

**Retrospective Reflection on School-based Agricultural Education Early Field Experience:
Perceptions of Teacher Aspirants**

Kayla N. Marsh
Oklahoma State University
458 Agricultural Hall
Stillwater, Ok 74078
(405)744-8036
Kayla.marsh@okstate.edu

Dr. Jon W. Ramsey
Oklahoma State University
466 Agricultural Hall
Stillwater, Ok 74078
(405)744-4260
Jon.ramsey@okstate.edu

Introduction/Theoretical Framework

School-based agricultural education (SBAE) teacher preparation programs are charged with providing teacher candidates with content knowledge and instructional delivery skills needed to facilitate the three-component model of agricultural education (Franklin & Molina, 2012). Students who aspire to become school-based agriculture education instructors come to teacher preparation programs with their own vision of the job. A vision that generally reflects their experience in agricultural education and youth development organizations like FFA or 4-H. Pre-service teachers use their experiences to “selectively shape and delimit expectations, perceptions, cognition, and feelings. Consequently, they have a strong tendency to reject ideas that fail to fit their preconceptions, labeling those ideas as unworthy of consideration” (Mezirow, 1991, p. 5). Thus, creating a challenge for teacher educators intent on teaching best practices related to the implementation of the three-component model of agricultural education.

Early field experiences (EFE) in teacher preparation provide teacher candidates the opportunity to take an active role in developing their knowledge, skills, and attitudes regarding teaching and advising prior to the student teaching internship (Retallick, 2005; Retallick & Miller, 2007). In an effort to transform pre-service teachers' frame of reference as related to SBAE, the course implemented structured critical reflection on students' assumptions, observations, and experiences during the semester. Using Mezirow's subject reframing approach, faculty utilized a retrospective pre- and post-reflection exercise to help students explore their frame of reference and assumptions related to SBAE teaching effectiveness (Mezirow, 1991).

Purpose/Research Question

The study aimed to evaluate the impact of agricultural education teacher aspirants' self-perceived change in school-based agricultural education (SBAE) teaching effectiveness.

1. Was there a change in teacher aspirants' now-and-then assessment scores from the effective teaching instrument?
2. What change was found in teacher aspirants' now-and-then assessment scores from the effective teaching instrument based on personal and pre-profession characteristics?

Methods/Procedures

The now-and-then instrument was chosen to address the self-perceived levels of SBAE teaching effectiveness and measure the change in SBAE teaching effectiveness scores making it more accurate than a traditional pre-post assessment (Lam & Bengo, 2003; Little et al., 2020; Rohs & Langone, 1997). The study population was limited to students enrolled in [Course] (N=41), with 26 (63%) completing the instrument in Qualtrics. The instrument used a 4-point Likert-type scale. Data were converted to an SBAE teaching effectiveness score for analysis with a minimal potential score of 26 and a maximum potential score of 104 (McDonald, 1997). The data set met the assumptions of normality and homogeneity of variance. To address research question two, a paired samples t-test was conducted to compare teacher aspirants' now-and-then scores (Field, 2018).

Results/Findings

A paired t-test was used to compare the now-and-then score means ($n=26$) for ETI to determine if there was a self-reported change in SBAE teacher aspirants' effectiveness at the conclusion of the course (Field, 2018). The Then ETI score had a lower overall effectiveness score ($M = 83.96$, $SE = 1.94$, effect size) as compared to the Now ETI score ($M = 93.80$, $SE = 1.66$), resulting in a statistically significant paired t-test ($t(25) = 6.531$, $p > .01$). The Pearson's correlation coefficient represents the relationship and effect size for our pair t-test as large with a positive trend ($r = .672$).

Research question 2 sought to determine which personal and pre-professional characteristics have had an impact on SBAE teacher aspirants' self-reported experiences based on participants' change in ETI scores from the now-and-then assessment. A factorial design ANOVA was used to investigate age ($F(23,3) = .942$, $p = .453$) and intent to teach after graduation ($F(24,2) = 1.107$, $p = .365$) were both found to be statistically insignificant, but years enrolled in agricultural education ($F(23,3) = 5.304$, $p = .017$) which was statistically significantly different than other characteristics. Further analysis using a pairwise comparison of the years of enrollment in agricultural education showed that SBAE teacher aspirants who were previously enrolled in six years of agricultural education courses had a statistically significant difference with a change in mean scores of 28.00.

Conclusions/ Discussion/ Implications

SBAE teacher aspirants all had a positive self-reported change from Then, the start of the course, to Now, the conclusion of the course. A practical and statistical significance were found in then-and-now paired t-test results, agreeing with previous research, which suggests that early field experiences (EFE) and reflections had a positive influence on SBAE teacher aspirants' effective SBAE teaching preparedness (Mezirow, 1991; Retallick, 2005; Retallick & Miller, 2007). The comparison of personal and pre-professional characteristics to self-reported change in then-and-now scores found that years of enrollment in agricultural education were significant. Aligning with existing research that suggests previous "Learning to Do" experiences have framed SBAE career and program expectations (Mezirow, 1991). The early field experiences that are part of the [Course] were effective in providing the career-specific experiences needs to help participants view SBAE teacher effectiveness from a new perspective as represented by participants with six years of agricultural education enrollment self-reporting the greatest increase in ETI scores (Mezirow, 1991; Retallick, 2005; Retallick & Miller, 2007).

Regarding recommendations, SBAE researchers should continue to collect qualitative and quantitative data featuring early field experiences and their impact on the three components of School-based agricultural education. In terms of practice, the introduction of structured reflection in clinical teaching courses is encouraged.

Reference

- Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). SAGE.
- Franklin, E. A. & Molina, Q. F. (2012). Teacher induction programs in agricultural education: description of the role of AAAE higher education teacher preparation programs. *Journal of Agricultural Education*, 53(1), 123-135. <http://doi.org/10.5032/jae.2012.01123>
- Lam, T. & Bengo, P. (2003). A comparison of three retrospective self-reporting methods of measuring change in instructional practice. *American Journal of Evaluation*, 24(1), 65–80. [https://doi.org/10.1016/S1098-2140\(02\)00273-4](https://doi.org/10.1016/S1098-2140(02)00273-4)
- Little, T. D., Chang, R., Gorrall, B. K., Waggenspack, L., Fukuda, E., Allen, P. J., & Noam, G. G. (2020). The retrospective pretest–posttest design redux: On its validity as an alternative to traditional pretest–posttest measurement. *International Journal of Behavioral Development*, 44(2), 175–183. <https://doi.org/10.1177/0165025419877973>
- McDonald, R. P. (1997). Haldane’s lungs: A case study in path analysis. *Multivariate Behavioral Research*, 32(1), 1–38. https://doi.org/10.1207/s15327906mbr3201_1
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass.
- Retallick, M. S. (2005). Early field experiences in agricultural teacher education. Retrospective Theses and Dissertations. 17206. <https://lib.dr.iastate.edu/rtd/17206>
- Retallick, M. S., & Miller, G. (2007). Early field experience documents in agricultural education. *Journal of Agricultural Education*, 48(4), 20–31. <https://doi.org/10.5032/jae.2007.04020>.
- Rohs, F. R. & Langone, C. A. (1997). Increased accuracy in measuring leadership impacts. *Journal of Leadership & Organizational Studies*, 4(1), 150–158. <https://doi.org/10.1177/107179199700400113>