Pathways to Preparedness: The Influence of Certification- Type on Confidence in Livestock SAE Supervision

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Introduction/Need for the Research

The shortage of agricultural educators in the United States has led to an increased reliance on alternatively certified teachers to fill vacancies in school-based agricultural education (SBAE) programs (Eck & Edwards, 2019; Myers et al., 2005). While alternative certification helps to address demands, these teachers often receive less preparation in pedagogy and agricultural content (Bowling & Ball, 2018). One crucial area impacted by this gap is the management and supervision of Supervised Agricultural Experiences (SAEs), especially livestock SAEs. Due to insufficient training, teachers sometimes lack the experience and instructional confidence required for these SAE projects (Retallick, 2010). Research suggests that traditionally certified educators generally report higher self-efficacy in SAE supervision (Duncan & Ricketts, 2008). Given the growing dependence on alternatively certified teachers, it is necessary to examine their self-efficacy in livestock SAE development and management compared to traditionally certified educators. The purpose of this study was to examine and compare the self-efficacy of traditionally and alternatively certified agricultural educators in developing and managing livestock Supervised Agricultural Experiences (SAEs). This study was guided by the following hypotheses: H_0: There is no significant difference between alternatively and traditionally certified teachers in their perceived ability to manage livestock SAEs; H_1: Traditionally certified teachers will have significantly higher perceived confidence in managing livestock SAEs compared to alternatively certified teachers.

Theoretical Framework

This study is grounded in Bandura's (1977) Model of Efficacy Information, which explains how individuals build confidence through experience. Of the four sources of self-efficacy, performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal, this study focuses on performance accomplishments, the most direct factor. Success strengthens confidence, while setbacks may weaken it (Bandura, 1977). Teachers' self-efficacy in livestock SAE management is shaped by their experiences supervising students. Certification pathways influence these experiences, as traditionally certified teachers undergo structured training, whereas alternatively certified teachers enter with different backgrounds.

Methodology

This study utilized a quantitative, descriptive survey design to compare the self-efficacy of traditionally and alternatively certified agricultural educators in livestock SAE development and management. The target population consisted of agricultural science teachers in Texas, with data collected from participants attending the Texas agricultural teacher development conference's livestock SAE workshop (N= 75), which is a limitation of the study. The majority of respondents were female (60.0%). The majority of participants (65.4%) were traditionally certified in Agriculture, Food, and Natural Resources, while 22.7% held alternative certification. The remaining 12.0% were either in the process of obtaining certification, certified in other subjects, or not certified. A self-reported survey was used to assess the teachers' confidence in animal care, record-keeping, and student advising before the workshop. Results of the study were analyzed using means, standard deviations, and an independent t-test. Two items were analyzed using Welch's t-test due to unequal variances. The significance level was set at .05 a priori.

Results/Findings

The findings of this study indicated that both traditionally and alternatively certified teachers reported high confidence in their ability to support livestock-related SAEs, with mean ratings consistently above 4.0 on a 5-point scale (traditional certification overall *M*= 4.42, SD= 0.91; alternative certification overall *M*= 4.44, SD=0.82). Independent t-tests revealed no statistically significant differences ($p > .05$) between certification pathways for most competencies. This suggests comparable levels of perceived competence. However, alternative certification teachers reported slightly higher confidence in motivating students to engage in SAEs ($M = 4.64$, $SD = .66$) compared to traditionally certified educators ($M = 4.32$, $SD = .92$), though this difference was not statistically significant ($p = .07$). Additionally, Welch's t-test identified two significant differences: alternatively certified teachers were more confident in abiding by state/federal laws ($p = .05$) and meeting deadlines for validation and entries ($p = .03$). The null hypothesis (H_0) was not rejected for most competencies, indicating no significant difference in perceived confidence between traditionally and alternatively certified teachers in livestock SAE management. However, it was rejected for regulatory compliance ($p = .05$) and meeting deadlines for validation and entries ($p = .03$), whereas alternatively certified teachers reported significantly higher confidence.

Conclusions/Implications/Recommendation/Impact

The results of this study indicate that both traditionally and alternatively certified agricultural educators feel confident in their ability to support livestock SAEs, with no significant differences in overall self-efficacy between certification pathways. While traditionally certified teachers undergo structured preparation (Bowling & Ball, 2018), alternatively certified teachers reported slightly higher confidence in motivating students to engage in SAEs, regulatory compliance, and administrative responsibilities. These findings challenge the assumption that alternative certification inherently results in lower self-efficacy in SAE supervision (Duncan & Ricketts, 2008), suggesting that these educators may develop confidence through prior professional experiences. This aligns with Bandura's (1977) Model of Efficacy Information as it emphasizes performance accomplishments as a primary source of self-efficacy. Alternatively certified teachers may have built confidence through prior industry and administrative experiences.

Given the similar levels of confidence reported by both groups, professional development programs should focus on strengthening hands-on experiences for all teachers, particularly in areas of SAE management that require specialized technical knowledge. Training programs for alternatively certified teachers should ensure that they receive additional pedagogical preparation for incorporating SAE instruction into their curriculum. Future research should explore the specific experiences that contribute to alternatively certified teachers' confidence in administrative tasks and whether their perceived strengths translate into effective student SAE outcomes. Expanding the sample size and incorporating qualitative data could provide deeper insight into how certification pathways shape SAE supervision experiences.

References

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bowling, A. M., & Ball, A. L. (2018). Alternative certification: A solution or an alternative problem? *Journal of Agricultural Education, 59*(2), 109-122. https://doi.org/10.5032/jae.2018.02109

Duncan, D. W., & Ricketts, J. C. (2008). Total program efficacy: a comparison of traditionally and alternatively certified agriculture teachers. *Journal of Agricultural Education*, *49*(4), 38–46. https://doi.org/10.5032/jae.2008.04038

Eck, C. J., & Edwards, M. C. (2019). Teacher shortage in school-based agricultural education (SBAE): A historical review. *Journal of Agricultural Education, 60*(4), 223-239. https://doi.org/10.5032/jae.2019.04223

Myers, B. E., Dyer, J. E., & Washburn, S. G. (2005). Problems facing beginning agriculture teachers. *Journal of Agricultural Education, 46*(3), 47–55. https://doi.org/10.5032/jae.2005.03047

Retallick, M. S. (2010). Implementation of supervised agricultural experience programs: The agriculture teachers' perspective. *Journal of Agricultural Education, 51*(4), 59-70. https://doi.org/10.5032/jae.2010.04059