be acceptable (Santos, 1999; Tavakol & Dennick, 2011). The Cronbach-alpha for this study was analyzed using SPSS, Version 22, and indicated high reliability (α = .777). The purpose of a Delphi is to collect the opinions of a small sample of experts instead of garnering information from a large group. The small sample size did not allow for factor analysis of the instrument.

Demographic information was collected for the pilot study group (Table 1).

Final Delphi. At the conclusion of the pilot study, the primary researcher and Agricultural Education faculty members at Auburn University reviewed the comments from the pilot study. The revised survey instrument was administered to the expert panel.

Delphi Questionnaire. When geographical boundaries make it practically impossible for participants to meet frequently, the use of a Delphi method is suited for gathering data (Sitlington & Coetzer, 2012). The members of the expert panel for this study included members from the three geographic regions of AAAE: Southern, Western, and North Central. The final Delphi

questionnaire consisted of revised statements as recommended by the review panel and pilot study participants. The questionnaire was administered to participants using Qualtrics, an online survey platform.

Table 1

Demographic information for Pilot Study Research Participants

Variable	*n*	%
Age		
29-38	2	22.20
39-48	5	55.60
49-58	2	22.20
Ethnicity		
White	9	100.00
Gender		
Male	7	77.80
Female	2	22.20
Years of employment in Agricultural Education		
6-10 years	2%	22.20
11-20 years	5%	55.60
21-30 years	2%	22.20

Delphi Respondent Sampling

Population. The selection of a panel of experts has been noted as the keystone to the success of a Delphi study (Hsu & Sandford, 2007). Judd (1972) emphasized the importance of deciding who qualifies as an expert. Baker, Lovell, and Harris (2006) noted that a panel of experts may be selected based on knowledge, experience, and position. The original Delphi study consisted of 7 panel members (Dalkey & Helmer, 1963). Since that time, there has been a great deal of diversity in regards to the number of panel experts needed. If the panel is too small, it may not be able to provide an adequate representation of the group, while a large panel may result in impractical time requirements (Hsu & Sanford, 2007). For this study, fifteen panelists were identified as experts in the field relating to the success of vertical transfer students in

Agricultural Education (Skulmoski, Hartman, & Krahn, 2007). The rational for selecting 15 (N = 15) participants was to ensure a large enough frame to account for participant fatigue or attrition.

Selection of Experts. The panel of experts included ten individuals who had demonstrated an expertise in working with Agricultural Education transfer students by publishing in peer reviewed journals, being employed at a four-year institution, and demonstrating membership in a related professional organization. Prior to the study, the researcher set parameters *a priori* for qualifications to be considered an expert. Specifically, panel experts demonstrated their expertise by authoring at least five published, peer-reviewed research articles. The experts also had been employed for at least five years in a department of Agriculture Education at a four-year university and represented members from the three geographic regions of AAAE. The panel also represented both non-land grant and land grant institutions.

Analysis of Data

Purpose. The purpose of this study was to explore the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education. Using a Modified Delphi method, a group of ten experts were selected to indicate factors they perceive to have an influence on the success of vertical transfer students.

Methods. The study utilized a three round Delphi as described by Skulmoski et al. (2007).

Round One. Providing participants with a structured round one can help avoid participant drop-out due to participant fatigue (Sitlington & Coetzer, 2015). In round one, 14 (N = 14) participants were sent an email invitation to participate in the survey (Appendix F). Ten responded to the round one survey (n = 10). The email contained a link to the online round one

survey. The round one survey included a list of 26 statements related to the research objective (Appendix G). Participants were asked to rate each item on a five-point interval scale (1=strongly agree, 2=agree, 3=neither agree nor disagree, 4=disagree, 5=strongly disagree). Participants were given one week to complete the survey.

Round Two. In round two, participants received an email invitation (Appendix H) to participate in the second round of the study. The second-round survey (Appendix I) was comprised of 14 statements that persisted through the first round based on the mean score. Each item with a mean ≥ 4.25 was considered to have reached consensus and was included in the second round. Statement ordering was randomized within Qualtrics to minimize the influence of reviewer fatigue. Participants were asked to rank each statement in order from most important to least important (1 being most important, 14 being least important). Participants were also asked to provide a rationale for why they placed each statement in the particular order. Participants were given one week to complete the survey.

Round Three. In the third round, participants (n = 10) were sent a final email invitation (Appendix J) to complete the third survey. Each participate received a link to a personalized questionnaire (Appendix K) that included each item accompanied by the participant's initial ranking and a complied list of all rationales provided in round two (Hsu & Sandford, 2007). Participants were asked to review the rationale of other participants and determine if the rationale of others influenced their ranking of items. After reviewing the rationale of other participants, each individual was given the opportunity to make changes to their initial ranking. Participants were given one week to complete the survey. At the end of week one, non-respondents were contacted via phone call which resulted in raising the response rate from 60% to 90%. One

participant attempted to open the survey but did not give a full response. The researcher attempted to contact this participant, but the participant never completed the survey.

Final Consensus According to Giannarou and Zervas (2014), the manner in which consensus is determined by a panel of experts is varied among researchers. The number of iterations is generally dependent on the level of consensus that is desired (Hsu & Sandford, 2007). A mean value ≥ 4.25 was used as the level of agreement needed to establish consensus and maintain the statement for subsequent rounds. Fourteen statements met the predefined criteria and were maintained for rounds two and three.

There is a need for the researcher to focus on stability of responses from panelists (Crisp, Pelletier, Duffield, Adams, & Nagy, 1997; Dajani, Sincoff, & Talley, 1979; Landeta, 2006; Linstone & Turoff, 2011) when using the Delphi technique. In rounds two and three, panelists were asked to rank the fourteen retained statements from most important to least important. The eight most important statements from round two were retained as the eight most important statements in round three. Movement between the two rounds was limited to the second most important item moving to the fourth most important and the seventh most important moving to the eighth most important. All other statements remained in their respective rankings.

Chapter Four: Data Analysis and Findings

Introduction

The purpose of this study was to explore the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education. The study began with a review of literature related to student retention and completion and utilized a modified Delphi technique to establish consensus among a panel of experts.

Study Design

When there is incomplete knowledge on a topic, the Delphi technique is an appropriate method to reach a group consensus (Giannarou & Zervas, 2014). For this study, a panel of ten experts was selected to participate based on predetermined criteria. Each participant received an email invitation to participate in subsequent rounds. A three round Delphi was utilized to establish stability in participant responses. Data was collected during the fall 2017 Term.Initially, 26 items were identified as potential factors that influence bachelor's degree attainment as prescribed in previous articles. Collection of data from the review articles was based on the convergence of Rendón's Validation Theory and the Schlossberg's Adaptation to Transition Theory. The Validation Theory supported the need for items related to factors of influence that validate the student both in the classroom and out of the classroom. The Adaptation to Transition theory provided the framework for inclusion of statements related to student's ability to adapt to a new situation. The compilation of 26 statements was given to a group of four individuals to review for grammatical errors and readability. The researcher made corrections to the statements as recommended by the review panel. The statements were then pilot tested for validity and reliability as described in Chapter 3.

Objective Two. Develop an instrument to assess the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.

Description of Delphi Expert Panelists. A group of ten post-secondary Agricultural Education faculty members were selected to comprise the expert panel for this study. Panelists were selected based on their expertise with the subject matter. The panelists proved their expertise by having been employed as a post-secondary faculty member in Agricultural Education for at least five years, having published at least five peer reviewed articles, and having membership in AAAE.

