Foundational SAEs as Workforce Preparation: Agriculture Teachers by Career Stage and Licensure Type

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Introduction

Teachers play multiple roles in their classrooms and in students' lives, including serving as (in)formal career advisors (Hooley et al., 2015), which can affect what careers students are exposed to, consider, and ultimately, pursue post-high school (Sanok et al., 2015). Agriculture teachers are uniquely situated to engage students in content, activities or conversations regarding the industry of agriculture, given the implementation of agricultural education as a three-component model that creates inherently career-focused courses within agricultural programs (NAAE, 2024). A number of agriculture teachers have firsthand professional experience in the industry of agriculture and can share anecdotes and insights and connect students with resources or individuals when advising their students on career decisions (Cosby et al., 2024; Wong et al., 2021). Additionally, Supervised Agricultural Experiences (SAEs) provide students with the opportunity to apply what they learned in the classroom to an experiential learning activity outside the formal instruction of a classroom setting (National Council for Agricultural Education, 2015). Foundational Supervised Agricultural Experiences (SAEs), introduced through the SAE for All effort (The National Council for Agricultural Education, 2017), are intended for every agricultural education student and consist of five essential components: career exploration and planning, employability skills, personal financial management, workplace safety and agricultural literacy. Existing literature demonstrates that teachers link SAEs with careers. Friedel and Anderson (2017) studied the advising practices that agriculture teachers use in their classrooms and found advising students on career choices as one of the most often used techniques by agricultural educators to motivate students to get involved in SAE activities. This suggests that teachers associate students' involvement in SAEs with their future careers and recognize the importance of demonstrating that association to students.

Our study explored U.S. agriculture teachers' perspectives on their role in preparing and influencing student career readiness and choices. To effectively prepare agriculture teachers to navigate their multi-faceted roles, their career stage (defined by their years teaching) and their licensure path (defined as traditional or alternative) must be considered, as these can indicate teachers' awareness, comprehension and application of career preparation content and strategies in the classroom, such as their implementation of Foundational SAEs. This poster reports on findings focused on assessing the usage of Foundational SAEs within agriculture classrooms and how it may vary depending on an agriculture teacher's career stage or licensure type.

Theoretical Framework

Our study targeted the various factors impacting agriculture teachers and their subsequent classroom instruction and SAE integration as they prepare students for the workforce. Therefore, we used the Social Cognitive Career Theory (SCCT) (Lent, Brown & Hackett, 2002), which explains how academic and career interests develop, how educational and career choices are made, and how academic and career success are achieved. SCCT has been used as the theoretical framework for exploring the influence of teachers on students through advising and career guidance (Brown et al., 2008; Copeland et al., 2020; Siddiky & Akter, 2021). Given our study aims to understand how agriculture teachers currently provide career guidance to students using the resources, experiences and information available to them, SCCT supports an examination of the student-teacher relationship and how it is influenced by the social environment in which it

exists, among other external factors.

Methodology

We used a descriptive research design with an online Qualtrics survey to collect data in spring 2025. The population for the study was 15,298 U.S. agriculture teachers; we received 1,755 usable responses. Items did not force responses, so not all participants responded to each item. We modified Booth et al.'s (2021) compilation of various career models and stages to classify four career stages (Novice, Early Career, Mid-Career and Late Career), similar to other organizations' classifications (NAAE, 2024; National Center for Education Statistics, 2024). Key variables used in this analysis included type of teacher license (categorized into traditional or alternative, which included special/emergency), career stage, teaching Foundational SAEs, level taught of Foundational SAEs and job satisfaction. Descriptive statistics, means-based analyses and a regression model were used to describe and identify significant (α=0.05 significance level a priori) differences or relationships between the four classified teacher career stages and two licensure types. The results were analyzed using SPSS.

Results/Findings

Most respondents were licensed educators (78.5%). There was a fairly even distribution of career stages (Novice, 34.4%; Early Career, 28.1%; Mid-Career, 20.6%; Late Career, 16.9%). More Novice respondents identified as alternatively certified (26.5%) or special/emergency grant (9.0%) compared to other career stages. Two in three respondents (67.1%) reported teaching Foundational SAEs. Of the five Foundational SAEs components, 10% of respondents reported not teaching Personal Financial Management and Planning at all. Approximately half of respondents reported teaching the five components of Foundational SAEs at a Moderate level, except for Personal Financial Management and Planning (36.2%). The highest percentage of respondents reported teaching Workplace Safety at an Expert level (29.5%) and Personal Financial Management and Planning at a Basic level (46.5%). Notably, more Novices indicated they do not teach Foundational SAEs (36.4%) at all and do not teach Personal Financial Management and Planning (15.3%) compared to others.

A Mann-Whitney U test showed statistically significant differences (α=0.05) in the level taught for the five Foundational SAE components between licensed educators (Traditional) and alternatively certified or special/emergency educators (Alternative). Traditional teachers taught Personal Financial Management/Planning (T:848.4; A:733.7; $p<0.001$) and Agricultural Literacy (T:838.1; A:780.4; $p=.025$) to a higher level than Alternative teachers.

