

**A Longitudinal Analysis of SAE Engagement Through Record Book Data**

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### Introduction/Theoretical Framework

Supervised agricultural experiences (SAEs) have been widely accepted as a crucial component to agricultural education that teaches students new knowledge and skills (Smith & Rayfield, 2016). Even with all the benefits of having a quality SAE project, there are many reports that SAE is in decline or is lacking. At the conclusion of a 1996 study of New York SAE participation and practices, Steele (1997) reported only 29% of agricultural education students in the state had a SAE. This was down 10% from a previous study of New York SAE participation and practices where 39% of students were reported to have a SAE. Wilson and Moore (2007) found over 50% of teachers surveyed in North Carolina reported 70% or less of their students participated in SAEs. Many other researchers in the field have reported decreasing numbers of students in SAE programs (Dyer & Osborne, 1995; Retallick, 2010; Roberts & Harlin, 2007).

Experiential learning theory is often tied to supervised agricultural experiences within agricultural education. The theory is a combination of efforts by many educational theorists; however, definitions usually include taking part in a meaningful experience, reflecting on the experience, and applying the knowledge gained to a new experience (Dewey, 1938; Kolb, 1984). It is not much of a stretch to link record keeping of supervised agricultural experiences as a critical component of experiential learning. Good record keeping has been noted by several as a crucial component of a quality SAE (Newcomb et al., 2004; Rayfield et al., 2017; Talbert et al., 2007). Not only is record keeping part of the learning experience, it also provides opportunity for reflection. Today in agricultural education, one of the most popular ways for a student to keep records on an SAE is by using the Agricultural Experience Tracker (AET). The purpose of this study was to examine supervised agricultural experience numbers as recorded in the Agricultural Experience Tracker (AET) over a four-year period for chapters across the nation.

### Methods

To accomplish the purpose of this study, summary data sheets were exported from the Agricultural Experience Tracker (AET) into a Microsoft Excel spreadsheet. Data from all chapters in the nation that used AET for all four years from 2015-2018 were compiled with all categories of data needed for this study. A total of ( $N = 1,790$ ) chapters used the AET to keep records for four years. According to the National FFA Organization (2018) there were 8,568 chartered FFA chapters in the nation for the 2016-2017. Using a sample size calculator, it was determined a sample of ( $n = 368$ ) chapters was necessary for a 95% confidence interval. From the 1,790 chapters that used AET from 2015-2018, a stratified random sample was pulled representing a proportional number of chapters from each state. Active AET users are students listed on the AET roster as active and were counted for each chapter. AET has the ability to determine how many student accounts within the chapter have a SAE recorded. This number is reported as the unique students with a recorded SAE project in each chapter. Basic descriptive calculations for chapters such as frequencies, percentages, means, and standard deviations were conducted in Microsoft Excel.

### Findings

Each year from 2015 to 2018 total active AET users across the 368 chapters sampled increased yearly beginning with ( $f = 51,346$ ) in 2015 and ending with ( $f = 56,215$ ) in 2018. The total number of recorded SAEs from the sampled chapters increased yearly from 2015 ( $f = 32,996$ ) to 2017 ( $f = 40,505$ ) with the exception of a small decline in 2018 ( $f = 39,354$ ). The number of unique students with a SAE also increased from 2015 ( $f = 8,088$ ) to 2017 ( $f = 22,697$ ) with a small decline in 2018 ( $f = 22,690$ ). We also see a yearly increase in the percent of users with a recorded SAE from 15.75% in 2015 to 42.35% in 2017 until we get to 2018 where 40.36% of AET users had a recorded SAE. Averages for all chapters in the sample were computed and are presented in Table 1. From 2015 ( $M = 139.53$ ,  $SD = 136.25$ ) to 2018 ( $M = 152.76$ ,  $SD = 158.62$ ) the average number of AET users per chapter increased. The average total number of SAEs per chapter also increased yearly from 2015 ( $M = 89.66$ ,  $SD = 103.37$ ) to 2017 ( $M = 110.07$ ,  $SD = 128.30$ ), but fell slightly in 2018 ( $M = 106.94$ ,  $SD = 129.19$ ).

Table 1

*AET Chapter Averages (N=368)*

	2015		2016		2017		2018	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
AET Users	139.53	136.25	144.62	145.76	145.62	144.77	152.76	158.62
Total SAEs	89.66	103.37	105.68	113.92	110.07	128.30	106.94	129.19
SAEs/AET User	0.82	0.95	0.93	0.93	0.96	1.06	0.90	0.96
Users Rec. SAEs	21.98	22.12	60.26	64.59	62.01	68.75	61.66	71.06
SAEs/User Rec. SAEs	8.20	20.96	1.78	0.64	1.77	0.68	1.75	0.75

### Conclusions/Implications/Recommendations

Based on the findings of this study, several conclusions can be made with implications and recommendations for the profession. The net gain over four years of AET users, number of SAEs recorded, and the number of unique students recording SAEs is a positive sign the use of supervised agricultural experiences in agricultural education may not be in decline across the nation. During 2016, 2017, and 2018 the percentage of AET users with SAEs hovered around 40-42%. This percentage of SAEs is higher than those reported by Steele (1997) of New York students with 29% having SAEs. However, findings of this study were reflective of the findings of Wilson and Moore (2007) of North Carolina SAEs.

From this study a few recommendations for practice emerged. Secondary agricultural education teachers should require all students to have and keep records on supervised agricultural experiences. We know SAEs are a critical experiential learning component of agricultural education and record keeping only helps the experiential learning process through active experience and reflection. Recommendations for further research include continued tracking of SAE numbers across the nation to determine if progress is being made in the area. An investigation of the practices of chapters documenting SAEs well should be conducted so other chapters may learn from the process and help more students document SAEs.

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