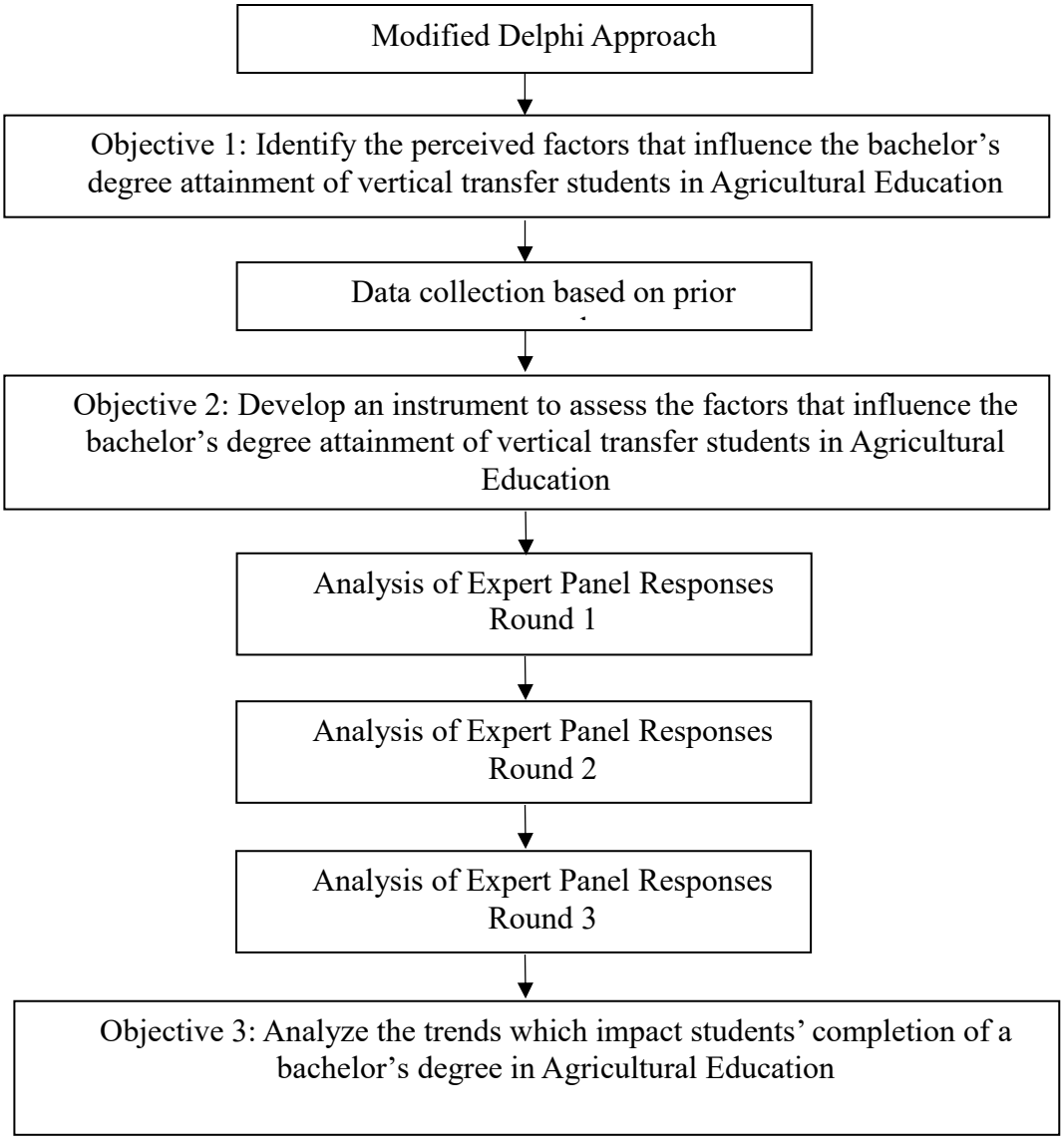

Figure 2 Modified Delphi Technique Process

Demographics of the Expert Panel. The expert panel was made up of 40% female and 60% male participants. The age of the participants was indicated as 10% in the 29-38 years range, 30% in the 39-48 years range, 30% in the 49-58 years range, and 30% in the 59-68 years range. The ethnicity of the group was reported as 90% white, and 10% other. Furthermore, 10% of participants indicated 0-5 years of experience, 20% indicated 6-10 years of experience, 30% indicated 11-20 years of experience, 30% indicated 21-30 years of experience, and 10% indicated 31 or more years of experience in Agricultural Education. A higher percentage of

participants were employed by Land Grant Institutions than Non-Land Grant Institutions, but the participants were more equally distributed across the three regions of AAAE. Thirty percent of participants represented the Western region of AAAE, 30% represented the Southern regions of AAAE, and 40% represented the North Central regions of AAAE (Table 2).

Table 2

Demographics of Expert Panel

Demographic	*N*	%
Gender		
Female	4	40.00
Male	6	60.00
Age		
29-38	1	10.00
39-48	3	30.00
49-58	3	30.00
59-68	3	30.00
Ethnicity		
White	9	90.00
Other	1	10.00
Years of Employment in Agricultural Education		
0-5	1	10.00
6-10	2	20.00
11-20	3	30.00
21-30	3	30.00
31 years or more	1	10.00
Land Grant Status		
Land Grant Institution	8	80.00
Non-Land Grant Institution	2	20.00
AAAE Membership		
Western	3	30.00
Southern	3	30.00
North Central	4	40.00

Analysis of Round One Modified Delphi Data.

***Introduction*.** The Delphi was originally introduced by the RAND Corporation in 1957 as a forecasting tool for the number of bombs needed by the U. S. Army (Dalkey & Helmer, 1963). Since its inception, the Delphi has become a widely utilized research method across many fields

of application (Landeta, 2006) that allows anonymity to participants and asynchronous response (Linstone & Turoff, 2011). The Delphi method has been noted as an acceptable research method both in Higher Education (Judd, 1972) and Agricultural Education (Martin & Frick, 1998).

Data Analysis. The study utilized a Modified Delphi technique with an expert panel of ten Agricultural Education faculty members of four-year Agricultural Education programs (Skulmoski et al., 2007). The initial Delphi research instrument consisted of 26 items identified in previous research as influential on college degree completion. Each expert panelists was asked to indicate his or her agreement or disagreement with each item in regards to its influence on Agricultural Education students.

The principles included in the first round of the Delphi were: *Q1, participation in extracurricular activities encourages attainment of a bachelor's degree; Q2, class attendance is critical to bachelor's degree attainment; Q3, collaboration with peers outside of class promotes bachelor's degree attainment; Q4*, b*eing prepared for class increases bachelor's degree attainment; Q5, satisfaction in the overall college experience promotes bachelor's degree attainment; Q6, access to childcare is important to bachelor's degree attainment; Q7, access to reliable transportation improves bachelor's degree attainment; Q8, residing near family encourages attainment of a bachelor's degree; Q9. a feeling of personal academic competence encourages bachelor's degree completion; Q10. the ability to make social adjustments at a four-year university is important to bachelor's degree attainment; Q11, community College students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum; Q12, awarding of transfer credits encourages bachelor's degree attainment; Q13, participating in transfer student orientation encourages attainment of a bachelor's degree; Q14, learning*

community membership encourages completion of a bachelor's degree; Q15, students with a quality strategic plan are more likely to reach long-term academic goals; Q16, students who participated in courses for college credit in high school are more likely to complete a bachelor's degree than students who did not complete courses for college credit in high school; Q17, academically challenging courses promote attainment of a bachelor's degree; Q18, classroom engagement promotes completion of a bachelor's degree; Q19, course diversity encourages bachelor's degree completion; Q20, experiencing real-life applications in the classroom encourages attainment of a bachelor's degree; Q21, prompt faculty feedback improves bachelor's degree completion; Q22, meaningful relationships with faculty members are important to student's attainment of a bachelor's degree; Q23, easy access to student support services (advising, counseling, financial aid, tutoring, etc) encourages completions of a bachelor's degree; Q24, financial aid guidance increases bachelor's degree attainment; Q25, extended office hours encourage bachelor's degree attainment; Q26, students who work with a single, designated advisor are more likely to complete a bachelor's degree.

In round one, participants were asked to rate their agreement or disagreement with each item on a five-point interval scale (1=strongly agree, 2=agree, 3=neither agree nor disagree, 4=disagree, 5=strongly disagree). Responses were recoded so that 5=strongly agree, 4=agree, 3=neither agree nor disagree, 2=disagree, 1=strongly disagree. The analysis of responses (n = 10) was conducted using SPSS .22. The frequencies, measures of central tendency, standard deviation, and variance were analyzed for each item. An *a priori* mean ≥ 4.25 was established as the level of agreement needed to reach consensus in the first round. Fourteen responses with a mean ≥ 4.25 were considered to have reached consensus and were included in the second round (Table 3).

