

**Perceptions of Texas Secondary Agriculture, Food, and Natural Resources (AFNR)
Teachers: Evaluating the Awareness of The United States Department of Agriculture
(USDA) and Internship Importance**

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Introduction

In recent years, the United States Department of Agriculture (USDA) has faced much difficulty sustaining its workforce. Several economic, demographic, and societal factors paired with the recent uncertainty after 2025 due to the restructuring of the USDA have contributed to the negative stigma surrounding jobs within the agency (Fernandez et al, 2019; Scott et al., 2011). To best address these challenges, the role educators have in providing students with adequate information to help shape their knowledge of agriculture and the USDA is essential. Previous research has examined where knowledge transfer between students and teachers is most effective, but the gap lies in how this translates to agricultural literacy and its impact on retention of students pursuing an agriculture-related degree or career—particularly within federal agencies such as the USDA (Sion & Brewbaker, 2001). The purpose of this study is to explore the awareness of USDA career opportunities and perceptions of internships among Texas secondary Agriculture, Food, and Natural Resources (AFNR) teachers.

Conceptual Framework

Placing emphasis on examining what a teacher knows versus what they teach, Shulman's Teacher Knowledge (1986) brings forth a dynamic framework that best fits the study's needs. This framework introduces the concept of pedagogical content knowledge (PCK) to bridge the gap between teacher knowledge and delivery of said knowledge to their students. Shulman's Teacher Knowledge (1986) identifies three essential components of teacher knowledge: content knowledge (CK), pedagogical content knowledge (PCK), and pedagogical knowledge (PK). Each of these plays a significant role in student outcomes as well as helps shape how teachers teach their courses.

Methodology

The quantitative study utilized a survey to assess Texas secondary AFNR teachers' awareness of USDA opportunities (1 = Not Aware; 4 = Extremely Aware) and their perspectives on the value of internships for secondary students (1 = Disagree; 5 = Agree). Validity and reliability were assessed using a panel of experts, then pilot tested with 30 AFNR teachers to determine reliability of the two constructs: USDA opportunities ($\alpha = 0.90$) and value of internships ($\alpha = 0.88$). A stratified sample ($n = 338$) was taken from the 2023 list of all Texas AFNR teachers ($n = 2952$) to represent an equal proportion from each of the 12 areas created by the Texas FFA Organization. Of those who received the anonymous Qualtrics survey, 72 (21.3%) were deemed usable and were exported to IBM SPSS 28.

Results

The objective of this study is to address the growing workforce shortages within the USDA by exploring Texas secondary AFNR teachers' awareness of USDA opportunities and

internship perceptions. To measure the “value of internships” construct, a total of 20 questions were presented to the population, ranging from a low mean of $M = 4.14$; $SD = 0.42$ to a high mean of $M = 4.86$; $SD = 1.052$. Sample questions included “Internships should be incorporated as a required course of college curricula” and “Internships provide hands-on opportunities to a career related experience.” As shown in Table 1, there were a total of six questions used to measure USDA opportunity awareness levels, ranging from a low mean of $M = 1.74$; $SD = 0.92$ to a high mean of $M = 2.65$; $SD = 1.14$.

Table 1

Texas Secondary Agricultural, Food, and Natural Resources Teachers’ USDA Opportunity Awareness Levels

	<i>n</i>	<i>M</i>	<i>SD</i>
USDA has a high school internship program	72	1.93	1.04
USDA has a workforce shortage	72	2.36	1.08
USDA has published career skill requirements	72	2.22	1.09
USDA has a non-traditional resume format	72	1.74	0.92
USDA lists all job opportunities on USA Jobs	72	2.65	1.14
USDA offers an internship pathway program (ages 16+)	72	1.85	0.93

Conclusions

The results of the study indicate that the awareness levels of AFNR teachers of USDA career opportunities are very low. However, when looking at teacher perceptions of the value of internships in general, the researchers observed that the secondary AFNR teachers place high value on them. Like teacher perceptions, the National Association of Colleges and Employers (NACE) reports that students with internship experience tend to be more successful, showing that 56% of students who had internships in 2019 were able to turn the opportunity into a full-time job (Alston et al., 2019). There is also evidence that internships enhance classroom learning, as students with hands-on experience have been found to grasp concepts in a more effective manner (Weibel & McClure, 2011). In all, the results of the study suggest that there is a clear discrepancy between the value of internships and the awareness of USDA opportunities.

Implications/Recommendations

The findings of this study provide significant insights into the need to bridge the gap between AFNR teachers’ awareness of USDA opportunities and how they perceive internships. The results also indicate a need to develop secondary curriculum targeted towards addressing the importance of the USDA, jobs within the organization, and potential internship opportunities. Upon implementation, the alarming rate at which the USDA is experiencing workforce shortages could decrease as the organization experiences better exposure. To improve teachers’ content knowledge (CK), professional development courses could be created with USDA assistance to provide all Texas secondary AFNR teachers with a balanced knowledge level to successfully deliver the curriculum.

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