Building Workforce-Ready Communication and Instructional Skills Through Agricultural Education Coursework

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Introduction

Introductory agricultural education courses at the postsecondary level often attract students from a variety of academic majors, providing their first exposure to foundational concepts of instructional design, learner support, and adaptive teaching strategies (Teixeira & Edwards, 2019; Ramage et al., 2021). These courses typically introduce the legal and pedagogical frameworks that shape effective classroom practice, including the Individuals with Disabilities Education Act and Section 504 of the Rehabilitation Act (Texas Project FIRST, 2022). Prior research in secondary agricultural education illustrates how such frameworks translate into differentiated instruction, modified assessments, and the use of supportive tools that enhance learning for all students (Wilkins-Brittain et al., 2022). Exploring these strategies in an introductory college-level agricultural education course promotes agricultural literacy and strengthens students' understanding of effective teaching methods across disciplines. Ramage et al. (2021) emphasized that developing confidence in supporting varied learning needs is essential preparation for professional success. For students outside the teaching profession, this learning extends beyond education, it develops communication, adaptability, and leadership skills applicable in multiple workplace contexts. Therefore, the overarching research question of this study was: How has participation in an introductory agricultural education course shaped non-agricultural majors' understanding and perceived value of instructional adaptation and learner-centered teaching strategies?

Theoretical Framework

Human capital theory (Becker, 1993) posits that schooling, training, and applied experience are investments that enhance an individual's productive capacity and value to employers and society. Within agricultural education, such investments, through structured coursework, experiential learning, and professional skill development, have been shown to improve instructional quality, deepen content mastery, and contribute to workforce readiness (Easterly & Myers, 2019; Figland et al., 2019; Norris, Swortzel, & McCubbins, 2023; Yopp, Croom, & Edgar, 2023). Viewed through this lens, introductory agricultural education courses represent an opportunity to extend agricultural education's influence by equipping students, including those outside the major, with adaptable instructional and communication skills relevant to multiple professional contexts.

Methods

Researchers employed a single-case study design, appropriate for exploring a bounded system in depth (Yin, 2018; Swanborn, 2010). The case was defined as non-agricultural majors enrolled in an introductory agricultural education course at Texas Tech University during the Spring 2024 semester. The purposive sample (Etikan et al., 2016) included ten undergraduate students representing majors such as plant and soil science, biology, animal science, and construction science. Data were collected through 30-minute semi-structured interviews, which were audio-recorded and transcribed verbatim. Field notes and course reflections served as supplementary sources for triangulation (Creswell & Poth, 2018). Analysis followed the constant-comparative method (Glaser & Strauss, 1967), proceeding through open, axial, and thematic coding (Braun & Clarke, 2006). Credibility was reinforced through member checks,

and dependability, confirmability, and transferability were enhanced through an audit trail and reflexive memos (Lincoln & Guba, 1985; Holmes, 2020).

Results/ Findings

Four primary themes emerged from the data. *From limited awareness to applied understanding.* Most participants began the course with minimal knowledge of instructional adaptation, often recalling only general awareness of classroom support plans. By semester's end, they described a clear understanding of the principles and practical applications of adapting lessons and assessments. Participant One summarized this development as moving from "pretty new to me" to being able to "explain why a student might need alternative seating or extra time." *Instructional adaptability as transferable professional capital.* Students consistently described their new competence as a skill set with value beyond teaching. Participant Two noted, "If I'm training new employees, I might have to present the material differently or give more time because everyone learns differently." Similar connections were drawn to careers in business management, and healthcare, indicating that instructional adaptability learned in agricultural education can enhance professional effectiveness across disciplines. *Confidence to guide and lead others.* Exposure to legal frameworks, case examples, and lesson-plan design built students' confidence in facilitating learning or training others. Participant Four shared that the course provided enough foundation to "have a real conversation about learning needs. Before, I didn't know what teachers actually did past grading." Others linked this growing confidence to leadership, explaining that understanding how people learn differently helps them "navigate team dynamics in any workplace" (Participant Eight). *Course features that supported growth.* Students identified two instructional elements as particularly impactful: (a) lesson-plan labs requiring them to implement concrete adaptations and (b) small-group discussions of realistic case studies. These activities allowed participants to apply theoretical concepts in practice, deepening both understanding and confidence.

Conclusions/ Implications/ Recommendations

This case study demonstrates that a single introductory agricultural education course can provide clear, transferable learning benefits for students outside the major. Consistent with the confidence gains reported by Ramage et al. (2021), participants in this study described becoming more capable and self-assured after completing course activities that required them to design and justify instructional adaptations. Similar to findings by Wilkins-Brittain et al., (2022), students recognized that the skills they developed are applicable across professional settings such as communications, management, and technical fields. Viewed through Becker's (1993) human capital framework, the course operates as a targeted educational investment that converts general awareness into applied instructional competence. These findings reinforce agricultural education's role in developing adaptable, instructionally skilled, and workforce-ready graduates, regardless of their primary discipline. Integrating instructional design and adaptation concepts early in the undergraduate curriculum may enhance students' ability to communicate effectively and guide others in their future careers. Future research should expand on these findings through multi-institutional or longitudinal designs that examine how instructional adaptability developed in agricultural education courses influences professional performance after graduation.

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