Table 1

Respondents' Level of Teaching Foundational Components by Licensure Type

Component	Licensure Type	*n*	*MR*	*U*	*p*
Career Exploration/Planning				231591	.944
	Traditional	1291	824.6		
	Alternative	358	826.4		
College and Career Readiness				220417	.118
	Traditional	1291	834.3		
	Alternative	359	793.9		
Personal Financial Management				198039	<.001
	Traditional	1289	848.4		
	Alternative	357	733.7		
Workplace Safety				221731	.180
	Traditional	1291	833.3		
	Alternative	359	797.6		
Agricultural Literacy				215527	.025
	Traditional	1291	838.1		
	Alternative	359	780.4		

Note. Levels: 0 = None; 1 = Basic; 2 = Moderate; 3 = Expert.

Kruskal-Wallis tests revealed statistically significant differences (α=0.05) for all Foundational SAE components by career stage except for Career Exploration and Planning. For the four significant components, Novices had a lower mean for the level taught compared to Late Career respondents. Early Career respondents also had statistically significant differences from Late Career for Workplace Safety and Agricultural Literacy.

Table 2

Respondents' Level of Teaching Foundational Components by Career Stage

Component	Career Stage	*n*	*MR*	*H*	*p*
Career Exploration/Planning				7.664	.053
	Novice	564			
	Early Career	457			
	Mid Career	340			
	Late Career	281			
College and Career Readiness				26.011	<.001
	Novice	564	751.57		
	Early Career $_{a}$	458	832.53		
	Mid Career $_{a}$	340	877.12		
	Late Career $_{a}$	281	879.50		
Personal Financial Management				67.307	<.001
	Novice	562	722.84		
	Early Career $_{a}$	457	808.52		
	Mid Career $_{a}$	340	869.53		
	Late Career	280	973.62		
Workplace Safety				25.344	<.001
	Novice $_{a}$	564	776.02		
	Early Career $_{a\ b}$	458	790.75		
	Mid Career $_{a\ b\ c}$	340	855.75		
	Late Career $_{c}$	281	924.38		
Agricultural Literacy				17.321	<.001
	Novice $_{a}$	564	777.71		
	Early Career $_{a\ b}$	458	807.06		
	Mid Career $_{a\ b\ c}$	340	850.92		
	Late Career $_{c}$	281	900.24		

Note. Levels: 0 = None; 1 = Basic; 2 = Moderate; 3 = Expert. Mean Ranks with the same subscript do not differ at the $p = .05$ level by Bonferroni correction for multiple tests.

Results from a multiple regression model positing that agriculture teachers with more experience and higher job satisfaction taught Foundational SAE components to a higher level yielded statistical significance (at the $\alpha=0.05$ level) but had a weak relationship ($R^2=0.04$).

Table 3

Predicting Foundational SAE Scale from Job Satisfaction and Career Stage

Independent Variables	*B*	*t*	*p*
Constant/Intercept	6.226	34.013	<.001
Career Stage	0.339	6.741	<.001
How Satisfied with Job	0.231	3.889	<.001
Dependent Variable: Foundational SAE Scale			

Note. Career Stages: 1 = Novice; 2 = Early; 3 = Mid; 4 = Late. How Satisfied with Job Scale: 1 = Not at all; 2 = Slightly; 3 = Somewhat; 4 = Quite; 5 = Extremely. Level Teach Foundational SAE Scale: 1 = None; 2 = Basic; 3 = Moderate; 4 = Expert

Conclusions, Implications, and Recommendations

Although a majority of agriculture teachers report teaching Foundational SAEs in their agriculture programs, not all do. Therefore, some agricultural education students miss out on essential components for career planning and development as a result of the decisions made by their agriculture teachers, aligning with the theoretical framework used for this study (SCCT). Additionally, Novice teachers are least likely to teach the five Foundational SAE components compared to others and Alternative teachers do so at a lower level than Traditional teachers. With Novice teachers comprising a third of respondents, over a quarter of whom are Alternative, and representing an increasing portion of the agricultural education teaching population overall, this has the potential for a significantly negative impact on students. Foundational SAE, as currently defined, has been emphasized for less than a decade, and related professional development or resources for integrating them into existing teaching practices were also interrupted by the COVID-19 pandemic. Even still, agriculture teachers report teaching the five Foundational SAE components at a basic to moderate level across all career stages.

With SAEs as a preexisting portion of the current workload of agriculture teachers, via the three-circle model (NAAE, 2024), and their inherent links to career exploration and preparation (Haddad & Marx, 2018), they offer ample opportunity for increasing and improving student career preparation without increasing the duties of agriculture teachers. We recommend SAE for All training as professional development to provide teaching strategies and resources for all five Foundational SAE components, especially those currently taught at none or basic levels. To address the lower frequency and level at which Foundational SAEs are being taught by Novices, SAE for All training needs to be in all preservice School-Based Agricultural Education plans of study and all professional development/mentoring programs for Novice agriculture teachers.

Limitations for this study include the inability to extrapolate these findings to the broader agricultural teaching profession and the reliance upon self-reported information from survey respondents. Future research should focus on agriculture teachers' understanding and perceptions of Foundational SAEs as intentional career preparation practices and evaluate professional development intended to support teachers in successfully implementing these practices throughout all career stages.

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