

Perceptions of Career and Technical Education by Pre-Service Students

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Agricultural education programs are one component of Career and Technical Education (CTE). For CTE to be effective, educators teaching CTE courses must be able to make connections between the curriculum and real-life situations. This qualitative study explored self-reported perceptions of CTE by pre-service students. Wigfield and Eccles' expectancy-value model of achievement was used as the framework for this study. Findings indicated that career and technical education provides benefits for everyone because it helps develop career skills. With the shortage of educators and budget cuts, career and technical education cannot continue to survive. Participants also describe characteristics of successful career and technical education teachers.

Keywords: career and technical education, pre-service students

Introduction

Career and technical education (CTE) is driven by the needs of the workforce (Pearson, Young, & Richardson, 2013) and has been around for more than a century (Wilkin & Nwoke, 2011). Within an agricultural education program, CTE relies on educators to keep a close connection with the industries in which they work (Pearson, Young, & Richardson, 2013). CTE's main purpose is to allow students to develop knowledge and skills to become successfully employed in an industry (Roberts & Ball, 2009). For CTE to be effective, educators teaching CTE courses must be able to make connections between the curriculum and real-life situations. The knowledge and skills provided by CTE courses focus on entry-level skills, which students can build upon later in life (Lundry, Ramsey, Edwards, & Robinson, 2015). By experiencing different situations, students learn to understand information in a different way (Lundry et al., 2015). CTE assists students in discovering their career path through hands-on learning opportunities (Lundry et al., 2015). To provide different learning opportunities for students, CTE programs and teachers are needed within school systems.

Across the country, approximately 2.2 million educators will be needed to fill positions in the next 10 years due to attrition, increased student enrollment, and retirements (Nebraska State Education Association, 2011). Conneely and Uy (2009) stated, "Student demand requires more teachers, but teachers are leaving the profession and the opportunities to cultivate new educators are limited as programs are eliminated" (p. 1). Educators teaching in CTE areas have extensive

responsibilities compared to educators in other core content areas (De Lay & Washburn, 2013). Agricultural educators not only have to teach their content but must also manage FFA and Supervised Agricultural Experiences in order to be considered successful agricultural education programs (De Lay & Washburn, 2013). This added responsibility can increase the frustration and shortages agricultural education programs are facing (De Lay & Washburn, 2013). With the high need for teachers to fill CTE positions, educators face a challenge in providing pre-service students with the necessary skills needed for the classroom. Identifying the concerns of pre-service students early on allows the development of instructional content to address their needs (Hillison, 1977).

The answer to solving the teacher shortage is not merely recruiting more teachers but focusing on the barriers to recruitment. Cochran-Smith (2004) stated, "A teacher shortage is in large part a demand problem that can be solved only if we decrease demand by increasing retention" (p. 390). Berman (2004) continued, "Talented teachers will not last long in a culture that undermines or is neutral to their needs and interests, leaves them isolated, or fails to promote their growth" (p. 118). According to Calvin and Pense (2013), there are five themes that are seen as a barrier to recruiting: time, economy, family, technology, and image. Agricultural educators spend more time outside of the classroom working with students than traditional teachers, and it takes a significant amount of time to receive a certificate to teach agricultural education (Calvin & Pense, 2013). The current economy is seen as a barrier because it has caused cuts to teaching budgets (Calvin & Pense, 2013). The additional loss of family time is also seen as a barrier



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to recruiting educators to the profession (Calvin & Pense, 2013). The final barrier is participants' belief that agricultural education has a poor image (Calvin & Pense, 2013).

To change the image of agricultural education, school administrations need to hire effective educators. To have effective teachers in schools, it is important to understand what qualities and characteristics make an effective teacher (Roberts & Dyer, 2004). According to Rosenshine and Furst (1971) there are 11 variables that make an effective teacher: clarity, variability, enthusiasm, task-oriented/businesslike behaviors, student opportunity to learn criterion material, use of student ideas and general indirectness, criticism, use of structuring comments, types of questions, probing, and level of difficulty of instruction. Additional characteristics include: encouragement, classroom management, being knowledgeable, being organized, being a good role model, and professionalism (Roberts & Dyer, 2004). Although these characteristics are something most administrators look for when hiring a teacher, it is not something that can be easily assessed (Roberts & Dyer, 2004). When looking to improve teacher quality, administration have different options to increase their knowledge through professional development opportunities.

