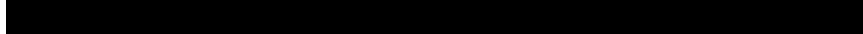


**Editors Note:** Various names, titles, and other personally identifiable information will appear as redacted content within this article in an effort to help protect confidentiality.

Program Evaluation: University of Central Missouri CTE Program



University of Central Missouri

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## ABSTRACT

A lack of career and technical education (CTE) graduates translates to a lack of teachers for the next generation of business people, farmers, engineers or technology experts. The recent shortage has been curbed by the often drastic adaptations of CTE programs and the influx of spending on career and STEM education. Despite this, recruitment remains a primary concern of faculty, staff and program coordinators in charge of CTE programs at the baccalaureate level. This qualitative program evaluation explores the challenges of recruitment from the perspective of a CTE program at a small Midwestern teaching university. It studied students, faculty, and staff, many of which recruit for the program regularly and posits an action plan for the CTE program to implement to drive further program enrollment, and focus recruitment efforts on the most effective methods.

Keywords: CTE, Career and Technical Education, Education, STEM, Family and Consumer Sciences (FACS), Agriculture, Engineering Education, Technology Education, Teachers, High School, Vocational Education, Career Training, Workforce Education, skilled trades, U.S. Education, Higher-ed, Qualitative

## **Program Evaluation: University of Central Missouri CTE Program**

### **Explanation of the Problem**

The field of education provides many opportunities for individuals to seek out areas that intrigue them. Many candidates pursue the career in hopes of influencing the lives of young people. Leading students towards the discovery of new skills carries intrinsic value for many educators. Often the conversations around education focus on reading, math, and science. There are still many areas beyond reading, math and science however, that remain overlooked in K-12. While the core areas are important, there is much more to our society. Beautiful art and music can move people to tears. Sporting events can unite or divide communities. Immense technical challenges demand critical thinking and occupational skills that reach beyond the scope of K-12. Our higher education system provides students with opportunities to experience a number of areas in the hopes of creating well-rounded students. One such program, The Career and Technical Education (CTE) program at the University of Central Missouri (UCM) exemplifies this diversity in experiences with a focus on business, agriculture, family and consumer sciences, and engineering and technology education.

The purpose of this evaluation was to address significant recruitment concerns within a CTE program. The researchers were asked to conduct this research after the program faced dwindling enrollment. In June of 2016, ██████████ was assigned the position of program director and was actively seeking opportunities to improve the program overall. At the time of the study, there were 198 CTE students total with Family and Consumer Sciences attracting the largest percentage of students. The researchers chose to interview the four lead faculty members, survey current students, and host a focus group to discover how more students could be attracted to the major.

The researchers focused on three key research questions. a) How can the CTE program increase enrollment? b) What brought current students to the program? c) What are the strengths and weaknesses of the program? By evaluating these questions and data resulting from them, the researchers hoped to provide guidance that will help the CTE program increase enrollment.

### **Literature Review**

In 2009, partially in response to the American education crisis, President Obama set a goal for America to have the highest proportion of graduates in the world. An important facet of this objective deals with career training. However, within the country “there continues to be a shortage of qualified graduates for skilled labor positions” (Chumbley, 2015, p. 30; National 2011). Manley (2012) reported that “only 6 percent of the 1,023 high school students...hoped to have a future career in the skilled trades and only 39% would consider a career in the skilled trades.” Career and Technical Education (CTE) programs across the country help alleviate this continued shortage by providing teachers for career and tech industries. Despite these efforts the literature suggests recruitment concerns continue to be an ongoing struggle for the CTE programs themselves (Babyar, 2014; Caccavale, 2016; Manley, 2012; Nikirk, 2007; Phelps, 2016).

## **Enrollment in CTE Programs**

Enrollment numbers in CTE programs have been reported as low across the country. In many cases, ending the program as a result of decreased numbers and interest is a real threat. Caccavale (2016) contends “the push for Science, Technology, Engineering, and Mathematics (STEM) in the modern-day school curriculum makes the lack of enrollment disheartening...” (p.8). One reason for lack of participation is lack of awareness about the programs (Caccavale, 2016; Nikirk, 2007). Often times, potential students and even instructors within the same building do not know or fully comprehend what is going on in these classrooms (Caccavale, 2016). A misconception exists that people who work in an office are more intelligent and even more respected than those who work in a skilled trades job (Manley, 2012; Nikirk, 2007; Saxton, 2015).

