

Agricultural Educators' Adoption of Inquiry-Based Learning: The Effect of Beliefs about Education, Self, and Context

Introduction:

- Priority area four of the National Research Agenda: "Enhanced understanding of learning and teaching environments could result in the development of present-day best practices and research-based pedagogies and technologies that not only meet the goal of agricultural education but also society's greatest challenges" (Roberts, Harder, & Brashears, 2016, p.39).
- Need for research to determine hindrances to the adoption of inquiry-based learning (IBL) in agricultural classrooms.
- Understanding how beliefs about education, self, and context relate to the adoption of IBL could lead to structuring professional development and pre-service teacher courses to improve the use of IBL.

Objective

- ★ Determine how agricultural educators' beliefs about agricultural education, self, and context influence their adoption of IBL.

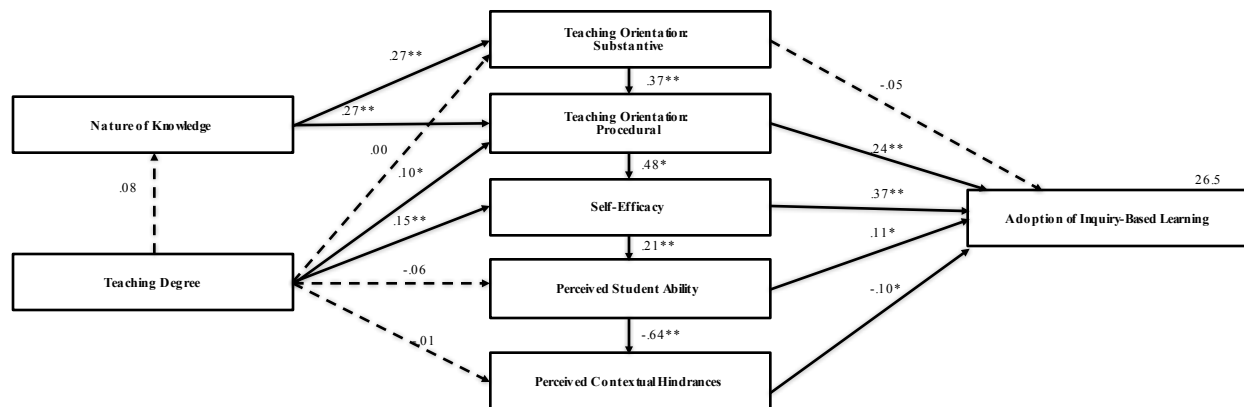
Methods

- The instrument developed by Voet and De Wever (2018) was adapted for this study.
- Data were collected from members of the NAAE using a five-contact e-mail strategy, as suggested by Dillman, Smyth, and Christian (2014). Non-response errors were handled according to the method recommended by Lindner, Murphy, and Briers (2001) with no significant differences found.
- Likert scales were used to examine how teachers' beliefs influence the adoption of IBL.
- Pearson's product moment correlations were used to derive coefficients to describe the relationship between the adoption of IBL, nature of knowledge, orientation to teach substantive knowledge, orientation to teach procedural knowledge, self-efficacy, perceived student ability, and perceived contextual hindrances.
- SPSS AMOS 24 was used to estimate a structural equation model (SEM). The model contained 44 distinct sample moments, 28 distinct parameters for estimation creating 16 degrees of freedom which met the requirements for SEM (Bowen & Guo, 2012; Ullman, 2013).
- Following the cutoff criteria by Hu and Bentler (1999), the results of the analysis indicate a good fit: CFI = .97. The root mean square error of approximation indicated a reasonable fit (RMSEA = .07, CI [.04, .09]).

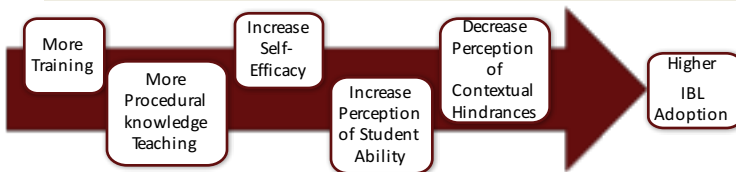
Theoretical Framework:

- Voet and DeWever (2018) developed a framework of beliefs concerning the adoption of IBL by history teachers.
- This framework posits that beliefs about education, self, and context impact the adoption of IBL by history teachers.

Results



Discussion and Recommendations:



- Two factors were found to be predictors of agricultural educators' IBL decision-making: the value of teaching procedural knowledge and their self-perception of competence in implementing IBL activities.
- Self-efficacy and the inclination to teach procedural knowledge were also found to be connected. Adding inquiry into the agriculture classroom could benefit students.
- Professional development for agricultural educators' needs to be developed focusing on these two areas.

Baldock, K., Murphrey, T. P., & Briers, G. (2021). Agricultural educators' adoption of inquiry-based learning: The effect of beliefs about education, self, and context. *Journal of Agricultural Education*, 62(1), 1-15. <https://doi.org/10.32000/2021.62.1>

Rayfield, J., & Frazee, S. (2018). The effect of beliefs about education, self, and context on the adoption of inquiry-based learning by agricultural educators. *Journal of Agricultural Education*, 59(1), 1-15. <https://doi.org/10.32000/2018.59.1>