

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

Carly French; Douglas G. Morrish, Ph.D.; Eryn L. Pierdolla, Ed.D.; Trevor Hajek, M.S.
Department of Agricultural Sciences, Texas State University, San Marcos, TX

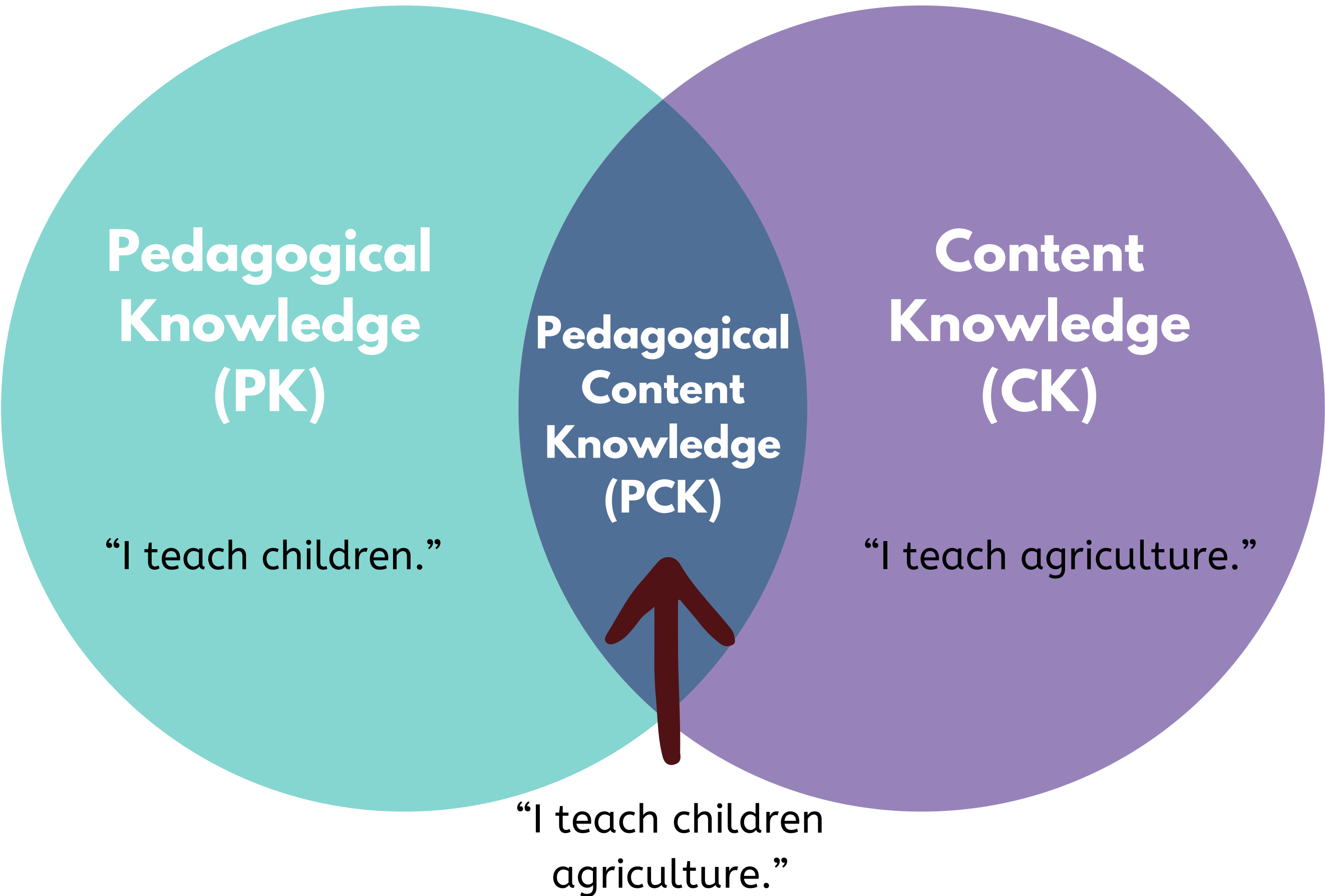
Introduction

- USDA has faced much difficulty sustaining its workforce, bringing a negative stigma surrounding jobs in the agency.¹
 - Several economic, demographic, and societal factors
 - Restructuring of the USDA
- Educators are essential to provide students with adequate information on agriculture and the USDA.
- Previous research examined where knowledge transfer between students and teachers is most effective
 - Gap: translation to agricultural literacy and impact on retention of students pursuing an agriculture-related degree/career within federal agencies.²
- Explore the awareness of USDA career opportunities and perceptions of internships among Texas secondary AFNR teachers.

Conceptual Framework

- Schulman's Teacher Knowledge
 - Introduces concept of pedagogical content knowledge (PCK) to bridge gap between teacher knowledge and delivery of said knowledge to students.
 - Identifies 3 essential components of teacher knowledge:
 - content knowledge (CK)
 - pedagogical content knowledge (PCK)
 - pedagogical knowledge (PK)³
 - Each plays a significant role in student outcomes and help shape how teachers teach their courses.

Schulman's Teacher Knowledge



Methodology

- This 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 the reliability of the two constructs:
 - USDA Opportunities ($\alpha = 0.90$)
 - 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 survey, 72 (21.3%) were deemed usable and were exported to IBM SPSS 28.

Results

- "Value of internships" construct:
 - 20 questions total
 - Low mean of $M = 4.14$; $SD = 0.42$
 - High mean of $M = 4.86$; $SD = 1.052$
 - Sample questions:
 - "Internships should be incorporated as a required course of college curricula"
 - "Internships provide hands-on opportunities to a career related experience."
- Table 1: six questions used to measure USDA opportunity awareness levels
 - Low mean of $M = 1.74$; $SD = 0.92$
 - 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

Note. Items were rated on a 4-point Likert agreement scale where 1 = Not Aware, 2 = Moderately Aware, 3 = Aware, 4 = Extremely Aware.

Conclusions

- Awareness levels of secondary AFNR teachers of USDA career opportunities is very low.
- Secondary AFNR teachers place a high value on internships.
 - 56% of students who had internships in 2019 were able to turn the opportunity into a full time job.⁴
 - Internships can enhance classroom learning, as students with hands-on experience have been found to grasp concepts in a more effective manner.⁵
- Results suggest that there is a clear discrepancy between the value of internships and the awareness of USDA opportunities.

Implications & Recommendations

- Findings provide significant insight into the need to bridge the gap between AFNR teachers' awareness of USDA opportunities and how they perceive internships.
- Results 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):
 - create professional development courses with USDA assistance to provide all Texas secondary AFNR teachers with a balanced knowledge level to successfully deliver the curriculum.



Key Sources & Acknowledgements

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Images: Agriculture Teachers Association of Texas