ACTT Today, Teach Tomorrow! Alternative Certification in Agricultural Education

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Introduction

A teacher shortage has been ongoing in the United States for several years, according to Strauss (2017). Similar information, reflected in the United States Department of Education (USDOE) recorded data reports, notes specific areas where shortages exist, including Career and Technical Education (CTE) and Agricultural Education (Cross, 2017). Smith et al. (2017) found that of the 769 full-time positions open nationally in 2016, 42% were filled by unlicensed or alternatively certified teachers, and the National Education Association describes this as "the worst teacher shortage ever" (NEA, n.d.). Agricultural science teaching positions are no exception.

This project aims to increase the human and social capital discussed in the USDA's strategic plan by creating an alternative certification program for agricultural education. By increasing the number of agricultural teachers – and, more specifically, specialized agricultural-scientists – in the field, the program may serve as a vehicle for increasing STEM integration into secondary schools. Classroom and laboratory instruction is viewed as the foundational component of agricultural education programs (Talbert et al. 2017). The benefits of participation in agricultural education transfers to post-secondary levels, with research indicating that students that actively participated in these programs were more likely to choose an agricultural degree plan (Ball et al. 2001; Cole & Bokor, 1989). For secondary students to reap the benefits of agricultural education, teacher preparation programs are charged with the responsibility of training and placing high-quality teachers in secondary agricultural classrooms. This program's objective was to develop a modular, distance education program that provides an alternate avenue for graduates of the agricultural sciences, such as animal science, plant and soil science, natural resource management and agricultural business and economics. Participants are prepared for teaching positions specific to their area of expertise and field of study, providing more opportunities for STEM integration in the secondary classroom; therefore, integrating the pure and applied sciences of agriculture into secondary education through the certification of individuals with degrees. The alternative certification program will assist in reducing the shortage of certified teachers in agricultural science and minimizing the number of vacant positions in secondary agricultural science programs.

The marketing and graphic design components of the program were developed by Picador Creative, housed in Texas Tech University's Department of Agricultural Education and Communications (AEC). Picador Creative was developed of similar means and provides hands-on work experience opportunities for undergraduate students.

How it works/ Program Steps

Participants begin the enrollment process through the Texas Tech University continuing education department. They must meet the minimum requirements set by the Texas Education Agency (TEA) to gain admission to the program, including documentation of degree from their awarding university, cumulative college grade point average, and pre-candidacy test scores. After review by the program director and the College of Education and payment of program fees, admitted participants may begin coursework modules within the Blackboard learning platform. The coursework meets all of the criteria set by the Texas Tech University College of Education, Department of Agricultural Education and Communications, and TEA for teacher preparation.

The program is individually paced; however, a recommended course calendar acts as a guide for participants. The program can take eight to twelve months, depending on when participants start the program and the time the individual takes to complete the modules. Cohorts begin three times per year, based around the school year. Depending on when participants apply, they may begin in either June, August, or January. The program consists of nine modules including Introduction to Agricultural Education, Development of Secondary Agricultural Programs, Laboratory Safety and Management, Designing Agricultural Curriculum, Methods of Teaching Agri-Science in the Secondary School, Managing a Classroom in Secondary Agricultural Education, Reading for Specialized Content, Introduction to Teaching, and Test Preparation. The modules correspond to students' courses in the traditional certification program and consist of ADA compliant lesson plans, assigned readings, assignments, lectures of the content, and assessments. The modules must be completed, along with 40 hours of classroom observations, before participants can take required state tests and begin their internship. During the internship, the program director, or a designee will perform four (4) on-site visits and evaluations as required by the teacher candidacy program.

Results to Date/Implications

The program has been fully developed and the first participants begin their program in August of this year. Additional recruited participants will begin the program in January 2021.

An implication over time could be the availability of adequate supervisory coverage. As the program grows, there may be a need to place a cap on enrollment to allow for continued quality of supervision of candidates. While the Agricultural Education and Communications Department has three faculty members and several doctoral students to provide supervision, an enrollment cap may be necessary without additional faculty members or qualified doctoral students.

Future Plans

The short-term, measurable results include completing the modular, online teacher certification program as an alternative avenue for graduates of the College of Agricultural Sciences and Natural Resources to earn their agricultural teacher certification in Texas. Mid- and long-term expectations include increasing the traditional and alternative teacher certification programs' total growth, creating quality teachers for secondary agricultural classrooms. Quantitative and qualitative data will be collected over time by faculty and student assistants. A summative program evaluation will be completed by an outside evaluator, including recommendations for improvements and continuation.

Costs/Resources Needed

This program's development was funded by a grant provided through USDA-NIFA in the area of Building Capacity and meeting the demand: Increasing teacher certification avenues in Agricultural Education. The participant's cost, including program, testing, and certification fees, is approximately $5,200. A portion of this fee is allocated to the faculty member or doctoral student performing the on-site observations. The program is self-sufficient and does not require additional funding from other sources.

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