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

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Abstract

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. The specific objectives of this study were: identify perceived factors that influence the bachelor's degree attainment of vertical transfer students in agricultural education, and identify trends which impact students' completion of a bachelor's degree in agricultural education transfer students. The framework of this study is based on a union of the Schlossberg's Transition Theory (1981) and Rendón's Validation Theory (1994). The expert panel consisted of ten participants identified as leaders in post-secondary agriscience education. The findings of this study identified factors that are most influential to the bachelor's degree attainment of vertical transfer students in agricultural education. Student attendance and preparation for class were indicated as significant factors influencing persistence to graduation. 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. Faculty members have 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.

***Keywords*:** community college; agricultural education; vertical transfer; validation theory; Delphi; graduation; faculty

Introduction

In 1947 President Truman addressed an earnest need to improve the educational structure of the United States claiming post-secondary institutions were not equipped with enough teachers to meet the coming demand (Truman, 1947). President Truman 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, p. 103). President Truman's recommendations to improve higher education can be divided into two categories: improving college access equity and increasing the role of community colleges (Gilbert & Heller, 2013). Johnson (1992) explained the historical role of the community college system as "the [means of] offering of vocational training, remedial education, adult and continuing education, as well as a starting point from which many students can continue to four-year colleges and universities" (p.8). To better understand the perceptions and potential barriers experienced by community college transfer students to four-year institutions an analysis of the successful characteristics of these students must be investigated.

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Some factors have been identified as significant in the vertical transfer of community college students. Phipps and Osborne (1998) in Johnson, Taylor, Owens, and Butler (1995) reported the value of postsecondary education as a requirement for employment in many agricultural occupations. Students who are primarily full-time, work between 1-19 hours per week, are enrolled in STEM, humanities, or education increased their first-year GPA by 0.1. These students frequently participate in academic advising and are more likely to transfer to a four-year institution compared to other community college student's (LaSota & Zumeta, 2016). Xueli (2012) reported race, socioeconomic status, high school test scores, self-concept, full-time enrollment, continuous enrollment, marital, and parental status as influential factors in the vertical integration of community college students.

Johnson, Taylor, and Owens (1994) supported the role of community colleges as a component of agricultural education and forecasted the sizable impact they would have on American higher education. Rateau, Kaufman, and Cletzer (2015) identified the critical need for graduates to enter the workforce with lasting skills. Monaghan and Attewell (2015) reported that students who begin at a two-year college are 21.0% less likely than students who begin at the senior institution to obtain a bachelor's degree. Additionally, only 58.8% of community college students earning more than 60 earned credits intend to matriculate to four-year institutions. Monaghan and Attewell (2015) reported that students who successfully matriculate tend to graduate at comparable rates to native students. Special attention must be given during the transition of community college students to senior institutions.

President Truman (1947) recommended increasing the number of students attending college and for an extension of public education through the first two years of college. Although many of President Truman's recommendations never materialized, his statements mirror The White House Summit on Community Colleges (2011). In the American Association of Community Colleges (AACC) report titled *Reclaiming the American Dream* (2012), the AACC recommended community colleges increase graduation rates by 50.0%. 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.

When the first community college was opened in 1901 as an extension to public high school, few students attended (Kasper, 2003). Boggs (2010) reported 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. 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). In the fall of 2014, the number of students attending community colleges accounted for approximately 45.0% of all United States undergraduate students (American Association of Community Colleges, 2016). Likewise, 35.0% of students at public four-year institution have previously attended a community college (American Association of Community Colleges, 2015). The American Association of Community Colleges (2016) reported that during the 2013-2014 year, 795,235 associate degrees and 494,995 professional certificates were awarded to community college students.

Although community colleges historically provide alternative pathways to degree completion a need exists to increase community college graduates. The American Association of Community Colleges (2015) indicated that in the year 2013-2014, community colleges had only graduated 17% of the students needed to meet a 50% increase. For many of these students, community colleges offer opportunities to attend college while working, raising a family, or completing remedial courses (The White House, 2015). Bers and Schuetz (2014) reported that first-time, full-time student's complete community college at rates less than 25% and the rates are even lower among part-time students. Hopkins (2011) indicated potential barriers for first- generation students can be indicative of cultural

differences and unknown academic norms. 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, 2015). Phipps and Osborne (1998) reported a large percentage of jobs requiring post-secondary education would continue to become more important as non-degreed employees retire and employers choose to replace them with degreed candidates.

