

Agriculture Teachers' Intentions to Use Social Science Research Concepts

Introduction

School-based agricultural education (SBAE) integrates classroom instruction, leadership development through FFA, and experiential learning via supervised agricultural experiences, positioning teachers to address increasingly complex educational and societal challenges (Roberts & Ball, 2009; Torres et al., 2010). As the field calls for more inquiry-driven, research-informed, and culturally responsive practices, teachers are encouraged to integrate social science research concepts that support critical thinking, program evaluation, and understanding student experiences (Leman et al., 2024; Ray et al., 2024). However, adoption of these concepts in SBAE remains limited. Graduate-level coursework represents a primary mechanism for introducing teachers to social science research concepts, yet limited empirical evidence exists regarding how such coursework influences teachers' beliefs and intentions to apply these concepts in practice. Understanding the belief structures that shape intention is essential for designing professional learning experiences that translate into instructional change.

The purpose of this study was to examine SBAE teachers' behavioral, normative, and control beliefs, as well as their intentions regarding the use of social science research concepts after completing a graduate-level course. This was examined via two research objectives:

1. Describe teachers' behavioral, normative, and control beliefs and their intentions to implement social science research concepts.
2. Determine the extent to which these belief constructs predicted teachers' intentions to use social science research concepts in SBAE programs.

Theoretical Framework

This study was guided by the Theory of Planned Behavior (TPB), which posits that intention to engage in a behavior is predicted by behavioral beliefs (attitudes toward the behavior), normative beliefs (perceived social expectations), and control beliefs (perceived behavioral control) (Ajzen, 1991). TPB has been widely used to explain instructional and professional decision-making, particularly in contexts where individuals operate with varying degrees of autonomy and constraint (Ajzen, 2006). In this study, behavioral beliefs reflected SBAE teachers' attitudes toward implementing social science research concepts, normative beliefs reflected perceived expectations from stakeholders, and control beliefs reflected perceived capacity and feasibility of implementation.

Methods

This quantitative study was conducted as part of a larger investigation examining SBAE teachers' beliefs and intentions related to the use of social science research concepts following graduate coursework. Participants were SBAE teachers enrolled in a graduate-level Foundations in Agricultural Education Research course ($n = 10$).

After course completion, participants completed a survey grounded in the TPB measuring behavioral, normative, and control beliefs, as well as intentions to implement social science research concepts. Behavioral beliefs were measured using seven-point semantic differential scales, while normative beliefs, control beliefs, and intentions were measured using five-point Likert-type scales. Data were analyzed using descriptive statistics and multiple linear regression to examine the extent to which belief constructs predicted teachers' intentions. All classical assumptions for regression were evaluated and met, including linearity, homoscedasticity,

normality of residuals, and independence of errors (Field, 2024). Multicollinearity diagnostics indicated acceptable variance inflation factors (O'Brien, 2007) and tolerance levels (Menard, 2007), and no autocorrelation was detected. Given the small sample size, results were interpreted cautiously with attention to model stability (Field, 2024).

Findings

Addressing the first research objective, teachers reported favorable behavioral beliefs toward social science research concepts. On a seven-point scale, participants rated them as beneficial ($M = 5.80$, $SD = 1.03$), good ($M = 5.80$, $SD = 1.03$), enjoyable ($M = 5.30$, $SD = 1.16$), important ($M = 5.10$, $SD = 1.20$), and necessary ($M = 4.70$, $SD = 1.06$). However, teachers rated the concepts as less essential ($M = 3.10$, $SD = 1.29$) and less valuable ($M = 2.70$, $SD = 1.42$).

Normative beliefs were low to moderate ($M = 2.90$, $SD = 0.99$), with teachers perceiving the greatest encouragement from colleagues ($M = 3.60$, $SD = 0.84$) and administrators ($M = 3.60$, $SD = 0.84$). Perceived expectations from students ($M = 2.40$, $SD = 1.08$) and industry stakeholders ($M = 2.70$, $SD = 0.68$) were lower.

Control beliefs were relatively strong. Teachers felt they had control over the decision to include the concepts ($M = 4.20$, $SD = 0.63$), that inclusion was primarily up to them ($M = 4.10$, $SD = 0.88$), and that implementation was possible ($M = 4.10$, $SD = 0.74$). Time was perceived as the greatest constraint ($M = 3.60$, $SD = 0.70$).

Concerning the second research objective, the regression model was statistically significant, $F(3, 6) = 11.29$, $p = .01$, explaining 85% of the variance in teachers' intentions ($R^2 = .85$). Behavioral beliefs were the strongest predictor of intention ($\beta = .55$, $p < .05$), while control beliefs demonstrated a moderate, non-significant contribution ($\beta = .48$). Normative beliefs were not a significant predictor once other belief types were considered.

Conclusions, Implications, and Recommendations

SBAE teachers held generally favorable attitudes toward social science research concepts after completing a graduate-level course; however, these concepts were viewed as less essential and less valuable relative to other instructional priorities. This distinction suggests that positive attitudes alone may be insufficient to motivate implementation, as perceived value and priority are central components of behavioral beliefs influencing intention (Ajzen, 1991).

Normative beliefs were comparatively weak, indicating limited external pressure to implement, and perceived support from colleagues and administrators did not significantly predict intention. This finding aligns with SBAE research suggesting instructional adoption is driven more by perceived usefulness and alignment with teaching goals than by stakeholder expectations (Thiel & Marx, 2021). Teachers' control beliefs were relatively strong, reflecting autonomy and capability, though time constraints remained a barrier, consistent with prior research (McKim et al., 2018). Behavioral beliefs emerged as the strongest predictor of intention, reinforcing the TPB and research indicating teachers are more likely to adopt new practices when viewed as relevant, useful, and aligned with professional identity (Ajzen, 1991; Pajares, 1992).

Graduate coursework and professional learning should therefore emphasize the value and essentialness of social science research concepts within SBAE, provide clear examples of classroom application, and support integration within existing program structures rather than positioning research as an additional responsibility. Future research should examine whether teachers' intentions translate into sustained practice and explore strategies that support long-term implementation of research-informed approaches in SBAE.

References

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