Professional development opportunities are one method for improving teacher quality (Christensen, Warnick, Spielmaker, Tarpley, & Straquadine, 2009). However, a teacher's needs should first be assessed before attending a professional development event (Sorensen, Lambert, & McKim, 2014). Assessing teachers prior to attending a professional development event can better serve the teachers (Rice & Kitchel, 2015). Teachers are expected to attend professional development events to improve their skills and increase student learning (Shoulders & Myers, 2011). When pre-service students are student teaching, pre-service professional development events should be considered to help prevent barriers pre-service students might face. Professional development can help prevent some of the challenges CTE teachers' face.

The challenges that arise when recruiting CTE teachers are ones that are not easily answered. Budget cuts have forced schools to decrease the services they can provide their students, forcing educators to find new ways to raise more money for revenues. (Oliff & Leachman, 2011; Williams, Leachman, & Johnson, 2011). According to Oliff, Mai, and Leachman (2012), "As of July 2012, local school districts had cut 328,000 jobs nationally compared with 2008" (para. 7). In 2013, states were spending approximately 28% less per student nationwide than they were in 2008 (Oliff, Palacios, Johnson, & Leachman, 2013). Large budget cuts are coming at a time when schools want to produce students who have skills to be able to understand new technologies and adapt to the ever-changing global workforce (Oliff et al., 2012). These budget cuts are making it harder to hire quality educators, and they are also cutting the programs

that will teach students necessary skills to be successful in the workforce (Oliff et al., 2012). There is evident research that states CTE courses are valuable to students' learning and futures, however, there has been little research on pre-service students' perceptions of CTE.

Theoretical Framework

Wigfield and Eccles' (2000) expectancy-value model of achievement was used as the framework for this study (Figure 1). The expectancy-value model provides an explanation of achievement-related choices focusing on the career decisions and factors that support or detract from the choices made. The model breaks down considerations provided by several different groups such as individuals, events, and experiences that can lead to the increased consideration of a teaching career in technical education.

Wigfield and Eccles' (2000) model focuses on an individual's perception, interpretation of an experience and an individual's goals. All decisions are based on the individual's assumption about their ability to perform a task, which influences the individual's decision-making process. The decision is based off an individual's belief and behaviors, differential aptitudes and achievement-related experiences. As an interpretation is made about an experience it leads to an individual's goals and affective memories. This then leads to an individual's expectation of success, achievement, and task value. The expectations of success and task value can be influenced by cultural influences and previous experiences. In this way previous experiences in other courses and CTE courses can shape a pre-service teacher's perception.

Purpose

The purpose of this qualitative study was to explore perceptions of CTE by pre-service students who were sophomores and juniors enrolled in a philosophy of CTE course at South Dakota State University. Students were asked to respond to the following open-ended prompts, which also served as research questions.

1. Who do you believe career and technical education is meant for and how does career and technical education benefit them?
2. What are the biggest challenges you see facing career and technical education today?
3. What characteristics are necessary to be an effective career and technical education teacher?

Methods

Participants. To obtain participants for this study, researchers posted flyers in a collegiate philosophy of CTE course. All individuals who responded to the flyer were included as participants for this study. Each participant signed a consent form and returned it to the