The attrition rate for community college graduates is not a new problem. Tinto (1987) addressed college student persistence and identified 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 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 (four-year) institutions, also known as vertical transfer remains concerning. Smith, Garton, Killingsworth, Maxwell, and Ball (2010) reported that opportunity is associated with admission to a four-year university program.

Irlbeck, Adams, Akers, Burris, and Jones (2014) identified the need for college students to merge two separate worlds for successful transitions; the confluence of home and academic life. As community college students consider future career and educational aspirations the four-year institutions will need to recognize the unique experiences and expectations of this population. The interaction of home and academic life provides the opportunity for four-year institutions to provide validation frameworks for transfer students which focus on interpersonal relationships as transfer students enter a new phase of their career preparation.

Theoretical Framework

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). College students need exposure to validating experiences early in their college career for the impacts of those experiences to be significant (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).

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 individuals move from a period of a total preoccupation of a transition to integrating the transition is known as adaptation.

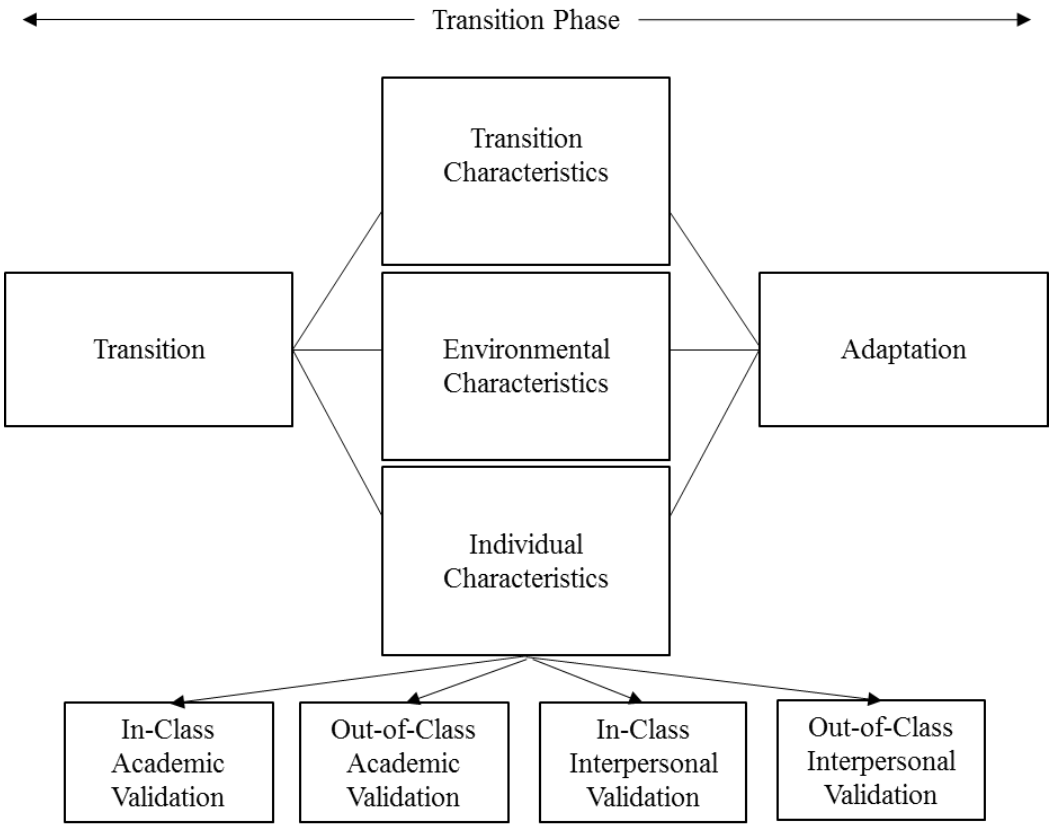

Figure 1. Theoretical Framework for Community College Student Adaptation (Schlossberg, 1981). Figure 1 shows a model for the adaptation of community college students as they transfer to a four-year university.

The framework of this study is based on a union of the Schlossberg's Transition Theory (1981) and Rendón's Validation Theory (1994). The confluence of these 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 are capable of supporting student adaptations to the new situation. This model demonstrates the contribution of the Validation Theory (Rendón, 1994) to the Transition Theory (Schlossberg, 1981) as applied to community college transfer students.

This research study addresses Priority Three of the National Research Agenda for the American Association for Agricultural Education research area, question three "what competencies are needed for an agriculture and natural resource workforce" (Stripling & Ricketts, 2016, p. 29)?

