

**Instructional Level of the SAE Competencies According to Agricultural Teacher Educators**

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### **Introduction**

Faculty in university agricultural teacher education programs bear the responsibility of preparing future agriculture teachers to lead effective school-based agricultural education (SBAE) programs (Roberts & Dyer, 2004). Roberts and Dyer (2004) state, “Creating effective agriculture teachers is imperative for the long-term sustainability of agricultural education programs” (p.94) and, generally, pre-service agriculture teachers are prepared using a combination of coursework, early field experience (EFE) and student-teaching. As a component of the teacher education curriculum, “SBAE preservice programs should work to promote authentic experiences for preservice teachers to develop, implement, maintain, sustain, evaluate, supervise, and communicate an SAE program” (Rubenstein, Thoron, & Estep, 2014, p. 81). However, the curricular structure varies widely across agricultural teacher education programs (McLean & Camp, 2000). In a study of selected agriculture teacher education programs, all included SAE or an equivalent topic at various points within the curriculum; however, only three of the selected institutions reported a separate SAE course (McLean & Camp, 2000). Competencies for agriculture teacher preparation in SAE have been developed (AAAE, 2013). The need exists to identify how and to what extent these SAE competencies are included in agricultural teacher education programs as well as the level of instruction occurring in each competency.

### **Purpose**

The purpose of this study was to describe the level of instruction occurring in agriculture teacher education programs related to each of the competencies for agricultural teacher preparation in SAE.

### **Conceptual Framework**

Agriculture teachers have an impact on the implementation and success of SAE programs (Dyer & Osborne, 1995; Phipps, Osborne, Dyer & Ball, 2008; Retallick, 2010; Rubenstein, et al., 2014; Swortzel, 1996). However, “There is a paradox between the value teachers place on SAE and the manner in which SAE is being implemented” (Wilson & Moore, 2007, p. 89). Agriculture teachers have difficulty implementing SAE in practice even though they value it conceptually (Dyer & Osborne, 1995; Retallick, 2010; Wilson & Moore, 2007). Wilson & Moore (2007) suggest that teachers are not implementing SAE because of a lack of rewards in the second phase and perceived barriers in the third phase of Locke’s (1991) motivational schema. In the motivation hub, actions toward a goal are influenced by the value placed on the goal and by the perceived ability to take the actions necessary to achieve the goal (Locke, 1991). Perceived barriers limit the implementation of SAE even though agriculture teachers consider SAE programs to be valuable (Wilson & Moore, 2007).

### **Methods**

The population for this study was all agriculture teacher education programs in the United States (n = 95). A survey instrument was developed following the Tailored Design Method for internet surveys (Dillman, Smyth, & Christian, 2014) which included one initial contact and 3 reminder contacts by email sent to an agriculture teacher education representative at each institution. As part of a larger study, a section of this survey instrument was based on the

*Competencies for Agriculture Teacher Preparation in SAE* (AAAE, 2013). In this section, Likert-type responses were used to measure the level of instruction occurring for each competency. The scale for these Likert-type items was adapted from the *West Virginia State Community and Technical College General Education Core-Audit Grid* (Scroggins, 2004) and consisted of a 4 point scale (0 = Not at All, 1 = Introduced, 2 = Emphasized, 3 = Reinforced, and 4 = Applied). Findings were analyzed using the IBM SPSS 23 statistical package and descriptive statistics were reported. Early and late responders were compared to control for nonresponse error and no significant difference were found.

### **Findings**

The response rate for this study was 78.95% (n = 75). However, the usable response rate was 71.58% (n = 68) because five institutions indicated that they did not have any current or former students in agriculture teacher education and two institutions indicated that SAE was not part of their curriculum. These usable responses represented 1862 Land Grant institutions (n = 34), Regional/State institutions (n = 28), 1890 Land Grant institutions (n = 3), and Private institutions (n = 3). The highest rated performance statement was “Conduct an SAE supervisory visit and enlist the assistance of others in SAE supervision” ( $M = 2.89$ ,  $Mdn = 4$ ,  $SD = 1.252$ ) from the statements associated with Competency 4. The lowest rated performance statement was “Design a strategy to compare and contrast individual student progress toward selected college and/or career readiness, and prepare a summary report of findings to appropriate entities on a four-year time period” ( $M = 1.58$ ,  $Mdn = 1$ ,  $SD = 1.345$ ) from Competency 6.

### **Conclusions/Recommendations**

Although many of the institutions that participated in this study include all of the competencies for agriculture teacher preparation in SAE within their agriculture teacher education curriculum, there was a broad range in the level of instruction reported by individual universities. Interestingly, statements pertaining to record keeping had a mode of 4 indicating that most agriculture teacher education programs teach record keeping using a real-world or problem-solving method at the applied level. However, the other statements related to record keeping ranged between emphasized and reinforced indicating that there are differences in how record keeping is taught among individual institutions. The large standard deviation for all statements indicate a wide variety among institutions in the level of instruction for each competency within their respective curriculum.

The findings from this study provide a snapshot of one moment-in-time and serve as a starting point to begin a conversation about how SAE should be taught in agricultural teacher education. Previous research has indicated that agriculture teachers value SAE and can talk about it conceptually, however they are having difficulty implementing it in practice (Dyer & Osborne, 1995; Retallick, 2010; Wilson & Moore, 2007). Using applied methods to teach the SAE competencies in the preservice curriculum may reduce the difficulty of implementing SAE programs. SAE is often thought of as the primary experiential learning component of the SBAE model (Baker, Robinson, & Kolb, 2012). As such, SAE instruction in agriculture teacher education should follow Kolb’s (2015) experiential learning process. It is recommended that agriculture teacher educators incorporate experience and reflection through applied problem-solving or real-world experiences within their curriculum to move preservice teachers beyond a conceptual knowledge of the SAE competencies and develop a skillset to help agriculture teachers overcome barriers to the implementation and management of SAE.

### Referecnes

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