## **Demands for Skilled Labor**

As a result of the increase in rigor and shortage of skilled laborers, literature suggests there has been an increase in earning potential and demand in fields under the CTE umbrella. For example, the average annual salary for craft jobs such as construction is in excess of \$50,000. Electronic systems technicians earn on average over \$65,000 annually, and project managers and supervisors earn between \$79,000 and \$91,000 annually (Saxton, 2015). These economic forces make teaching in CTE programs less attractive to potential candidates.

## **Adapting to the Need**

Recently, CTE programs were described as exhibiting “some of the most progressive changes going on in the U.S. education system” (Manley, 2012, p. 19). One such progressive change is the process of aligning post-secondary courses to that of industry standards. A documented skill set deems a student more marketable, and these can be monitored by state associations affiliated with specific jobs (Saxton, 2015). Often, chairs of CTE programs work to ensure programs are competitive (Haag, 2015). These types of regulations and checkpoints most often occur in “adequately funded” and “effectively managed” CTE programs (Manley, 2012, p.19). In order for this type of support to become reality, quality recruitment efforts must be in place to grow CTE programs.

## **Recruiting CTE Teacher Candidates**

Recruitment strategies are continually revamped and revitalized in a myriad of CTE programs across America. Phelps (2016) posits that “Collectively, CTE leaders and instructors, students and their parents, school counselors, college recruiters, and advisors are highly motivated to make informed decisions using multiple college and labor market databases as they evaluate high-stakes, post-high school plans or options” (p. 38). Phelps names dual credit CTE courses as valuable tools to “establish academic momentum” (p. 39), which has already shown promising student success rates at numerous participating schools. Among other strategies for CTE recruitment, Phelps (2016) underscored the following activities: bringing students to campus for class observations, engaging students from diverse backgrounds, requiring career-interest assessments and college placement exams by grade 11, and creating student and college major shadowing opportunities that result in creating a college success plan.

Saxton (2015) stressed the importance of educators’ involvement among CTE advisory boards, career day speakers, and internships and mentoring programs. Also mentioned as significant were online resources available for download which featured

videos with footage from in-demand professions, craft professional trading cards with salary information, job descriptions and education requirements, posters, bookmarks, and brochures, amongst other information.

### **Learning from Success**

Chumbley (2015) chronicled a success story regarding a CTE program at Eastern New Mexico University (ENMU) which “tested an online-in-class hybrid model” of a dual enrollment course “and has witnessed the success it brings to students, as well as the benefits reaped by secondary and post-secondary institutions” (p. 31). They endeavored to provide statewide access to the CTE dual-enrollment program recruiting all students, especially those who would not traditionally participate, such as minority and low socioeconomic status students. This program was free to the students because it was paid for by the state. Since the fall of 2010 when the program began, the number of students participating in the CTE dual credit enrollment program has increased more than 400 percent. Factors mentioned as contributing to the success of the program include: no cost to students; established relationships with school leaders, teachers, and students; high school visits; and positive relationships with stakeholders. Chumbley (2015) explains attributes of the program by stating: “The program itself, as well as the courses that are being offered and in what format they are offered, are continually changing and adapting to best serve the needs of the students, secondary schools, and the university. Program leaders must continually work to make the necessary pedagogical, program, and course content changes. These changes should include input from all stakeholders...” (p.32). These sentiments were echoed throughout the CTE literature as being essential to reinventing and revitalizing programs throughout the country.

### **Evaluation Approach and Methods**

This program evaluation began with establishing a connection with [REDACTED] [REDACTED] is the chair of the department of Career and Technical Education (CTE) at University of Central Missouri (UCM) in Warrensburg, Missouri. The focus of this evaluation was to address the dwindling number of students involved in the CTE undergraduate program. According to program data, as of November of 2016, there were 198 students enrolled, as opposed to 285 students in 2011. Among the 198 total students distributed among 4 programs, 110 students were enrolled in Family and Consumer Science Education (FCSE), 60 students in Business Technology Education, 25 students in Engineering Technology and Technology Education, and 3 students were enrolled in Agricultural Technology Education. Agricultural Technology Education was formerly a program on campus but due to low enrollment, was closed prior to the recombination of all 4 CTE programs under the umbrella CTE degree.