Purpose and Objectives

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. The specific objectives of this study were: identify perceived factors that influence the bachelor's degree attainment of vertical transfer students in agricultural education; and identify trends which impact students' completion of a bachelor's degree in agricultural education transfer students.

Methods

The design, sample, and process of each Delphi study is unique requiring the researcher to be explicit about the development of rigor in each study (Hasson & Keeney, 2011). The Delphi was originally introduced by the RAND Corporation in 1957 as a forecasting tool for the volume of ordinance requested 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).

This study utilized a three- round Delphi as described by Skulmoski, Hartman, and Krahn (2007). The number of iterations is dependent on the level of consensus that is desired (Hsu & Sandford, 2007). Advisory panel design (Diaz, Warner, & Webb, 2018) was used to review the initial questionnaire statements for content validity. A review panel of four participants was convened to evaluate and revise the instrument for content validity purposes. The review panel was comprised of one community college student services counselor, one director of student success, one community college English professor, and one dean of Instructional Design. Specifically, panel experts demonstrated their expertise by authoring at least five peer-reviewed research articles. An email invitation was sent to each review panelist requesting their assistance in reviewing the proposed research instrument. According to Giannarou and Zervas (2014), how consensus is determined by a panel of experts is varied among researchers. The review panel was asked to review the initial 26 statements for ambiguity, structure, and readability. The researchers determined *a priori* that a mean value ≥ 4.25 would be used as the level of agreement needed to establish consensus and maintain the statement for subsequent rounds. Reviewing current research related to student retention and vertical integration (LaSota & Zumeta, 2016; Gilbert & Heller, 2013; Xueli, 2012; Phipps & Osborne, 1998; Johnson, et al., 1995; Johnson, 1992) 26 items were identified as influential factors of vertical transfer student success. From the list of factors, the survey instrument was created. The items included for review represent the various factors influencing the graduation rates of community college transfer students at four-year universities. 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 the 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. Cronbach's alpha indicated a .78 reliability coefficient. The review panel was also given the opportunity to provide additional feedback related to each question, as well as the survey instrument itself.

As recommended by Hasson, Keeney, and McKenna (2000), a pilot test was conducted before implementation of the full Delphi to ensure that the study was designed to fully recognize the expert views of the participants. The pilot study was completed ensuring content and face validity of the survey instrument. The participants of the pilot study were reflective of the research sample (Beech, 1999) and not included in the expert group. A group panel and pilot study were used to improve the reliability and validity of the instrument.

The panel of experts included ten individuals ($N = 10$) who had demonstrated 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. 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. Lastly, the panel represented members from the three geographic regions of AAAE. The panel also represented both non-land grant

and land grant institutions. The decision not to include vertical transfer students in the expert panel was based on a lack of practical experience of undergraduate students.

Findings

The analysis of expert panelist characteristics (Table 1) identified four (40.0%) female and six (60.0%) male participants. The age of the participants was indicated as one (10.0%) 29-38 years range, three (30.0%) 39-48 years range, three (30.0%) 49-58 years range, and three (30.0%) 59-68 years range. The ethnicity of the group was reported as nine (90.0%) white and one (10.0%) other. One (10.0%) participant indicated 0-5 years of experience, two (20.0%) indicated 6-10 years of experience, three (30.0%) indicated 11-20 years of experience, three (30.0%) indicated 21-30 years of experience, and one (10.0%) 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 more equally distributed across the three regions of AAAE. Three (30.0%) of participants represented the western region of AAAE, three (30.0%) represented the southern region of AAAE, and four (40.0%) represented the north central regions of AAAE.

Table 1

Characteristics of Expert Panelists

Description	*Characteristic*	*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

Round One Findings: Factors Influencing Degree Attainment and Trends Impacting Students' Completion of a Bachelor's Degree.

The Delphi research questionnaire consisted of 26 items identified in previous research as influential on college degree completion. In round one, participants were asked to rate their agreement or disagreement with each item using a five-point interval measurement scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = 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 (Table 2) and were included in the second round.

In round one, 14 (N = 14) participants were sent an email invitation to participate in the survey with ten (n = 10) responding to the round one survey. The round one survey included a list of 26 statements addressing the perceived factors that influence the bachelor's degree attainment of vertical transfer students in agricultural education and trends which impact students' completion of a bachelor's degree in agricultural education transfer students.
Participants were asked to rate each item using a five-point 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. 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.

