

Examining SBAE Teachers' Perceptions of Agricultural Facilities Across Career Stages

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Introduction and Need for Research

Facilities are a critical component of designing a school-based agricultural education (SBAE) program, and should be reflective of the local workforce needs (Croom, 2009; Roberts & Ball, 2009; Shoulders & Myers, 2012). Yet, many SBAE teachers face challenges with facility conditions (Lambert et al., 2018), funding (Smalley et al., 2023; Wells et al., 2018; Wilson et al., 2002), and maintenance (Ramstad & Smalley, 2025). The literature has also suggested demands and challenges within each of the three career stages (Leman & Solomonson, 2025; Sorensen et al., 2014); SBAE teachers are tasked with a myriad of responsibilities which influence their levels of energy and perceptions towards some of these tasks (Smith & Smalley, 2018). Despite these findings, there has been limited work integrating these areas—examining SBAE teachers' perceptions of facilities based on career stages. As such, this work is needed because it provides insights to offer additional, targeted supports and programming for SBAE teachers based on their career stage so teachers are able to develop and maintain facilities which meet the needs of their local programs. Further, this study aligns with priorities in the AAAE research agenda related to advancing public knowledge of AFNR systems. The purpose of this study was to examine SBAE teachers' perceptions of facilities based on their career stage. The study was guided by two objectives, to: 1) assess teachers' perceptions regarding SBAE facilities, and 2) determine if there are any relationships between these perceptions and a SBAE teacher's career stage.

Theoretical Framework

Ajzen's (1991) Theory of Planned Behavior (TPB) guided the development of this study. Ajzen's TPB posits an individual's behaviors are influenced by their (a) attitudes—their beliefs toward a specific behavior, (b) subjective norms—the expectations they perceive are placed on them from other stakeholders to exhibit the behavior, and (c) perceived behavioral control (PBC)—the confidence they have related to acting on the behavior (Ajzen, 1991). These three factors influence one's intent to perform a behavior, and ultimately, their decision to exhibit that behavior; as such, these factors can also be influenced by one's level of professional experience and skillset. Accordingly, the instrument evaluated teachers' attitudes, subjective norms, PBC, and intentions to examine their behaviors related to SBAE facility design and management.

Methods

This IRB-approved study was conducted using a 41-item instrument, with questions aligned with the objectives and theoretical framework. The instrument was evaluated for face and content validity by a panel of four experts with background in facility design (Creswell & Creswell, 2018), and was pilot tested with 10 educators; the instrument was considered to be reliable, with all scale Cronbach's alpha coefficients between 0.74 and 0.93, and 0.85 for the total instrument (Nunnally, 1978). Items utilized a Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). To account for geographic variation in facilities, a stratified random sample of 1,200 SBAE educators from all 50 states were invited to participate (Creswell & Creswell, 2018). Following Dillman's (2014) tailored design method, 255 teachers from 41 states participated, yielding a response rate of 21.3%. Teachers offered an average of 12.54 years of teaching experience ($\sigma = 10.38$), which is comparable to national trends (Haddad et al., 2020). De-identified data were analyzed in SPSS using standard descriptive statistics and a one-way ANOVA to evaluate differences in career stages. Early-career teachers reported five or fewer years of experience ($n = 85$), mid-career teachers reported 6-15 years of experience ($n = 90$), and late-career teachers reported greater than 15 years of experience ($n = 80$) (NAAE, 2015).

Results

Objective 1 assessed teachers' perceptions regarding SBAE facilities and objective 2 determined if there are any relationships between these perceptions and a SBAE teacher's career stage. Statistical significance was achieved on four items, and following a Tukey post-hoc, it was determined there were significant differences among the three career stages (see Table 1).

Table 1

Perceptions of Facilities Across Early-, Mid-, and Late-Career SBAE Teachers

Item	Early		Mid		Late		df	p
	\bar{x}	σ	\bar{x}	σ	\bar{x}	σ		
I enjoy my SBAE facilities.	3.81	1.03	3.73	1.02	3.89	0.87	254	0.590
Having effective facilities is important for preparing students for their future careers.	4.64	0.66	4.75	0.44	4.65	0.57	254	0.340
I feel supported in developing facilities.	3.46	1.20	3.31	1.16	3.79	0.92	254	0.018*
My facilities make an impact on students.	4.39	0.77	4.48	0.67	4.61	0.65	254	0.120
The community expects effective facilities.	3.86	1.03	3.83	1.02	4.00	0.83	254	0.489
The administration expects effective facilities.	3.58	1.13	3.36	1.04	3.70	1.06	254	0.107
The advisory council expects effective facilities.	3.80	0.92	3.99	0.87	4.00	0.76	254	0.234
My students expect effective facilities.	3.81	0.84	3.92	0.85	4.03	0.69	254	0.233
I have the ability to sustain effective facilities.	3.68	1.10	3.58	0.98	4.05	0.84	254	0.006*
I have strong knowledge of facilities.	4.12	0.85	4.26	0.63	4.41	0.69	254	0.035*
I intend to expand facilities if given the chance.	4.65	0.65	4.60	0.70	4.36	1.00	254	0.049*
I intend to seek others' input as I plan facilities.	4.24	0.87	4.30	0.76	4.01	0.93	254	0.076

* Denotes statistical significance at $p \leq 0.05$

Conclusions, Implications, and Recommendations

The purpose of this study was to examine SBAE teachers' perceptions of facilities based on their career stage. Overall, teachers maintained positive perceptions regarding SBAE facilities. Despite SBAE teachers from each career stage perceiving high expectations from stakeholder groups, including community, administration, advisory council members, and students, teachers perceived lower levels of support in developing their facilities, especially mid-career teachers ($\bar{x} = 3.31$; $\sigma = 1.16$). These differences were significant across all career stages, $F(2, 252) = 4.071$, $p = 0.018$, $\eta^2 = 0.031$. Yet, late-career teachers were more confident in their ability to sustain facilities, potentially due to greater levels of PBC given more years of professional experience (Ajzen, 1991), and early-career teachers had the greatest intention to expand their facilities if given the chance, potentially due to their desire to improve their programs and high levels of motivation at the start of their career (Ajzen, 1991; NAAE, 2015; Leman & Solomonson, 2025). Both of these items, respectively, were also significant across all career stages, $F(2, 252) = 5.278$, $p = 0.006$, $\eta^2 = 0.093$ and $F(2, 252) = 3.055$, $p = 0.049$, $\eta^2 = 0.024$.

To further this work, it is recommended to conduct qualitative research exploring the expectations (i.e., subjective norms) of stakeholder groups regarding SBAE facilities to see if these expectations are in alignment with the perceived expectations of SBAE teachers (Ajzen, 1991). For professional practice, professional development and training should be provided to early-career teachers, potentially in the form of mentorship programs. Late-career teachers tended to have stronger knowledge of facilities, and early-career teachers felt less confident in this area, so this could be an opportunity to leverage talents and build community within SBAE.

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