Evaluation methodology focused on the methods for practical program evaluation techniques by Newcomer, Hatry, and Wholey (2015). As discussed in the first portion of their book, Newcomer, Hatry, and Wholey (2015) demonstrated the necessity of program evaluation, stating, “Increasingly, elected officials, foundations and other nonprofit funders, oversight agencies, and citizens want to know what value is provided to the public by the programs they fund” (p. 7). This need was communicated to the research team in their initial meeting with major stakeholders in the program. [REDACTED] [REDACTED] discussed some of the challenges of working within a public four-year university

related to the reorganization of the CTE program. Leading up to 2016, UCM, like other state institutions, has seen repeated cuts to state-level funding sources; therefore, several programs have been closed due to low enrollment. ██████████ emphasized that the decline in enrollment was compromising the program and recruitment would play a vital role in the continuation of the program.

### **Methods**

For this evaluation, the researchers felt that a qualitative approach to program evaluation was appropriate. Qualitative research has the potential to supply researchers with meaningful input from those involved through interviewing and focus groups (Creswell, 2014). Qualitative methods give meaning to the reasons students have for making decisions about choosing the CTE program at UCM. Investigating the current practices of lead faculty and the impact on students currently in the program may provide insight into potential effective practices. These practices could be expanded or increased within the program to increase student enrollment.

██████████ requested a CTE program evaluation with a focus on recruitment. Access to the faculty and students was facilitated by the department and a working relationship with a fellow faculty member and one of the researchers. This meant that the research team had an additional perspective from a college faculty member in a similar field of interest from which to draw experience. The CTE program faculty and administrators recognized the realistic and necessary goals for program survival and sought supporting data and evidence to move the department forward in their recruitment efforts.

### **Data Collection**

Data collection was multi-faceted. The researchers chose to complete a student focus group, interviews with lead faculty members, and survey data collected from students in the CTE program. The researchers developed the surveys, which consisted of 3 descriptive statistics questions and 9 open-ended questions. ██████████ disseminated the surveys through lead faculty to the different departments.

### **Focus Groups**

Focus groups were planned from the beginning of this research project. Initially, the research team had planned on utilizing a focus group for both faculty and students. After the initial meeting with ██████████, the team concluded that the environment within the department among faculty may not be conducive to group data collection and that attitudes about recruitment efforts may be counterproductive to discussion among faculty. Therefore, individual interviews were conducted among lead faculty members. A focus group was held for students who were currently enrolled and had already completed at least two semesters. The focus group had representative students from each area of the CTE program, including the Agriculture Education program.

Focus group questions were drafted as part of the original research plan. The researchers developed interview and focus group protocols with questions. These questions provided the basis for driving the focus group discussion. The focus group was recorded and uploaded to a cloud-based storage site licensed and managed by UCM.

## **Interviews**

Each researcher was assigned one lead faculty member to interview. Each interview was conducted using the interview questions developed as part of the original interview protocol. The interviews lasted approximately 30 to 40 minutes and resulted in some of the most substantial data regarding current recruitment practices in the CTE program, including unique practices to each of the four areas. As in the focus group, interviews were recorded on personal devices by the research team and were kept for the sake of the research project only. After the project was completed, the data was permanently deleted.

## **Survey**

The survey data collected by the researchers was conducted via Google Forms out of convenience to the research team, which was based at University of Central Missouri. UCM uses Google suite to manage email, cloud storage, and other major functions of the university and made it manageable for the researchers to administer the survey to CTE students. The survey collected data on student motivation for pursuing a CTE degree, why they chose the program at UCM, and their opinions regarding positives and negatives of the program. The focus was to select key data from the survey to isolate practices the CTE program could do or currently are doing to get more students interested and enrolled in the program. The researchers had a low response rate to the survey.

## **Data Analysis**

Data analysis began with coding of the interview and focus group data. Since these data were part of two different areas of the study, two different coding methods were used. Both of these methods included Goodrick and Rogers needs assessment/situation analysis (Newcomer, Hatry, and Wholey, 2015). Emergent coding processes were used by identifying key terms and phrases used from the focus group and interviews. Since qualitative data was also drawn from several responses to the student survey, this data was also pulled in and coded with the interviews and focus group.

## **Findings**

There were some consistent findings between the interviews, focus group, and literature review, the main finding being the link between the classroom teacher and the motivation to pursue a CTE degree. In one interview the lead faculty stated,

It's coming down to the teacher talking to the students and the students always saying, 'Oh, I want to be a shop teacher like Mr. So and So', or 'I want to do this like Ms. So and So.' It's ah very much, no matter how much or how many times I have gone out and visited with students or conferences, I have been at, um, really it's the teacher talking to the students, and the students saying they want to be like this teacher I had.