Expert panelists identified 14 items they perceive to be considered influential to the success of vertical transfer students in Agricultural Education. The 14 items included: *Q2, class attendance is critical to bachelor's degree attainment; Q4,being prepared for class increases*

bachelor's degree attainment; Q5 satisfaction in the overall college experience promotes bachelor's degree attainment; Q9, a feeling of personal academic competence encourages bachelor's degree completion; Q10, the ability to make social adjustments at a four-year university is important to bachelor's degree attainment; Q11, community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum; Q12, awarding of transfer credits encourages bachelor's degree attainment: Q13, participating in transfer student orientation encourages attainment of a bachelor's degree; Q15, students with a quality strategic plan are more likely to reach long-term academic goals; Q18, classroom engagement promotes completion of a bachelor's degree; Q20 experiencing real-life applications in the classroom encourages attainment of a bachelor's degree; Q22 meaningful relationships with faculty members are important to attainment of a bachelor's degree; Q23, easy access to student support services (advising, counseling, financial aid, etc) encourages completions of a bachelor's degree; and Q24, financial aid guidance increases bachelor's degree attainment.

A frequency table was used in this study to identify trends in the data (Kenney, 1939). Table 4 includes the frequency of responses on an interval scale by participants of the expert panel for each item that had a mean score ≥ 4.25.

At the end of week one, seven participants had completed the survey. Non-respondents were contacted by phone call. A follow up email was also sent to non-respondents which resulted in ten participants submitting responses to round one.

Table 3

Round One Measures of Central Tendency and Variance

Item	Statement	*M*	*S.D.*
Q2	Class attendance is critical to bachelor's degree attainment.*	5.00	0.00
Q4	Being prepared for class increases bachelor's degree attainment.*	5.00	0.00
Q12	Awarding of transfer credits encourages bachelor's degree attainment.*	5.00	0.00
Q23	Easy access to student support services (advising, counseling, financial aid, tutoring, etc) encourages completion of a bachelor's degree.*	4.60	0.52
Q15	Students with a quality strategic plan are more likely to reach long-term academic goals.*	4.50	0.53
Q18	Classroom engagement promotes completion of a bachelor's degree.*	4.50	0.53
Q20	Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree.*	4.50	0.53
Q22	Meaningful relationships with faculty members are important to student attainment of a bachelor's degree.*	4.50	0.53
Q5	Satisfaction in the overall college experience promotes bachelor's degree attainment.*	4.40	0.52
Q9	A feeling of personal academic competence encourages bachelor's degree completion.*	4.40	0.52
Q10	The ability to make social adjustments at a four-year university is important to bachelor's degree attainment.*	4.40	0.70
Q11	Community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum.*	4.30	0.48
Q24	Financial aid guidance increases bachelor's degree attainment.*	4.30	0.95
Q3	Collaboration with peers outside of class promotes bachelor's degree attainment.	4.20	0.63
Q7	Access to reliable transportation improves bachelor's degree attainment.	4.20	0.63
Q26	Students who work with a single, designated advisor are more likely to complete a bachelor's degree.	4.20	0.63
Q1	Participation in extracurricular activities encourages attainment of a bachelor's degree.	4.20	0.92
Q21	Prompt faculty feedback improves bachelor's degree completion.	4.10	0.74
Q13	Participating in transfer student orientation encourages attainment of a bachelor's degree.*	4.00	0.47

Table 3 continued on page 52.

Item	Statement	*M*	*S.D.*
Q14	Learning community membership encourages completion of a bachelor's degree.	3.70	0.48
Q17	Academically challenging courses promote attainment of a bachelor's degree.	3.70	0.48
Q6	Access to childcare is important to bachelor's degree attainment.	3.60	0.70
Q19	Course diversity encourages bachelor's degree completion.	3.60	0.84
Q8	Residing near family encourages attainment of a bachelor's degree.	3.00	0.67
Q16	Students who participated in courses for college credit in high school are more likely to complete a bachelor's degree than students who did not complete courses for college credit in high school	3.00	0.82
Q25	Extended office hours encourage bachelor's degree attainment.	2.90	0.57

*Items with a mean score ≥ 4.25

Analysis of Round Two Modified Delphi Data.

For round two, 14 statements were retained from round one based on the mean score of each item from the expert panel group. To be included in round two, an item must have received a mean score ≥ 4.25 in round one. In round two, panelists were asked to rank each of the items in order from one to 14 with one being the most important item and 14 being the least important item. Tie ranks were not permitted. Participants were also asked to provide a rationale for their ranking of each statement.

The expert panel participants received an email link for the round two survey. Items in round two were randomized to alleviate the potential of influence due to participant fatigue. Participants were given one week to complete the survey. Initially, 80% of participants responded to the survey. Phone calls were made to the remaining participants, and an additional email reminder was sent to non-respondents which resulted in a 100% response rate for round two. Five of the ten participants (50%) included duplicate rankings in their first response. Follow up emails were sent to these participants asking them to indicate the intended rank so that each

item had an individual and unique score. The mean, mode, standard deviation, range, and sum were analyzed for the collected data. A sum of scores was used to determine the collective ranking of the group. Based on the lowest sum, items were ranked from one to 14 (Table 5). In the case of identical sums, the item with the largest standard deviation was used to break the tie (Schmidt, 1997).

Analysis of Round Three Modified Delphi Data.

For round three, participants received the collective ranking of each item along with the rationale of their colleagues. Participants were asked to read the rationale as provided by other panelists and indicate if the rationale provided by others influenced their decisions. Participants were given the opportunity to make changes to their individual rankings. Participants were given one week to complete the survey. At the end of the first week, six participants had responded for a response rate of 60%. Follow-up phone calls were made to each participant. A second email containing a link to the survey was also sent to each of the four non-respondents. At the end of week two, three additional panelists had responded for a response rate of 90%. Upon review, the researcher realized that two participants had duplicate rankings. Both individuals were contacted by email and the appropriate adjustments were made to ensure that each item received a unique rank from each participant.

Descriptive statistics were analyzed for the third round data. The sum of scores was also calculated for each item. The items with the lowest sum of scores was used to produce the group ranking of items as found in Table 6. Tie scores of the mean were broken using the largest standard deviation (Schmidt, 1997).

Table 4

Round One Response Frequencies (n = 10)

Item	Statement	Interval Score (*f*)				
		5	4	3	2	1
*Q*2	Class attendance is critical to bachelor's degree attainment.	10	0	0	0	0
*Q*4	Being prepared for class increases bachelor's degree attainment.	10	0	0	0	0
*Q*12	Awarding of transfer credits encourages bachelor's degree attainment.	10	0	0	0	0
*Q*23	Easy access to student support services (advising, counseling, financial aid, tutoring, etc) encourages completion of a bachelor's degree.	6	4	0	0	0
*Q*15	Students with a quality strategic plan are more likely to reach long-term academic goals.	5	5	0	0	0
*Q*18	Classroom engagement promotes completion of a bachelor's degree.	5	5	0	0	0
*Q*20	Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree.	5	5	0	0	0
*Q*22	Meaningful relationships with faculty members are important to student attainment of a bachelor's degree.	5	5	0	0	0
*Q*5	Satisfaction in the overall experience promotes bachelor's degree attainment.	4	6	0	0	0
*Q*9	A feeling of personal academic competence encourages bachelor's degree completion.	4	6	0	0	0
*Q*10	The ability to make social adjustments at a four-year university is important to bachelor's degree attainment.	5	4	1	0	0
*Q*11	Community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum.	3	7	0	0	0
*Q*24	Financial aid guidance increases bachelor's degree attainment.	5	4	1	0	0
*Q*13	Participating in transfer student orientation encourages attainment of a bachelor's degree.	1	8	1	0	0

The mean and standard deviation was used to rank the survey items based on participant responses in round three. Item A remained as the item with most agreement based on the hierarchical ranking. Items B, J, and K remained in the top four items, but item B moved from 2nd most important to 4th most important.

Table 5

Round Two Hierarchical Ordering by Item Description

Instrument Item	Rank	Statement
A	1	Class attendance is critical to bachelor's degree attainment.
B	2	Being prepared for class increases bachelor's degree attainment.
J	3	Classroom engagement promotes completion of a bachelor's degree.
K	4	Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree.
L	5	Meaning relationships with faculty members are important to attainment of a bachelor's degree.
D	6	A feeling of personal academic competence encourages bachelor's degree completion.
G	7	Awarding of transfer credits encourages bachelor's degree attainment.
I	8	Students with a quality strategic plan are more likely to reach long-term academic goals.
M*	9	Easy access to student support services (Advising, counseling, financial aid, etc) encourages completion of a bachelor's degree.
E*	10	The ability to make social adjustments at a four-year university is important to bachelor's degree attainment.
H	11	Participating in transfer student orientation encourages attainment of a bachelor's degree.
C	12	Satisfaction in the overall college experience promotes bachelor's degree attainment.
F	13	Community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum.
N	14	Financial aid guidance increase bachelor's degree attainment.