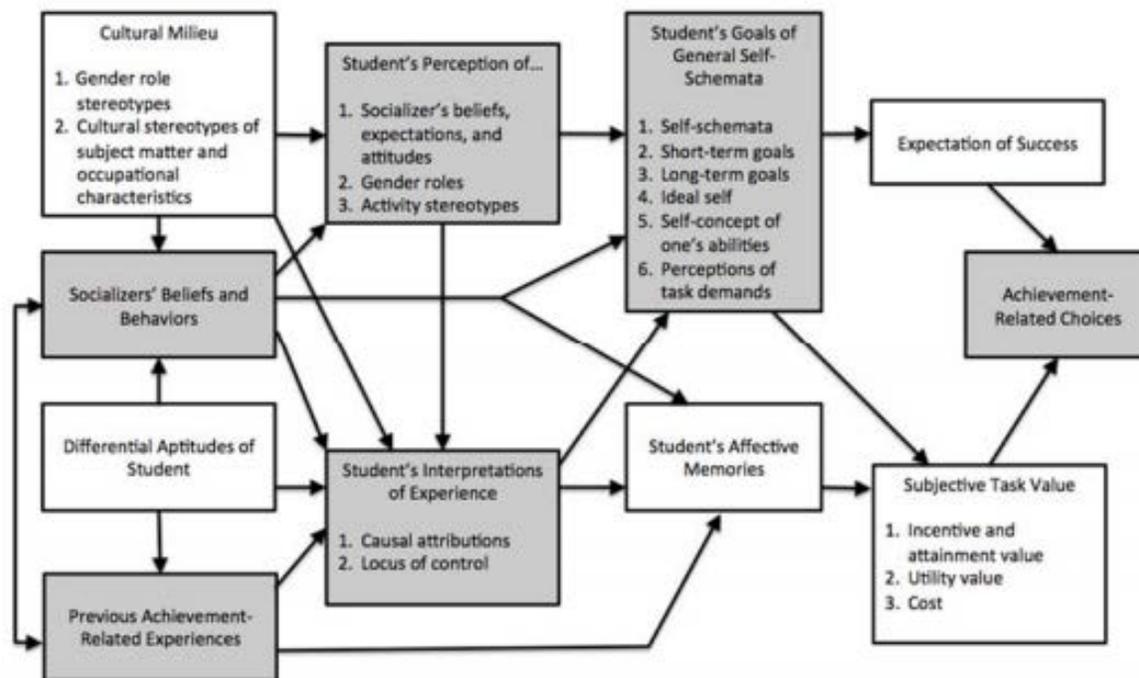


Figure 1. Expectancy-value model. From “Expectancy-Value Theory of Achievement Motivation,” by A. Wigfield and J. S. Eccles, 2000, *Contemporary Educational Psychology*, 25, 68-81. Reprinted with permission.

researchers. The population for this study included forty-six participants. Thirty-five were pre-service agricultural education students, of whom ten were male and twenty-five female. Eleven were pre-service family and consumer science students, of whom one was male and ten were female. All students were a part of a philosophy of CTE course in their undergraduate programs. All participants interviewed were either ranked as a sophomore or junior, and all personal identifiers were removed to maintain confidentiality.

Design. The instrument developed for this interview process consisted of three open-ended questions regarding their perceptions of CTE focusing on who CTE is meant for, challenges facing CTE, and characteristics of an effective CTE teacher. The researchers asked participants to expand upon their responses to each question. Demographics were collected as part of the research flyer responses. Interviews were recorded by using an audio-recording device along with the researchers taking data field notes.

Procedures & Analysis. This study utilized a basic qualitative approach defined by Merriam (2009). This study was a phenomenological study of pre-service students. Once data were collected, constant comparative

methods of data analysis were used along with content analysis to identify themes (Merriam, 2009). All data that researchers reviewed and regarded as important were put into categories. In this study, the researchers established qualitative research practices to establish trustworthiness of the results. Interviews were transcribed and sent to each participant to ensure validity and trustworthiness in all transcripts. Data was coded, and themes were delineated to provide validation of analysis. Trustworthiness and reliability of data were established through a research log, peer review of data analysis, and member checks (Lincoln & Guba, 1985). Member checks were utilized following the transcription process. To promote reliability and trustworthiness of the data coding, multiple researchers coded the data. Researchers coding for the study are knowledgeable about secondary agricultural education practices as one taught for six years at the secondary level and is currently an agricultural educator who focuses on teacher preparation. One researcher is a current agricultural education master’s student.

Findings

Four themes emerged from the interviews of pre-service agricultural education and family and consumer science education students.

CTE is Essential for All Students. Participants answered the first question in a variety of ways, but there was one common theme between the answers. Participants agreed that every student should be enrolled in CTE courses as they are essential for career skill development. Specifically, students focused on hands-on and real-world experiences.

