

## Teacher Confidence in Instructional Methods

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### Introduction/Theoretical Framework

Engaging students through effective instructional methods impacts student success (Hunt et al., 2009). The AAAE's research agenda surrounding meaningful, engaged learning asks how educational program delivery in agriculture can evolve to meet the needs and interests of students (Roberts et al., 2016). To address this question, teachers must have a specific set of characteristics, including the ability to offer instruction in a variety of methods (Hunt et al., 2009). Rosenshine and Furst (1971) are known for their research on effective teaching. In their work, they listed variability in instruction as one of the fundamental characteristics of effective teachers. To be able to offer variety in the classroom, teachers must have confidence in carrying out several instructional methods. According to Bandura (1997), people are more likely to engage in activities that they have more confidence in performing.

The purpose of this study was to examine teacher confidence in using instructional methods at different career stages, as recommended by Voges et al. (2020). Framed within Huberman's (1989) model of the professional life cycle of teachers, teachers are categorized as being novice (early), mid-career, and late-career. This theory describes teachers in the novice stage as focusing on their new role and tasks, while mid-career teachers are showing confidence in their teaching pattern. By late-career, teachers are expected to be comfortable in their careers. While these distinct qualities of each career stage exist, Huberman (1989) claims that progression through the career stages may not always be linear. Understanding teacher confidence helps identify areas that can be improved to effectively engage school-based agricultural education (SBAE) students for both preservice and practicing teachers, directly addressing an AAAE research priority.

### Methodology

To accomplish the purpose of this study, a descriptive, cross-sectional survey design was employed as part of a larger study (Fraenkel et al., 2019). The population was all SBAE teachers in Texas who were members of the state agriculture teachers association ( $N = 2,172$ ). A sample of 326 teachers was needed according to Krejcie and Morgan (1970), however this was doubled due to anticipated low response rates ( $n = 652$ ). Random sampling was used to develop the list of sample participants. The questionnaire, used with permission from the original researchers (Smith et al., 2015), had six demographic questions and 10 questions in each of the following areas for each teaching method: training received, time spent using the method, perceived effectiveness of the method, and confidence in using the method for a total of 46 questions. The methods listed in Table 1 were included with a definition for reference from Newcomb et al. (2004). The instrument was accepted as valid and reliable as published in earlier studies surveying the same population (Smith et al., 2015; Voges et al., 2020). After obtaining IRB approval from Texas A&M-Commerce the questionnaire was distributed through Qualtrics with five total contacts through email, each one week apart (Dillman et al., 2014). A final response rate of 16.7% was achieved ( $n = 109$ ). Means and standard deviations were calculated in Microsoft Excel for each group of teachers based on early, middle, and late career stages.

## Findings

According to the findings, middle career teachers had the highest confidence when using four of the ten instructional methods (field trips, guest speakers, lecture, and role play). Mid-career stage teachers also had the lowest confidence in four of the ten methods (demonstration, discussion, experiments, and independent study). Confidence only showed linear progression through early, middle, and late career stages in two methods (cooperative learning and supervised study). Refer to Table 1 for mean confidence levels reported for using all 10 instructional methods by participants in early, middle, and late career stages.

**Table 1**

*Confidence in Instructional Method Based on Career Stage (N=109)*

Instructional Method	Early (1-5 yr)		Middle (6-15 yr)		Late (16+ yr)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Cooperative learning	3.95	0.96	4.00	0.85	4.18	0.78
Demonstration	4.32	0.66	4.21	0.56	4.43	0.58
Discussion	4.12	0.78	3.92	0.83	4.00	0.67
Experiments	3.33	1.03	3.21	0.94	3.38	0.95
Field trips	3.30	1.10	3.64	0.89	3.43	1.14
Guest speakers	3.32	1.09	3.64	0.81	3.42	1.23
Independent study	3.44	1.00	3.29	1.16	3.38	1.21
Lecture	4.11	0.72	4.29	0.70	4.00	0.84
Role play	2.18	1.10	3.00	1.13	2.60	1.24
Supervised study	3.47	1.04	3.50	1.05	3.67	0.84

Note. Scale: 1 = *Very Low Confidence* to 5 = *Very High Confidence*.

## Conclusions/Implications/Recommendations

Findings confirm that progression through the professional teacher life cycle is not always linear, as described by Huberman (1989). It is important to revisit the professional life cycle and evaluate inconsistencies. While Huberman describes mid-career as being a time of confidence and experimentation, we found mid-career participants had the least confidence four of the 10 instructional methods when compared to participants in the early and late career stages. Similarly, teachers in the late career stage expressed less confidence than middle career teachers in four categories, showing a decrease in confidence in certain skills throughout the professional life cycle. While early career stage teachers are expected to be in a period of survival, they expressed greater confidence than middle career teachers in four methods. Are some early career teachers over confident? Recommendations for practice that could help improve lower confidence levels would be providing continual training and education specific to middle career teachers. Additionally, providing training in the two methods that teachers expressed the lowest overall confidence in, experiments and role play, could be beneficial for teachers in all career stages. Further research should investigate previous training received in instructional methods, and identify factors leading to lower teacher confidence, particularly in middle and late career teachers. A limitation of this study is the low response compared to the population size, limiting its generalizability. Therefore, this study should be replicated with the national population using increased efforts to encourage participant response.

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