*Items with identical sums. The ranking of these items was determined using the standard deviation.

Objective Three. Analyze the trends which impact students' completion of a bachelor's degree in Agricultural Education.

The panelists in this study were asked to evaluate 26 factors that prior research indicated to be influential to the success of vertical transfer students.

Table 6

Round Three Hierarchical Ordering by Item Description

Instrument Item	Rank	Statement
A	1	Class attendance is critical to bachelor's degree attainment.
J*	2	Classroom engagement promotes completion of a bachelor's degree.
K*	3	Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree.
B	4	Being prepared for class increases bachelor's degree attainment.
L	5	Meaning relationships with faculty members are important to attainment of a bachelor's degree.
D*	6	A feeling of personal academic competence encourages bachelor's degree completion.
I*	7	Students with a quality strategic plan are more likely to reach long-term academic goals.
G	8	Awarding of transfer credits encourages bachelor's degree attainment.
C*	9	Satisfaction in the overall college experience promotes bachelor's degree attainment.
F*	10	Community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum.
	11	Easy access to student support services (Advising, counseling, financial aid, etc) encourages completion of a bachelor's degree.
E	12	The ability to make social adjustments at a four-year university is important to bachelor's degree attainment.
N	13	Financial aid guidance increase bachelor's degree attainment.
H	14	Participating in transfer student orientation encourages attainment of a bachelor's degree.

*Items with identical sums. The ranking of these items was determined using the standard deviation.

These 26 factors served as an indicator for potential influential factors. Cejda (1997) found a significant difference in the influence of transfer shock on students across disciplines and recommended that further investigation of community college student transfers was needed based on academic discipline. As such, this study attempted to identify the factors that are perceived to be influential to vertical transfer students in Agricultural Education.

The items included for consideration in this study were inclusive of both in-class and out-of-class validation factors. Based on the Validation Theory, students cultivate a sense of personal development, social adjustment, and educational belonging when they receive affirmation in and out of class (Linarez & Muñoz, 2011). The participants in this study were asked to identify in-class factors and out-of-class factors they perceive to be influential on the success of vertical transfer students.

The panel of ten experts in this study were initially asked to rate their agreement with 26 items based on the items' perceived influence of success for vertical transfer students in Agricultural Education. The panelist group indicated agreement with 14 items based on a mean score ≥4.25: *class attendance is critical to bachelor's degree attainment, being prepared for class increases bachelor's degree attainment, satisfaction in the overall college experience promotes bachelor's degree attainment, a feeling of personal academic competence encourages bachelor's degree completion, the ability to make social adjustments at a four-year university is important to bachelor's degree attainment, community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum, awarding of transfer credits encourages bachelor's degree attainment, participating in transfer student orientation encourages attainment of a bachelor's degree, students with a quality strategic plan are more likely to reach long-term academic goals, classroom engagement promotes completion of a bachelor's degree, experiencing real-life applications in the classroom encourages attainment of a bachelor's degree, meaningful relationships with faculty members are important to attainment of a bachelor's degree, easy access to student support services (advising, counseling, financial*

aid, etc) encourages completions of a bachelor's degree, financial aid guidance increases bachelor's degree attainment.

Panelists were next asked to rank the 14 items from most influential to least influential to vertical transfer student success. Through two rounds, the panelists included four statements as the top four items: *class attendance is critical to bachelor's degree attainment, classroom engagement promotes completion of a bachelor's degree, experiencing real-life applications in the classroom encourages attainment of a bachelor's degree, being prepared for class increases bachelor's degree attainment.* The four items that persisted as the top four ranked items were each related to validation that occurs in the classroom. The fifth item, meaningful relationships with faculty members, may also have an in-class validation component.

Based on the responses of the expert panel, in order to promote bachelor's degree attainment of vertical transfer students in Agricultural Education, an increased focus should be placed on the in-class validation of students. Panelists indicated that the most significant factors to vertical transfer student success occurred in the classroom setting.

Chapter V: Conclusions, Recommendations, and Implications

Purpose

The purpose of this study was to develop an instrument that can be used to identify factors that influence the success of vertical transfer students in Agricultural Education.

Objectives

1. Identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.
2. Develop an instrument to assess the factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.
3. Analyze the trends which impact students' completion of a bachelor's degree in Agricultural Education.

Study Design and Procedures

A modified Delphi approach was utilized to evaluate the perceived factors related to bachelor's degree attainment of vertical transfer students in Agricultural Education. An expert panel of ten members was selected based on predetermined criteria. The expert panel was utilized to garner responses related to bachelor's degree attainment of vertical transfer students. Data was collected across three survey rounds during the Fall 2017 semester.

Population

The population of participants in this study consisted of ten experts as demonstrated by their knowledge of vertical transfer students at four-year institutions in Agricultural Education. The panelists were selected based on having at least five articles published in peer reviewed journals, serving as a faculty member of Agricultural Education at a four-year institution for at least five years, and having membership in an associated professional organization. Each of the

three regions of the AAAE were represented in the panelist population. The expert panel was also comprised of four-year faculty members at both land-grant and non-land grant institutions.

Instrumentation

A review of current literature found that no survey to evaluate factors that influence degree completion of vertical transfer students in Agricultural Education existed. The researcher utilized the available literature to create the initial survey for the study. Items included in the study were related to the Validation Theory (Rendón, 1994) of in-class and out-of-class validating factors and the Adaptation to Transition Model (Schlossberg, 1981) of factors relating to students' ability to adapt.

The original instrument consisted of 26 items. A review panel evaluated the items for readability and clarity. The review panel also rated each statement using an interval scale to indicate their agreement with the inclusion of the item in the survey.

A pilot study was conducted with participants similar to those included in the Delphi study. These participants were asked to complete the round one survey using the same online software, Qualtrics, as the Delphi panel. The pilot study participants were asked to rate each item on an interval scale based on their perceived importance of the item. The pilot study participants were also asked to provide comments or recommendations related to the study.

Data Collection and Analysis

The researcher utilized Qualtrics to create the survey for each of three rounds. Emails to participants were composed in Qualtrics and contained a link to the respective survey. In the second and third rounds, any participant who indicated duplicate ranks was contacted individually to correct the error. Participant responses were housed within the Qualtrics server.

At the completion of each round, panelist responses were downloaded as an SPSS .22 compatible file.

SPSS .22 was used to calculate the frequencies and percentages of demographic data including age, ethnicity, gender, and length of employment. Frequencies and measures of central tendencies were calculated items in round one using SPSS .22. For round two and round three, SPSS .22 was used to analyze the mean, median, mode, standard deviation, range and sum of scores for each item. Participant rationale was also collected from Round 2 and responses to each survey item were collated to allow for analysis per item.

Major Findings

The American Association for Agriculture Education identified 10 research priorities that support efficient and effective Agricultural Education programs (Thoron, Myers, & Barrick, 2016). Among the 10 identified priorities, exploration of effective communication with diverse populations was acknowledged as important to the advancement of Agricultural Education. The findings of this study examine factors of influence for one of the diverse populations that enter Agricultural Education, vertical transfer students.

Objective One: Identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.

A review of the current literature revealed extensive findings related to vertical transfer of students in general, but little pre-existing information was found related to vertical transfer students within the discipline of Agricultural Education. The researcher reviewed the current literature and established 26 reoccurring factors that have been noted as potential factors of influence related to the degree attainment of vertical transfer students.

The items included in the survey were selected based on their convergence with the Validation Theory (Rendón, 1994) and the Adaptation to Transition Model (Schlossberg, 1981). Potential factors of influence included in-class and out-of-class sources of student validation as suggested by Rendón (1994). Based on the Adaptation to Transition Model (Schlossberg, 1981), the factors included in the study also represented characteristic traits of the individual and environmental influences that influence the ability of students to adapt to the transfer transition.

Objective Two: Develop an instrument to assess the factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education.

An expert panel of ten members was established to identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education. These individuals were first asked to rate 26 pre-populated items based on their agreement or disagreement with the item. From the responses of the research panel, 14 items were identified as influential to Bachelor's degree attainment which was indicated by a mean score ≥ 4.25.