Table 2

Round One Measures of Central Tendency and Variance

Statement	*M*	*S.D.*
Class attendance is critical to bachelor's degree attainment.*	5.00	0.00
Being prepared for class increases bachelor's degree attainment.*	5.00	0.00
Awarding of transfer credits encourages bachelor's degree attainment.*	5.00	0.00
Easy access to student support services (advising, counseling, financial aid, tutoring, etc.) encourages completion of a bachelor's degree.*	4.60	0.52
Students with a quality strategic plan are more likely to reach long-term academic goals.*	4.50	0.53
Classroom engagement promotes completion of a bachelor's degree.*	4.50	0.53
Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree.*	4.50	0.53
Meaningful relationships with faculty members are important to student attainment of a bachelor's degree.*	4.50	0.53
Satisfaction in the overall college experience promotes bachelor's degree attainment.*	4.40	0.52
A feeling of personal academic competence encourages bachelor's degree completion.*	4.40	0.52
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
Financial aid guidance increases bachelor's degree attainment.*	4.30	0.95
Collaboration with peers outside of class promotes bachelor's degree attainment.	4.20	0.63
Access to reliable transportation improves bachelor's degree attainment.	4.20	0.63
Students who work with a single, designated advisor are more likely to complete a bachelor's degree.	4.20	0.63
Participation in extracurricular activities encourages attainment of a bachelor's degree.	4.20	0.92
Prompt faculty feedback improves bachelor's degree completion.	4.10	0.74
Participating in transfer student orientation encourages attainment of a bachelor's degree.*	4.00	0.47
Learning community membership encourages completion of a bachelor's degree.	3.70	0.48

Table 2

Round One Measures of Central Tendency and Variance Continued…

Academically challenging courses promote attainment of a bachelor's degree.	3.70	0.48
Access to childcare is important to bachelor's degree attainment.	3.60	0.70
Course diversity encourages bachelor's degree completion.	3.60	0.84
Residing near family encourages attainment of a bachelor's degree.	3.00	0.67
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
Extended office hours encourage bachelor's degree attainment.	2.90	0.57

*Indicates a tie in the reported mean score. *S.D.* was then used to determine item ranking.

Round Two Findings: Factors Influencing Degree Attainment and Trends Impacting Students' Completion of a Bachelor's Degree.

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, participants received an email invitation to participate in the second round. The second-round survey 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 order statements 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 and tie ranks were not permitted. Participants were given one week to complete the survey. 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.

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 fourteen (Table 3). In the case of identical sums, the item with the largest standard deviation was used to break the tie (Schmidt, 1997).

Table 3

Round Two Response Frequencies (n = 10)

Statement	Interval Score (*f*)				
Class attendance is critical to bachelor's degree attainment.	10	0	0	0	0
Being prepared for class increases bachelor's degree attainment.	10	0	0	0	0
Awarding of transfer credits encourages bachelor's degree attainment.	10	0	0	0	0

Table 3

Round Two Response Frequencies (n = 10) Continued…

Easy access to student support services (advising, counseling, financial aid, tutoring, etc.) encourages completion of a bachelor's degree.	6	4	0	0	0
Students with a quality strategic plan are more likely to reach long-term academic goals.	5	5	0	0	0
Classroom engagement promotes completion of a bachelor's degree.	5	5	0	0	0
Experiencing real-life applications in the classroom encourages attainment of a bachelor's degree.	5	5	0	0	0
Meaningful relationships with faculty members are important to student attainment of a bachelor's degree.	5	5	0	0	0
Satisfaction in the overall experience promotes bachelor's degree attainment.	4	6	0	0	0
A feeling of personal academic competence encourages bachelor's degree completion.	4	6	0	0	0
The ability to make social adjustments at a four-year university is important to bachelor's degree attainment.	5	4	1	0	0
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
Financial aid guidance increases bachelor's degree attainment.	5	4	1	0	0
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 (Table 4) based on participant responses in round two. The panelists reported "Class attendance is critical to bachelor's degree attainment" as the item with most agreement based on the hierarchical ranking. "Participating in transfer student orientation encourages attainment of a bachelor's degree", "the ability to make social adjustments at a four-year university is important to bachelor's degree attainment" and "experiencing real-life applications in the classroom encourages attainment of a bachelor's degree" remained the top four items from the expert panelists.