Pre-service students identified multiple reasons why all students should be enrolled in CTE courses. Jenny remarked, "CTE offers students a type of learning that would not be able to be received in an English or history classroom. It allows students to learn concepts and apply what they have learned in hands-on activities." Sara pointed out, "A majority of the material that is covered in CTE courses is general information that people will use in their everyday lives." When describing CTE, Jon explained, "Hands-on, practical, and relatable are three words that come to mind when I think of CTE." Sam said, "The purpose of CTE classes is to encourage and promote hands-on learning that has real-life application." Jennifer said, "CTE classes open doors to students seeking answers for their next step of education or for career ideas." Adam pointed out, "CTE courses can be tailored for the student and every student will find something that could interest them." Kelsey explained, "In many CTE courses, students are able to physically work on projects, and develop their skills." CTE can help students make decisions which will impact their future. Alex said, "CTE is meant for the student, to help them determine the career path they want to go down and figure out what they want to do with their life." Many of the surveyed pre-service students were adamant in their explanations for why all students should be enrolled in CTE courses.

Biggest Challenges Facing CTE. Two common challenges emerged. The first theme was that CTE cannot thrive and grow with a shortage of quality, well-prepared teachers. The second theme discussed by participants focused on administrators cutting programs and funding.

Pre-service students were passionate about the shortage of teachers as one of the biggest problems facing the profession. Kelsey stated, "With a shortage of educators we are not able to fill highly skilled positions." Jon explained, "Schools will do whatever they can to fill these positions, but if the right person is not found for the position it could jeopardize the program's future." Sally discussed, "In the state where I am from, the shortage of CTE educators was in the double digits last year and kept climbing." Faith pointed out, "Right now and over the next few years there are going to be a lot of the 'baby boomers' retiring, leaving

several school districts with open teaching positions in CTE areas that they will be unable to fill." Skyler explained, "There are not enough teachers to fill all of the positions across the nation, not only just the Midwest. A program can't survive without an advisor." Mark stated, "CTE teachers are extremely marketable because of their experience in all fields of the discipline. Their diversity of knowledge is desirable to many businesses within their industry." Jenny pointed out, "There is a huge gap between retirees and new teachers."

The second theme participants discussed was that CTE cannot remain in schools when administrators are cutting back programs and funding. Pre-service students strongly believed financial cuts are a big problem facing career and technical education programs. Cole said, "CTE is one of the first areas that the administrators look at for budget cuts since these courses are pretty much all electives." Rebecca stated, "When schools are in financially tough situations, they have to reduce their costs. A lot of the time, that may be seen as cutting 'non-core' classes or programs." "Most schools cut the whole program or just make them part-time," Zach noted. Kyle explained, "Many are cut because they are not required for high school students to take and with the tight budgets that high school districts need to meet it is easier to cut a CTE program to reduce spending within the school district." Amanda continued to explain, "When schools are low on money, or have to make budget cuts, usually the first things to go are extracurricular classes, and the ones that cost the most." Dan pointed out, "With education constantly falling behind in funding, many people seem to think of CTE as more of a bonus in education instead of a priority." Jordan explained, "This issue can be traced to a variety of causes including everything from the large push towards core content to less funding for education in general." Adam explained,

CTE programs are the first to be on the chopping block. This is mainly because school officials and school board members need to make financial cuts in order to save their schools, and they usually eliminate the programs or the educators that they think they do not need. This is a huge problem when it comes to CTE programs because many remain uneducated about the benefits of CTE in and outside of the classroom.

Characteristics of Effective CTE Teachers.

Participants all expressed that while CTE teachers all have different personalities, they all share certain characteristics. Pre-service students described their CTE teachers as: passionate, open-minded, dedicated, hardworking, approachable, flexible, and organized. The students also viewed the CTE teachers as great time managers, good communicators, and educators that cared about their students beyond the classroom. The common characteristics that all participants identified as

being necessary for a CTE teacher were enthusiasm, passion, and organization.