In Round two, panelists were asked to rank the 14 items based on the item they felt was most important to least important to bachelor's degree attainment of Agricultural Education students. Panelists also included a rationale for their individual rankings. A sum of scores was used to determine the ranking of each item in round two.

Round three asked panelists to review the ranking of each item, along with the rational provided by the group. Panelists were also given the opportunity to make adjustments to their personal rankings if they felt a change was needed after reviewing the group rationale. At the conclusion of round three, the top eight items from round two were retained as the top eight items with only two items changing their hierarchical position.

Objective Three: Analyze the trends which impact students' completion of a bachelor's degree in Agricultural Education.

The ten member expert panel identified 14 items that are perceived as important to bachelor's degree attainment of vertical transfer students in Agricultural Education. In subsequent rounds, the group consistently identified eight items that were perceived to be the most important factors to vertical transfer students. Consistently, items related to the classroom were ranked as the most influential factors in bachelor's degree attainment. This finding is consistent with prior research that claims vertical transfer students often find their engagement in the classroom (Tinto, 2006).

Conclusions

The findings of this study are not intended to be generalized beyond the ten member expert panel population. Based on the responses of this groups, factors that are most influential to bachelor's degree attainment of vertical transfer students in Agricultural Education are related to the classroom. Specifically, student attendance and student preparation for class were indicated as significant factors influencing persistence to graduation. Furthermore, courses that are designed to be engaging and present real-life applications promote degree completion were found to be of importance to bachelor's degree completion. When applied in the classroom, these methods may support effective communication as recommended in the AAAE research agenda.

Faculty members also play a significant role in the successful degree completion of vertical transfer students by developing engaging courses, presenting real-life applications for classroom material, and allowing for meaning relationships to be established with vertical transfer students. Faculty can further confer their influence on vertical transfer students by helping student develop a quality strategic plan designed to help students reach their academic goals.

Recommendations

Based on the findings of this study and the corresponding conclusions, the following recommendations were made.

1. This study sought to gain insight from an expert panel of ten members currently serving as faculty members in four-year institutions of higher education. Future studies should include a comparison of responses of community college faculty and vertical transfer students.
2. Governance of post-secondary institutions varies across states. Further research is needed to determine if individual state policies are influential to the bachelor's degree attainment of vertical transfer students.
3. Based on the findings of this study, classroom engagement was perceived as influential to degree attainment. Future research should evaluate the forms of classroom engagement that are most effective in supporting degree attainment of vertical transfer students.
4. Items in this survey related to out-of-class supports for students were ranked as the least important to transfer student success. It is possible that these supports would be more significant to a vertical transfer student who is of a traditional student age as compared to a non-traditional vertical transfer student. Further investigation is needed to identify if a significant difference exists between age groups of vertical transfer students.
5. Because of the finding that having a quality strategic plan can help promote degree completion, advisors needed to assist students in identifying goals and planning for the necessary steps to reach those goals.
6. The findings of this study were based on a broad view of the factors that are perceived to influence the successful bachelor's degree completion of Agricultural Education transfer

students. The finding support the need for factorial analysis to indicate how the reduction of statements is correlated. A factorial analysis could prove to develop a more valid and reliable instrument for future studies related to factors of influence on Agricultural Education transfer students' attainment of a bachelor's degree.

Implications

Based on the findings of this study, factors related to the classroom are significant to bachelor's degree attainment of vertical transfer students. Developing meaningful relationships with faculty, belief in academic competence, and clear goals were also indicated as influential factors in bachelor's degree attainment.

Faculty members at four-year universities should carefully plan courses, while giving substantial consideration to the needs of vertical transfer students. Assignments and activities that promote classroom engagement and real-life applications will need to become part of the fabric of curriculum. Class attendance and class preparation, factors that are the responsibility of the student, can be promoted by assigning course points to these actions. At the least, faculty members should discuss the importance of these student responsibilities.

As the role of community colleges changes to meet a growing need for post-secondary credentialing, four-year institutions will be presented with the challenge of maintaining these students to graduation. Because of the diversity of background experiences, the needs of vertical transfer students will prompt the need to evaluate the methods and procedures for classroom management and career planning supports.

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Appendices

Appendix A: Statements for Panel Review

	Please include your comments or suggestions in the space provided. Once the survey is completed, a separate panel will be asked to indicate their level of agreement with each item on a Likert scale (Strongly agree to Strongly disagree).
1. Community college students who plan to transfer to a four-year university should follow a prescribed articulation agreement.	
2. Students who participated in dual enrollment courses in high school are more likely to complete a Bachelor's degree than students who did not participate in dual enrollment courses.	
3. Experiencing real-life applications in the classroom encourages attainment of a Bachelor's degree.	
4. Easy access to student support services is important to attainment of a Bachelor's degree.	
5. Students who work with a single, designated advisor are more likely to complete a Bachelor's degree.	
6. Students need a quality strategic plan to reach long-term academic goals.	
7. Learning community membership encourages completion of a Bachelor's degree.	
8. Classroom engagement is critical for completion of a Bachelor's degree.	
9. Meaningful relationships with faculty members is important to student attainment of a Bachelor's degree.	
10. Participation in extracurricular	

activities encourages attainment of a Bachelor's degree.	
11. Financial Aid guidance increases Bachelor's degree attainment.	
12. Awarding of transfer credits encourages Bachelor's degree attainment.	
13. Access to childcare is important to Bachelor's degree attainment.	
14. Extended office hours encourage Bachelor's degree attainment.	
15. Provided transportation improves Bachelor's degree attainment.	
16. Class attendance is critical to Bachelors' degree attainment.	
17. Courses that are academically challenging promotes attainment of a Bachelor's degree.	
18. Collaboration with peers outside of class promotes Bachelor's degree attainment.	
19. Prompt faculty feedback improves Bachelor's degree completion.	
20. Course diversity encourages Bachelor's degree completion.	
21. A feeling of personal academic competence encourages Bachelor's degree completion.	
22. Satisfaction in the overall college experience promotes Bachelor's degree attainment.	
23. Being prepared for class increased Bachelor's degree attainment.	
24. Participation in transfer student	

orientation encourages attainment of a Bachelor's degree.	
25. Residence near family encourages attainment of a Bachelor's degree.	
26. The ability to make social adjustments at a four-year university is important to Bachelor's degree attainment.	

Appendix B: Invitation Email to Review Panel

Dear _____,

We recently spoke about my dissertation research. In order to construct a valid instrument for my study, I intend to form a panel of university faculty experts to assess retention factors of transfer students. I am writing to formally request your assistance in the initial phase of this research.

I am asking you to provide feedback for each item and provide additional comments and suggestions for the potential survey items in the space provided. You can find the list of survey items attached to this email. Your comments will be used to construct items that allow the expert panel to express their knowledge and expertise in regards to retention factors of transfer students.

Your feedback to these research questions is critical in identifying the factors that influence retention of transfer student. If you choose not to participate in this research trial, you have the right to opt out of further communication or participation by not completing the instrument review.

Participant volunteers will remain anonymous. To ensure anonymity each participate will be assigned a confidential code known only to the investigators of the study. Participant names and codes will be stored separately from data collected in the study. Upon completion of the study, all identifying information will be destroyed. Thank you for your consideration of this project.