During the focus group a student stated, "My favorite teacher in high school was also a FACS teacher and she went to UCM as well and so I was really interested in it." Another commented, "Mine was also based off of a high school teacher. I had expressed that I wanted to go into business education and she told me, she is actually from Lee's Summit so she knew about UCM, so she told me that they had a Business Education

program.” These observations reflect the findings of Love, Love, and Love (2016) which showed that the main contributing factor to a student pursuing a CTE degree was the Technology and Engineering educators. This was a major theme consistent among the various data collections completed in this study.

### **Personal Connections**

The second most common theme was the personal connection once contact was made with a campus representative. Making a strong personal connection with someone in the CTE program as soon as possible was also a strong indicator of whether or not students chose the CTE program at UCM. One student commented about that first contact, “...his personality wasn’t like anyone else’s. And he really just drew me to the program.” Another said, “...she acted like she knew me. I don’t know if she really knew me or if she just looked at my name tag but them acting like they knew me and being excited to see me really drew me in as well.”

Yet another testimony continued, “I know that on the tour days everything is kind of hectic and they are showing you all these buildings and this and that. And I didn’t pay attention...Elliot kind of slowed everything down and took me on a tour of just this building... every shop, every room....and it was really personal. I was a big fan of that.”

Besides being influenced by current educators, the personal connection and being excited about the program were the most influential actions taken to draw students to the program. Several lead faculty stressed the importance of personal connections and their commitment to being the individuals making that connection when students come to campus or reach out with questions about their respective programs.

Another interesting component that surfaced was the idea that in order to strengthen the CTE department overall, a possibility that could open many doors and broaden horizons, would be to expand the list of professionals within the CTE department to seek out and include graduate students, alternative certification students, or even experts in the field. One lead faculty member, when asked to express some of her personal goals for the program commented,

I would like to see it blend with an acknowledgement of the post-bacc[alaureate] people. That it would not be focused on undergrad or grad programs...that it would be more centered around initial certification period, regardless of path... That’s where the people are, that’s where the resources need to come from. It’s a more comprehensive approach to recognizing those experiences and those people that are coming into it. I would like to see us move away from the degree restrictions and focus on initial certification... Being in the college of ed has put us in a unique position where I don’t have the exposure to college of business people...there’s never a year goes by I don’t have one or two people come to me and say I got my degree in management and I didn’t even know that teaching was an option. Now I want to teach.

### **Other Recruitment Trends**

Recent trends in other college program recruitment have been the increased use of email lists, websites, and social media. These types of program advertisements seem to be placed at the forefront. People tend to focus on ways to reach the masses. Interestingly enough, social media was not mentioned by the students during the data collection as a means that has been utilized or should be expanded. In most instances,



the students that mentioned the website did not have positive things to say. The students in the focus group alluded to the lack of information or the difficulty in finding information specific to the CTE program online.

Students and faculty also expressed concerns over the integrity of the field of education. One lead faculty stressed how they try to educate prospective students of the benefits of becoming a teacher such as high quality benefits and a competitive retirement when compared to industry. Students in the focus group expressed concerns in the lack of earning potential for teachers, lack of respect for the profession, and the increased difficulty in becoming certified as a teacher. The stigma of teaching appears to be a major concern for both prospective students and faculty trying to combat the negative connotations associated with teaching as a profession.

Lastly, students and lead faculty mentioned different career fairs, professional organization conferences, and content area competitions. One lead faculty expressed frustrations in not seeing results from efforts placed in these venues: "I've done emails, I've done ah, posters, I've done visits to schools, I've done conferences where I have targeted teachers, I've done conferences where I've targeted students. I've tried everything and in then everyone that comes here say, oh, I heard about it from a teacher so it's kinda like no matter what I try it always comes back to that teacher."

### **Lack of information**

Students expressed frustration in meeting representatives at different events only to find they were not knowledgeable about the CTE program. One student said, "He was the only recruiter there and that was a DECA and that is a Career and Technology Education right there and he didn't even know anything about the program." Another commented, "The reps that came to school, to my school, I don't think they know a lot about the CTE department. So when I would try to ask question...I know they can't be knowledgeable in everything, but they really didn't know much." Career events may not be the most influential media available for recruitment, but having a representative without some knowledge of CTE may be hindering recruitment efforts.