Sara indicated, "If a teacher does not have enthusiasm, they will not be able to motivate their students." Jim pointed out, "Being excited as a teacher gets students to be excited about the subject matter." Jennifer explained, "Students will not want to learn in a dull, boring classroom. It is the teacher's enthusiasm who sets the stage for how the class will be run that day." Jeremy highlighted, "Showing you are passionate as a teacher helps the students become passionate about the subject. Being passionate about CTE not only makes teaching fun for you, but your students also look forward to your classes each and every day." Alex explained, "The passion is needed to work around the clock helping students discover their own passion to learn. A passion for CTE is needed to promote the many ways how a program helps students on multiple levels." Bailey noted, "Passion is something that is not given to you. You have to have it in your heart. Students see that passion inside teachers and that gets them fired up to learn." Brian stated, "Teachers who are passionate about their work are much more effective because they are dedicated to their students and put more effort into their duties as an educator." Savannah highlighted, "Organization of the classroom and curriculum help eliminate stress and some classroom management problems." Dan explained, "If you want to be an effective teacher you not only have to organize so you know where everything is, but also so that someone else can find something for you if needed." Elizabeth mentioned, "CTE teachers teach a variety of courses in a day that require many different lesson plans and lab set ups. The more organized the teacher is, the easier the transition between classes become."

Conclusion

The purpose of this study was to explore pre-service students' perceptions of CTE. It should be noted that these results cannot be generalized to the general public. Wigfield and Eccles' (2000) expectancy-value motivation model of achievement is supported by the findings in this study. This framework suggests that decisions are made based on experiences and task values. It is evident the pre-service CTE students recognize the success of individuals who complete CTE courses. Their perceptions of CTE are influenced by those enrolled in CTE courses. Students obtain several benefits from CTE courses that include hands-on learning opportunities which help students make decisions about their futures (Roberts & Ball, 2009).

Overall, this group of pre-service CTE students was convinced that all students should be enrolled in CTE courses because of the benefits students receive from taking the courses. This is consistent with the literature as students who take CTE courses learn many applicable skills that will help them become successfully employed

later in life through hands-on experiences (Lundry et al., 2015; Roberts & Ball, 2009). The content taught in CTE courses is a result of what the workforce needs, which explains why CTE teachers continue to make their courses hands-on and applicable to the real world (Pearson, Young, & Richardson, 2013).

The shortage of CTE teachers is not a new challenge, and it is evident students pursuing CTE degrees are just as concerned. Recruitment of CTE teachers is a priority, as a significant gap exists between teacher supply and demand (Wilkin & Nwoke, 2011). Pre-service students indicated that funding issues and cutting of programs are additional factors facing CTE programs and teachers today. Educators today see lack of funding as a major barrier when it comes to teaching (Warnick & Thompson, 2007). Without proper funding to their programs, teachers may not have the proper equipment needed to successfully teach students. Not only programs are being cut due to funding issues, but funding per student is also being reduced due to budget cuts (Oliff & Leachman, 2011). Due to the amount of money cut out of local school districts budgets, schools can no longer afford to provide high-quality education (Oliff et al., 2012).

Pre-service students agreed that teachers should have passion, enthusiasm, and organization to become effective CTE teachers. According to Roberts and Dyer (2004) participants were in agreement that teachers needed to be passionate, enthusiastic, and organized as these characteristics make an effective teacher. In order to effectively teach students, educators need to be enthusiastic and prepared, which can help hold students' attention (Scott, 1992). Participants in this study indicated that teachers need to effectively prepare for their classes by being organized and having a passion for the subject they will be teaching in order to hold students' attention. Professional development opportunities for pre-service students should be provided while completing their undergraduate degrees in order to enrich their educational experiences. By providing pre-service professional development opportunities, pre-service students become better connected to the profession and expectations of the profession. Others have indicated, "In-service and professional development activities are often the primary methods used to improve teacher quality" (Christensen, et al., 2009, p. 2). Professional development opportunities enhance multiple skills for teachers, and those enhanced skills are used to improve student learning (Shoulders & Myers, 2011).

Teacher educators should note a need exists for further research to examine the skill development needs of pre-service students. Additional research in this area should be conducted with other pre-service students to identify if similar themes emerge with a larger, more diverse audience. Future research should be conducted in order to determine the most beneficial and effective way to conduct professional development opportunities. Research should be conducted to see what other non-

CTE pre-service students' perceptions are regarding CTE.

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