Sincerely,

Tera Howerton

Appendix C: Review Panel Validation Survey

1. Please indicate your agreement or disagreement with the following statement. Please provide your thoughts/comments related to each question

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

2. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Students who participated in courses for college credit in high school are more likely to complete a Bachelor's degree than students who did not participate in courses for college credit in high school.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

3. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Experiencing real-life applications in the classroom encourages attainment of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

4. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Easy access to student support services (advising, counseling, financial aid, tutoring, etc) encourages completion of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

5. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Students who work with a single, designated adviser are more likely to complete a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

6. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Students need a quality strategic plan to reach long-term academic goals.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

7.Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Learning community membership encourages completion of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

8. Please indicate your agreement or disagreement with the following statement.

	Strongly Agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Classroom engagement promotes completion of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

9. Please indicate your agreement or disagreement with the following statement.

	Strongly Agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Meaningful relationships with faculty members are important to student attainment of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

10. Please indicate your agreement or disagreement with the following statement.

	Strongly Agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Participation in extracurricular activities encourages attainment of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

11. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Financial Aid guidance increases Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

12. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Awarding of transfer credits encourages Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

13. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Access to childcare is important to Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

14. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Extended office hours encourage Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

15. Please indicate your agreement or disagreement with the following statement.

	Strongly Agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Access to reliable transportation improves Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

16. Please indicate your agreement or disagreement with the following statement.

	Strongly Agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Class attendance is critical to Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

17. Please indicate your agreement or disagreement with the following statement.

	Strongly Agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Academically challenging courses promote attainment of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

18. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Collaboration with peers outside of class promotes Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

19. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Prompt faculty feedback improves Bachelor's degree completion.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

20. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Course diversity encourages Bachelor's degree completion.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

21. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
A feeling of personal academic competence encourages Bachelor's degree completion.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

22. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Satisfaction in the overall college experience promotes Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

23. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Being prepared for class increases Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

24. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Participation in transfer student orientation encourages attainment of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

25. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Residing near family encourages attainment of a Bachelor's degree.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

26. Please indicate your agreement or disagreement with the following statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
The ability to make social adjustments at a four-year university is important to Bachelor's degree attainment.	○	○	○	○	○

Please provide your thoughts/comments related to this question in space below.

Appendix D: Invitation Email to Pilot Study Group

Dear Dr. ${m://LastName},

My name is Tera Howerton and I am a Doctoral Candidate in the Department of Curriculum and Teaching at Auburn University. I am asking for your voluntary participation in a research study pilot titled *Perceived Factors that Influence the Success of Vertical Transfer Students in Agricultural Education: A Delphi Study.* This pilot study will utilize the Likert Scale format and the opportunity to include additional comments.

If you choose to participate, your participation will require 30 minutes to complete. Your participation in this study is voluntary. By completing and returning this survey, you are indicating voluntary consent to participate. You will not be contacted at the conclusion of the pilot study. If you choose not to participate in this research trial, you have the right to opt out of further communication or participation by not completing the pilot survey.

Participant volunteers will remain anonymous. To ensure anonymity each participate will be assigned a confidential code known only to the investigators of the study. Participant names and codes will be stored separately from data collected in the study. Upon completion of the study, all identifying information will be destroyed.

Please, follow this link to the Survey:

If you have any questions about this study, please contact:

Tera Howerton Auburn University Curriculum and Teaching tzb0020@tigermail.auburn.edu 423-754-4971	Dr. Christopher Clemons Auburn University Curriculum and Teaching chrisclemons@auburn.edu 334-844-4411

Sincerely,

Tera Howerton

Appendix E: Pilot Study Survey

The purpose of this study is to identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education and develop an instrument to assess the factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education. This survey is best taken on a desktop/laptop/table; given the type of questioning used participation on a smart phone may be problematic. You and the other identified participants are the only source of data for this study. We ask you to review the informed consent information sheet (details) and complete the accompanying questionnaire; your participation will take approximately 30 minutes.

Things you should know about your participation: Your participation is voluntary. You may stop participating at any time. You will not be compensated for participation. Participation involves minimal risk (no more than occurs during daily life). Information about participants will be kept confidential and no individual responses will be reported.

Please do not hesitate to contact Tera Howerton if you have any questions about this research project. For further information, click the "Information Letter" link below.

Information Letter

This survey should take approximately 30 minutes to complete.

Thank you!

-Tera Howerton Auburn University Curriculum and Teaching tzb0020@tigermail.auburn.edu 423-754-4971

Click to write the question text

- ○ I AGREE to participate (I have read the informed consent information sheet and agree to participate)
- ○ I DO NOT wish to participate

Please provide feedback to the following statements for identifying the perceived factors that influence Bachelor's degree attainment of vertical transfer students in Agricultural Education. Please select the appropriate button indicating your response to each statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Participation in extracurricular activities encourages attainment of a Bachelor's degree. (1)	○	○	○	○	○
Class attendance is critical to Bachelor's degree attainment. (2)	○	○	○	○	○
Collaboration with peers outside of class promotes Bachelor's degree attainment. (3)	○	○	○	○	○
Being prepared for class increases Bachelor's degree attainment. (4)	○	○	○	○	○
Satisfaction in the overall college experience promotes Bachelor's degree attainment. (5)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Access to childcare is important to Bachelor's degree attainment. (6)	○	○	○	○	○
Access to reliable transportation improves Bachelor's degree attainment. (7)	○	○	○	○	○
Residing near family encourages attainment of a Bachelor's degree. (8)	○	○	○	○	○
A feeling of personal academic competence encourages Bachelor's degree completion. (9)	○	○	○	○	○
The ability to make social adjustments at a four-year university is important to Bachelor's degree attainment. (10)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Students who participated in courses for college credit in high school are more likely to complete a Bachelor's degree than students who did not participate in courses for college credit in high school. (11)	○	○	○	○	○
Community college students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum. (12)	○	○	○	○	○

Awarding of transfer credits encourages Bachelor's degree attainment. (13)	○	○	○	○	○
Participation in transfer student orientation encourages attainment of a Bachelor's degree. (14)	○	○	○	○	○
Learning community membership encourages completion of a Bachelor's degree. (15)	○	○	○	○	○
Students with a quality strategic plan are more likely to reach long-term academic goals. (16)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Academically challenging courses promote attainment of a Bachelor's degree. (17)	○	○	○	○	○
Classroom engagement promotes completion of a Bachelor's degree. (18)	○	○	○	○	○
Course diversity encourages Bachelor's degree completion. (19)	○	○	○	○	○
Experiencing real-life applications in the classroom encourages attainment of a Bachelor's degree. (20)	○	○	○	○	○
Prompt faculty feedback improves Bachelor's degree completion. (21)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Meaningful relationships with faculty members are important to student attainment of a Bachelor's degree. (22)	○	○	○	○	○
Easy access to student support services (advising, counseling, financial aid, tutoring, etc) encourages completion of a Bachelor's degree. (23)	○	○	○	○	○
Financial Aid guidance increases Bachelor's degree attainment. (24)	○	○	○	○	○
Extended office hours encourage Bachelor's degree attainment. (25)	○	○	○	○	○

Students who work with a single, designated adviser are more likely to complete a Bachelor's degree. (26)	○	○	○	○	○

Please use the space below to provide any comments or suggestions related to this survey.

_____

_____

_____

_____

_____

Appendix F: Round One - Expert Panel Email Invitation

Good morning!

You have been selected to participate in a Delphi research study to investigate bachelor's degree completion of vertical transfer students. I recognize that you are very busy; however, this study is **vital to understanding the factors that influence bachelor's degree attainment of vertical transfer students in Agricultural Education**. Your participation will require, on average, ten minutes per week for a four week time frame. The round one instrument contains 26 items, and I anticipate the survey should take approximately 10 minutes to complete. After opening the survey, you will need to click the "I agree to participate" button before proceeding.

If you would **please review the survey and complete the items by November 10, 2017** it would be greatly appreciated as I can send round two as to respect your time and effort. I am very grateful for your willingness to share your expertise by participating in this study. If you have any questions, please do not hesitate to contact me.

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

Tera Howerton
Graduate Student
Auburn University
Tzb0020@tigermail.auburn.edu

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

Appendix G: Round One Survey

The purpose of this study is to identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education and develop an instrument to assess the factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education. This survey is best taken on a desktop/laptop/table; given the type of questioning used participation on a smart phone may be problematic. You and the other identified participants are the only source of data for this study. We ask you to review the informed consent information sheet (details) and complete the accompanying questionnaire; your participation will take approximately 10 minutes.

Things you should know about your participation: Your participation is voluntary. You may stop participating at any time. You will not be compensated for participation. Participation involves minimal risk (no more than occurs during daily life). Information about participants will be kept confidential and no individual responses will be reported.

Please do not hesitate to contact Tera Howerton if you have any questions about this research project. For further information, click the "Information Letter" link below. Information Letter This survey should take approximately 10 minutes to complete.
Information Letter

Thank you!

Tera Howerton
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423-754-4971

○ I AGREE to participate (I have read the informed consent information sheet and agree to participate) (1)

○ I DO NOT wish to participate (2)

Please provide feedback to the following statements for identifying factors that influence bachelor's degree attainment of vertical transfer students in Agricultural Education. Please select the appropriate button to indicate your response to each statement.

