Facilitating an Early Field Experience via a Regional Career and Technical Education Outreach Event for Underrepresented Students

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Introduction

Agricultural teacher education programs should provide opportunities for pre-service teachers to develop and hone their knowledge and skills (Wells et al., 2018; Whittington, 2005). Because the list of technical skills that early-career teachers should have is quite lengthy and diverse (Albritton & Roberts, 2020), it is vital that there exist practical opportunities for pre-service teachers to grow and develop into well-prepared, competent professionals. Early field experiences (EFE) are used to help expose pre-service teachers to the realities of teaching public school students while allowing them opportunities to refine their teaching-related knowledge and skills (Wells et al., 2018). Perhaps the implementation of an EFE that combines pre-service teachers honing both their technical skills and teaching skills while serving the needs of underrepresented high school students would be pragmatic.

Project Phases / How it Works

Females are often underrepresented in many areas of Career and Technical Education (CTE) programming (Hamilton et al., 2015). Thus, therein lies an opportunity to collaborate with others to help address this issue. During the Spring 2021 semester, I began collaborating with personnel at a local educational cooperative who were pursuing state-level grant funds to help develop female high school students' interest in technical careers (e.g., welder, electrician, etc.) and CTE more broadly. They sought to partner with educational institutions across Arkansas to help deliver engaging, hands-on experiences in different areas of CTE to female students enrolled in high schools throughout the region via a series of one-day, on-campus events. As part of Southern Arkansas University's (SAU) contribution to the project, we concluded that such experiences could be delivered by well-prepared, technically-competent pre-service teachers. Using this approach to deliver the event's activities provided a practical opportunity to address the need for pre-service teachers to engage in an in-depth, high-quality EFE while serving underrepresented students.

Upon receiving confirmation that the grant was funded, I began working with a team of 14 carefully-selected pre-service teachers to plan for the specific activities that would be conducted during the event. Serving as the event coordinator, I recruited each pre-service teacher based on their individual background, expertise, and interest regarding teaching technical skills. Ten of these pre-service teachers were female and four were male. Considering the human capital, facilities, consumable materials, tools, and equipment that I had available in comparison to the available funds for SAU's portion of the project ($12,000.00), I consulted with the pre-service teachers and the educational cooperative personnel to determine the most suitable activities to develop. When viewing all of the aforementioned factors holistically, we concluded that the following six agricultural mechanics activities would help to both address the scope and intent of the grant-funded project and facilitate a high-quality EFE for the 14 pre-service teachers: (1) wiring electrical circuits, (2) using a plasma cutter, (3) using an oxy-acetylene torch, (4) using an arc welder, (5) using woodworking equipment, and (6) performing routine vehicle maintenance procedures.

Various event stakeholders undertook numerous planning activities. The educational cooperative personnel were responsible for both disseminating information about the event to high schools throughout the region and handling event registration. They submitted all registration information to me for processing and student activity scheduling. I consulted with various SAU personnel to: (1) arrange for campus ambassadors to lead students through their event rotation activities, (2) procure meeting room, classroom, and laboratory spaces, and (3) provide lunch for the pre-service teachers and the high school students, teachers, and counselors who were on-campus that day. In October 2021, I worked with each pre-service teacher to help them: (1) identify suitable learning objectives for high school students, (2) plan the specific activities that they would be leading, (3) prepare their teaching areas, and (4) procure the necessary safety items and consumable materials for their respective activities. The event took place in the SAU Agricultural Education Facility (AEF) Shop on Friday, November 5, 2021 and directly served 80 high school students. Each high school student participated in three activity rotations based on their self-reported activity interests. Each activity rotation was facilitated by at least two pre-service teachers and lasted for approximately 45 minutes. Fifteen minutes was allocated between each rotation to allow the pre-service teachers time to prepare for the next incoming group of high school students.

Implications, Future Plans, and Advice to Others

After the event concluded, I met with all 14 pre-service teachers to debrief and discuss their experiences related to the event activities. They shared myriad positive comments about their work preparing for and delivering their respective teaching activities and consistently indicated that despite the struggles they encountered (e.g., student disinterest in particular activities, unexpected issues when using a piece of equipment, etc.), they enjoyed the process of teaching high school students. They expressed ideas about how to improve upon their own skills for teaching technical subject matter. They also shared suggestions for improving the event's layout and indicated that they would be interested in helping to facilitate the event again in the future, all of which engaged them in the reflective component of EFE, which is critical for their continued evolution into competent, prepared, and effective teachers (Wells et al., 2018). I plan to continue hosting this event each academic year as the availability of state-level grant funds permits. I plan to continue working with the appropriate aforementioned stakeholders to successfully deliver this event. I recommend that other agricultural teacher educators explore opportunities to use events like this one as EFE activities for their pre-service teachers. Anecdotal evidence suggests that doing so helps to better inform pre-service teachers about their own career decisions while making direct impacts on underrepresented high school students.

Costs

To support this event and its aligned EFE activities, it cost approximately $12,000.00 to procure the additional tools, equipment, and consumable materials beyond what was already available in the SAU AEF Shop. I wish to note that many of the items purchased to support the event activities (e.g., 10 new welding helmets, two new welding machines, etc.) will likewise support future iterations of the event and facilitate agricultural mechanics instruction for pre-service teachers at SAU. The impact of these funds will have lasting results. Beyond monetary expenditures, time was the most significant investment.

References

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