## **Conclusions**

Due to the dwindling numbers of students the CTE programs, something must be done to improve recruitment. At the time of the research, the university was in the process of updating the website, which represented an opportune time to make necessary changes to the online presence. However convenient these changes may be, they may not have a vast positive impact on enrollment.

According to this study, a hands-on personal approach is going to have the biggest impact. Unfortunately, this will be a very labor intensive approach for lead faculty and other stakeholders. It may be possible to enlist other stakeholders such as current students and alumni of the program in reaching out to prospective students and current teachers.

Since current teachers have the greatest impact on student enrollment in CTE programs, teachers must be a focus of the recruitment process. Current teachers must be educated, supported, and communicated with often. The focus should be on identifying and counseling prospective students toward CTE programs. Current teachers must be knowledgeable about CTE programs and have access to materials

and contacts at the university to extend to the students. Contacts at the university must be knowledgeable and enthusiastic about the programs as well. The personal connection has the best chance for success and must be the focus of new recruitment efforts.

Finally, a marketing campaign must be created and aimed at the benefits of becoming a CTE teacher. At the time of the study, teaching is not considered by CTE students as glamorous as working in industry and is not nearly as lucrative. Regardless, there are some real tangible benefits to teaching that students may not be aware of. A strong retirement system, high quality medical insurance, fewer working days per year, less labor intensive work, and the personal satisfaction of helping others all in a field they enjoy are among the benefits. Added together, these less apparent benefits may make teaching more attractive to prospective students, but only if they are aware of the benefits of teaching. Promotional materials must focus on the career as well as the program at the university.

### **Action Plan**

Upon reviewing the research, the following action plan is recommended:

- The significance of a personal connection emerged from the research, students, faculty, and the literature. A strong focus needs to be placed here. The researchers generated several ideas to make this happen. UCM representatives should have an increased presence at high school events. These recruiters should be knowledgeable in all CTE areas. Some cross-training among lead faculty within the department is advised to ensure a common message. Also, recruiters from the College of Education should be educated and provided with adequate materials.
- A communications plan should be implemented to foster better relationships with current high school personnel. A regionally shared contact list would be advantageous in addition to scheduled contacts documented regularly. The regionally shared contact list should include the persons at each school in that respective department along with the high school counselors. Responsibility for the scheduled contacts would be shared among the lead faculty as determined by the department. The contact must be made with the intention of both educating and supporting personnel in identifying and promoting CTE programs to prospective CTE students.
- Promotional materials need to be updated to reflect the current structure and benefits of the CTE program. One idea is to develop a single brochure that highlights the CTE major as a whole along with program-specific inserts that illustrate the features of each program. In addition, the brochure should enlighten students about the benefits of pursuing a career in the field of education.

Another promotional strategy is to enhance online presence. While we understand that the university was at the time of the study undergoing a complete website renovation, there are still several things that could be done to increase student exposure and awareness of CTE programs. Social media should be utilized to promote and capture a more expansive audience.

A further avenue for recruitment is the involvement of other stakeholders. Several students in the program expressed an interest in attending events where they can share information and their experiences with high school students, such as

Distributive Education Clubs of America (DECA), Future Business Leaders of America (FBLA), Future Teachers of America (FTA), and Skills USA events. Volunteers need to be supported both organizationally and financially. Alumni of the program should be involved as well, expressing their support for the program and their profession. The power of testimonials should not be overlooked, and it can occur at all levels of those associated with the CTE program.

When it comes down to improving and recruiting for the CTE program, there could be some real value in coming together as a department to determine who to include in terms of the department make-up. Currently, the program has been reorganized from the four areas and pulled back into one department. Not looking past the idea of possible restructuring to include Alternative Certification and Graduate students to create a stronger, more impactful department or recruiting from businesses to include real-world practical experience should be helpful to remember.

### Summary

As the research suggests, there is a significant need for the revitalization of the Career and Technology Education Department at UCM. This process has to begin at the high school level and transcend into higher education to ensure participation and success. Commitment through communication and teaming, as well as a shared sense of purpose and urgent action among those involved at the higher education level and K-12, will help to strengthen and grow the department. A host of options exist for making this happen. Learning from those who have experienced success with revamping CTE programs would be a good start. By drawing upon the strengths of leaders and stakeholders in the program as well as garnering student engagement throughout the stages of decision making and then regularly reflecting on what works and what does not, the CTE program at UCM can be revitalized once again.

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