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Participation in extracurricular activities encourages attainment of a bachelor's degree. (1)	○	○	○	○	○
Class attendance is critical to bachelor's degree attainment. (2)	○	○	○	○	○
Collaboration with peers outside of class promotes bachelor's degree attainment. (3)	○	○	○	○	○
Being prepared for class increases bachelor's degree attainment. (4)	○	○	○	○	○
Satisfaction in the overall college experience promotes bachelor's degree attainment. (5)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Access to childcare is important to bachelor's degree attainment. (2)	○	○	○	○	○
Access to reliable transportation improves bachelor's degree attainment. (6)	○	○	○	○	○
Residing near family encourages attainment of a bachelor's degree. (7)	○	○	○	○	○
A feeling of personal academic competence encourages bachelor’s degree completion. (4)	○	○	○	○	○
The ability to make social adjustments at a four-year university is important to bachelor’s degree attainment. (5)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Community College students who plan to transfer to a four-year university should follow a formal agreement between the community college and university that defines courses needed for the specified curriculum. (2)	○	○	○	○	○
Awarding of transfer credits encourages bachelor's degree attainment. (3)	○	○	○	○	○
Participation in transfer student orientation encourages attainment of a bachelor's degree. (4)	○	○	○	○	○

Learning community membership encourages completion of a bachelor's degree. (5)	○	○	○	○	○
Students with a quality strategic plan are more likely to reach long-term academic goals. (6)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Students who participated in courses for college credit in high school are more likely to complete a bachelor's degree than students who did not complete courses for college credit in high school. (6)	○	○	○	○	○
Academically challenging courses promote attainment of a bachelor’s degree. (1)	○	○	○	○	○
Classroom engagement promotes completion of a bachelor’s degree. (2)	○	○	○	○	○
Course diversity encourages bachelor’s degree completion. (3)	○	○	○	○	○

Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree. (4)	○	○	○	○	○
Prompt faculty feedback improves bachelor's degree completion. (5)	○	○	○	○	○

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Meaningful relationships with faculty members are important to student attainment of a bachelor's degree. (1)	○	○	○	○	○
Easy access to student support services (advising, counseling, financial aid, tutoring, etc) encourages completion of a bachelor's degree. (2)	○	○	○	○	○
Financial Aid guidance increases bachelor's degree attainment. (3)	○	○	○	○	○
Extended office hours encourage bachelor's degree attainment. (4)	○	○	○	○	○

Students who work with a single, designated adviser are more likely to complete a bachelor's degree. (5)	○	○	○	○	○

Appendix H: Round Two Expert Panel Email

Good morning,

I am happy to provide you with the second round survey for the Transfer Student study. Based on the answers provided in round one, a list of fourteen statements has been retained for further review. You will be asked to rank the fourteen statements from most important to least important. Then, space will be provided for you to provide rationale for your ranking.

You can expect this portion of the survey to take approximately 10 minutes of time to complete. I sincerely appreciate your participation in this study. **Please complete this portion by Friday, November 17, 2017**.

Thank you again for your participation,

Tera Howerton

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

Appendix I: Round Two Survey

THIS SURVEY IS BEST TAKEN ON A DESKTOP COMPUTER **This survey should take approximately 10 minutes to complete** *Your participation and expertise is important and valued* The purpose of this study is to identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education and develop an instrument to assess the factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education. This survey is best taken on a desktop/laptop/table; given the type of questioning used participation on a smart phone may be problematic. You and the other identified participants are the only source of data for this study. We ask you to review the informed consent information sheet (details) and complete the accompanying questionnaire; your participation will take approximately 10 minutes.

Things you should know about your participation: Your participation is voluntary. You may stop participating at any time. You will not be compensated for participation. Participation involves minimal risk (no more than occurs during daily life). Information about participants will be kept confidential and no individual responses will be reported.

Please do not hesitate to contact Tera Howerton if you have any questions about this research project. For further information, click the "Information Letter" link below.

Information Letter

This survey should take approximately 10 minutes to complete.

Thank you!

Tera Howerton
Auburn University
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423-754-4971

○ I AGREE to participate (I have read the informed consent information sheet and agree to participate). (1)

○ I DO NO wish to participate. (2)

Statements may not share the same rank.
Please determine your agreement with each statement with "1" being most important and "14" being least important. Please type your rationale for why you placed the statement in the particular rank order.

	Item Rank	Justification
		Please describe your rationale in the spaces below. (1)
Class attendance is critical to bachelor's degree attainment. (1)	▼ 1 (1) ... 14 (14)	
Being **prepared for class** increases bachelor's degree attainment. (2)	▼ 1 (1) ... 14 (14)	
Satisfaction in the overall college experience promotes bachelor's degree attainment. (3)	▼ 1 (1) ... 14 (14)	
A **feeling of personal academic competence** encourages bachelor's degree completion. (4)	▼ 1 (1) ... 14 (14)	

The **ability to make social adjustments** at a four-year university is important to bachelor's degree attainment. (5)	▼ 1 (1) ... 14 (14)	
Community College students who plan to transfer to a four-year university **should follow a formal agreement** between the community college and university that defines courses needed for the specified curriculum. (6)	▼ 1 (1) ... 14 (14)	
Awarding of transfer credits encourages bachelor's degree attainment. (7)	▼ 1 (1) ... 14 (14)	
Participating in transfer student orientation encourages attainment of a bachelor's degree. (8)	▼ 1 (1) ... 14 (14)	
Students with a **quality strategic plan** are more likely to reach long-term academic goals. (9)	▼ 1 (1) ... 14 (14)	

Classroom engagement promotes completion of a bachelor's degree. (10)	▼ 1 (1) ... 14 (14)	
Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree. (11)	▼ 1 (1) ... 14 (14)	
Meaningful relationships with faculty members are important to attainment of a bachelor's degree. (12)	▼ 1 (1) ... 14 (14)	
Easy access to student support services (advising, counseling, financial aid, tutoring, etc) encourages completion of a bachelor's degree. (13)	▼ 1 (1) ... 14 (14)	
Financial aid guidance increases bachelor's degree attainment. (14)	▼ 1 (1) ... 14 (14)	

Appendix J: Round Three Expert Panel Email

Good morning,

I am excited to share with you the third round "Perceived Factors that Influence Vertical Transfer Students". In this survey, you will find your original ranking, along with the rationale provided by your peers, for each statement. Please review each rationale and consider if you wish to maintain your original ranking, or if you would like to change the ranking.

I look forward to seeing your final responses. If you would **please review the survey and complete the items by November 24, 2017** it would be greatly appreciated. I am sincerely grateful for your participation in this study. If you have any questions, please do not hesitate to contact me.

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

Tera Howerton
Graduate Student
Auburn University
Tzb0020@tigermail.auburn.edu

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

THIS SURVEY IS BEST TAKEN ON A DESKTOP COMPUTER **This survey should take approximately 10 minutes to complete** *Your participation and expertise is important and valued* The purpose of this study is to identify the perceived factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education and develop an instrument to assess the factors that influence the bachelor's degree attainment of vertical transfer students in Agricultural Education. This survey is best taken on a desktop/laptop/table; given the type of questioning used participation on a smart phone may be problematic. You and the other identified participants are the only source of data for this study. We ask you to review the informed consent information sheet (details) and complete the accompanying questionnaire; your participation will take approximately 10 minutes.

Things you should know about your participation: Your participation is voluntary. You may stop participating at any time. You will not be compensated for participation. Participation involves minimal risk (no more than occurs during daily life). Information about participants will be kept confidential and no individual responses will be reported.

Please do not hesitate to contact Tera Howerton if you have any questions about this research project. For further information, click the "Information Letter" link below.

Information Letter

This survey should take approximately 10 minutes to complete.

Thank you!

Tera Howerton
Auburn University
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tzb0020@tigermail.auburn.edu
423-754-4971

○ I AGREE to participate (I have read the informed consent information sheet and agree to participate). (1)

○ I DO NOT wish to participate. (2)

Appendix K: Round Three Survey

Round three includes the statements from round two with no modifications. After reading the peer rationale for each statement, please consider your original ranking. If you desire to change your ranking, please select the new rank from the drop-down menu. If no change is desired, please choose "NC".

In this round, statements may not share the same rank.

The most important statement should be indicated as "1" and the least important statement should be indicated as "14".

Q1 **Class attendance** is critical to bachelor's degree attainment.