Table 4

Round Two Hierarchical Ordering by Item Description

Statement
Class attendance is critical to bachelor's degree attainment.
Being prepared for class increases 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.
Meaning relationships with faculty members are important to attainment of a bachelor's degree.
A feeling of personal academic competence encourages bachelor's degree completion.
Awarding of transfer credits encourages bachelor's degree attainment.
Students with a quality strategic plan are more likely to reach long-term academic goals.
Easy access to student support services (Advising, counseling, financial aid, etc.) encourages completion of a bachelor's degree.

Table 4

Round Two Hierarchical Ordering by Item Description Continued…

The ability to make social adjustments at a four-year university is important to bachelor's degree attainment.
Participating in transfer student orientation encourages attainment of a bachelor's degree.
Satisfaction in the overall college experience promotes 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.
Financial aid guidance increases bachelor's degree attainment.

Round Three Findings: Factors Influencing Degree Attainment and Trends Impacting Students' Completion of a Bachelor's Degree.

Panelists were asked to evaluate 26 factors which may serve as an indicator for potential factors impacting students' completion of a bachelor's degree. Hierarchical ordering (Table 5) was used to determine the most important indicators for degree attainment for vertical transfer students. In the third round, post-secondary agricultural education (n = 10) were sent a final email invitation to complete the third survey. Each participant received a link to a personalized questionnaire that included each item accompanied by the participant's initial ranking and a compiled list of all rationales provided in round two (Hsu & Sandford, 2007). Participants were asked to review the rationale of other participants and determine if others influenced their ranking of items. After reviewing the rationale of other participants, each individual was allowed to make changes to their initial ranking. Participants were given one week to complete the survey.

Table 5

Round Three Hierarchical Ordering by Item Description

Statement
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.
Meaning relationships with faculty members are important to attainment of a bachelor's degree.
A feeling of personal academic competence encourages bachelor's degree completion.
Students with a quality strategic plan are more likely to reach long-term academic goals.
Awarding of transfer credits encourages bachelor's degree attainment.
Satisfaction in the overall college experience promotes 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.
Easy access to student support services (Advising, counseling, financial aid, etc.) encourages completion of a bachelor's degree.
The ability to make social adjustments at a four-year university is important to bachelor's degree attainment.
Financial aid guidance increases bachelor's degree attainment.
Participating in transfer student orientation encourages attainment of a bachelor's degree.

Conclusions, Implications, and Recommendations

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. The participants in this investigation possessed expert knowledge of agricultural education as faculty members in four-year institutions of higher education.

Factors most influential to bachelor's degree attainment of vertical transfer students in agricultural education are related to classroom support, academic and personal validation. Rendón (1994) supported this finding and agreed that in-class or out-of-class validation should occur to provide personal and professional support for student success. 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. This finding suggests that vertical transfer students present previous life experiences which support their ability to balance work and home responsibilities.

Post-Secondary agriculture education faculty members have 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. Irlbeck et al. (2014) reported similar findings and stated that for vertical transfer students to experience success at the university they must merge two separate worlds: home and academic life. This validation of home and academic life could reflect the personal relationships established between faculty and vertical transfer students. Specifically, a set of shared in-class and out-of-class experiences beyond what four-year university students' may be aware of. Faculty can further confer their influence on vertical transfer students by helping students develop a quality strategic plan designed to help students reach their academic goals. Items in this survey related to out-of-class supports for students were ranked as the least important to transfer student success. This finding supports Patton et al. (2016) that the most vulnerable transfer students who doubt their ability to succeed require the most validation. 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. Vertical transfer student's success is the result of university faculty and staff developing a quality transition program. 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.

Findings of this study support the development of a more robust and focused instrument to determine potential barriers for transitional success. Further evaluation of the developed instrument using factorial analysis could indicate if a better relationship exists between statements and questions in the instrument. 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. Factors related to the classroom are significant to bachelor's degree attainment of vertical transfer students.

An implication of this study is a need for further analysis to identify if a significant difference exists between age groups of vertical transfer students. Having a quality strategic plan can help promote degree completion supports the need for advisors to assist students in identifying goals and planning for the necessary steps to reach those goals. Developing meaningful relationships with faculty, belief

in academic competence, and clear goals were also indicated as influential factors in bachelor's degree attainment. To achieve this goal future studies will utilize the developed instrument for data collection with vertical transfer students. These findings will aid in developing pathways, validation, support, and a better understanding of agricultural education transfer students.

Faculty members at four-year universities should carefully plan courses while considering the needs of vertical transfer students. 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. With diverse 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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