	Round Three: New Ranking (If Needed)
Peer Rationale: 1. Aids in sticking to a commitment. 2. Attendance is essential, along with out of class assignments. 3. Helps student to keep abreast with assignments and activities of the courses 4. Much of the real-world applications can happen in class 5. Varies by student by evidence suggests that class attendance improves performance 6. In classes, out-of-class materials and activities are only a portion of what can be learned. (1)	▼ NC (1) ... 14 (15)

Q2 Being **prepared for class** increases bachelor's degree attainment.

	Round Three: New Ranking (If Needed)

Peer Rationale: 1. Hard to define what "prepared for class" means. 2. Class prep promotes learning. 3. Assist students with classroom participation and discussion of assignments 4. Students need to be ready and willing to learn, being prepared is part of that "readiness level" 5. Preparation increase engagement and enhances learning. 6. Preparation leads to greater engagement, motivation, understanding, and learning. (1)	▼ NC (1) ... 14 (15)

Q3 **Classroom engagement** promotes completion of a bachelor's degree.

	Round Three: New Ranking (If Needed)
Peer Rationale: 1. Helps student to see the relevancy of what they are learning and doing 2. Helps students feel like they belong. 3. Reduces deficiencies and promotes understanding of content 4. Again another important piece to the college experience, but I am not sure engagement promote completion of a degree. 5. Classroom engeagment connects to many of these other areas -faculty relationships, social adjustment, academic performance,academic success. 6.Engagement leads to learning and development. (1)	▼ NC (1) ... 14 (15)

Q4 **Experiencing real-life applications** in the classroom encourages attainment of a bachelor's degree.

	Round Three: New Ranking (If Needed)

Peer Rationale: 1. Make learning useful and applied beyond graduation. 2. This is most applicable for those students who major in career and technical education. Necessary for all students 3. The opportunity to balance history, philosophy, theory and pedagogical content knowledge with real-world applications is critical - it enhances the meaning of the content students are taught 4. Students can see application of content and increase engagement 5. Learning must be meaningful and relevant. (1)	▼ NC (1) ... 14 (15)

Q5 **Meaningful relationships with faculty members** are important to attainment of a bachelor's degree.

	Round Three: New Ranking (If Needed)
Peer Rationale: 1. Faculty cab provide much needed encouragement 2. Faculty mentors make a difference is positive for degree completion. 3. Promotes respect 4. In a research project at [university] we found that the difference between students on academic warning/probation and those who were not - had a strong support group of faculty, staff and advisors on campus - at lest 3 people they could go to for help. I believe it is important for students to have this opportunity for help and guidance. 5. Faculty relationships are important to build communication networks that lead to success. 6. This especially true at a larger university but is probably commonplace at smaller institutions. (1)	▼ NC (1) ... 14 (15)

Q6 A **feeling of personal academic competence** encourages bachelor's degree completion.

	Round Three: New Ranking (If Needed)

Peer Rationale: 1. Feeling and believing in oneself is essential 2. Feelings of self-competence promotes degree completion. 3. Provides a measure of self-efficacy 4. Yes, if students feel academically competent they will continue to pursue a degree. Once put on academic warning or probation the desire changes. 5. This varies by course. Overall students should feel academically competent but different approaches in different courses make this inconsistent 6. A personal belief that one can navigate the challenges of the academic program, coupled with the necessary effort, leads to success. (1)	▼ NC (1) ... 14 (15)

Q7 **Awarding of transfer credits** encourages bachelor's degree attainment.

	Round Three: New Ranking (If Needed)
Peer Rationale: 1. Nothing is more discouraging than to know you have taken X number of hours and hardly any will count towards a bachelor's degree. 2. Should be a given. 3. A means of encouragement to transfer 4. This is has been very beneficial at our institution in assisting with degree attainment. When students come in with 15+general education requirements and can safe money on a semester's worth of classes it really impacts their desire to attend and finish. 5. Transfer credits definitely contribute to time to degree for students, however these should be used appropraitely 6. This expedites degree progress, but additional credits can be earned, as needed. (1)	▼ NC (1) ... 14 (15)

Q8 Students with a **quality strategic plan** are more likely to reach long-term academic goals.

	Round Three: New Ranking (If Needed)

Peer Rationale: 1. Being able to see the end of the road helps maintain focus and motivates the student. 2. Plan will help students stay on track. 3. Not necessarily true, students with potential sometimes take things for granted (privilege attitude) 4. Strong academic advising and minimal issues with course changes, requirement changes, and registration are critical to long-term academic goals. S 5. Students who know their goals have a much easier time developing degree plans and applying coursework 6. Probably few students have such a plan, and many graduate. (1)	▼ NC (1) ... 14 (15)

Q9 The **ability to make social adjustments** at a four-year university is important to bachelor's degree attainment.

	Round Three: New Ranking (If Needed)
Peer Rationale: 1. Seems many have already made social adjustments at the JuCo level 2. Important for overall well-being. 3. This depends on the environment and personality of the individual. Mostly necessary for students with low self-esteem. 4. While critical to overall well being and health, It may impact degree attainment 5. Social experiences greatly influence academic success 6. Being able to develop friendships and positive networks is important, but perhaps less so than other areas. (1)	▼ NC (1) ... 14 (15)

Q10 **Easy access to student support services** (Advising, counseling, financial aid, etc) encourages completion of a bachelor's degree.

	Round Three: New Ranking (If Needed)

Peer Rationale: 1. Many transfer students need financial aid, or they need academic support so they start at a junior college. That help continues at the university level. 2. Yes, all support, including mental health. 3. Needed for some students who are at- risk or have suffered major set backs 4. I believe this is critically important to encouraging completion. As frustration sets in, students tend to disconnect. 5. Varies by student. Some students don't need the services. they are important to the students who do need them. 6. Without this support, many students would wander and take significantly longer to graduate. (1)	▼ NC (1) ... 14 (15)

Q11 **Participating in transfer student orientation** encourages attainment of a bachelor's degree.

	Round Three: New Ranking (If Needed)
Peer Rationale: 1. Not sure this helps many students overall. Some, yes. But probably not as much as a freshman student 2. Helps with transition. 3. Provides some form of guidance and expectations, and reduces anxiety 4. I have not seen this type of activity at our institution and therefore are unaware of how it would help. 5. Transferring is a bigger change than students anticipate. Good transfer conferences equip them for success 6. What is learned in orientation an be learned in other ways, but orientation can be helpful. (1)	▼ NC (1) ... 14 (15)

Q12 **Satisfaction in the overall college experience** promotes bachelor's degree attainment.

	Round Three: New Ranking (If Needed)

Peer Rationale: 1. More concern here for satisfaction in their major and major department, not the whole university 2. Students satisfied with their college experience are less likely to drop out. 3. This is difficult to measure in the initial stage. It depends on the curriculum and job market after they graduate from the program (follow-up surveys of graduates) 4. While important, the overall college experience should not impact degree attainment. 5. Students see a degree as necessary step in process 6. While overall satisfaction is important, other factors are more so. (1)	▼ NC (1) ... 14 (15)

Q13 **Financial aid guidance** increase bachelor's degree attainment.

	Round Three: New Ranking (If Needed)
Peer Rationale: 1. Again, many start out at JuCos for financial reasons, so they still need the help at the 4-year institution 2. Funding is essential. 3. This is central for various ethnic minorities and poor Whites for degree attainment 4. Another important factor for students and one that is incredibly difficult to navigate is the financial aid process for students. 5. Situational. May also increase stress because students are not financially literate 6. With the rising cost of a college education, many students graduate with significant debt, which can be very stressful during and after graduation. (1)	▼ NC (1) ... 14 (15)

Q14 Community College students who plan to transfer to a four-year university **should follow a formal agreement** between the community college and university that defines courses needed for the specified curriculum.

	Round Three: New Ranking (If Needed)

Peer Rationale: 1. The key word here is formal. Yes, they need to know the specific courses. 2. More likely to complete degree with a transfer plan. 3. Awareness of a formal agreement can be a positive source of motivation to pursue the bachelor's degree 4. This is vital as it makes or breaks student success after transferring. Formal lines of communication should be used to ensure students are getting what they need at community college and that will transfer for specific programming at 4-year institution 5. Agreements help, but access to alternatives can make it a richer experience. 6. For transfer students, this is very important, but corrections can be made at the 4-year institution. (1)

▼ NC (1) ... 14 (15)