

Agricultural Educators' (Broadly Speaking) Use of Reflection for Development

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Introduction

Reflection is a process of internal evaluation of experiences to assist in meaning making of a variety of situations including instruction and human-to-human interactions (Dewey, 1910). With teachers, reflection is used to identify gaps in their teaching and how they can better themselves following a teaching experience. The action of reflecting was initially described by John Dewey (1910) when he posited that the act of reflection can allow an individual to look at oneself and identify gaps in their knowledge and/or inability to perform skills as they wanted. Teachers who can understand how to use reflection should consequently be able to self-identify their instructional strengths and their weaknesses (Calderhead, 1989). We understand in SBAE teacher preparation and other teacher preparation programs, that reflection skills are integral to teacher development (Meder et al. 2018). However, we have less perspective on the reflection practices and development of those skills in other educators in agriculture, more broadly. Therefore, this study aimed to describe the reflective practices utilized of formal and non-formal Agricultural Educators in the post-secondary and Extension environments.

Conceptual Framework

This study is grounded in two complementary models of reflection to analyze how agricultural educators engage in reflection and professional growth. To analyze the lived experiences of our participants, we applied Schon's (1983) concepts of reflection-in-action and reflection-on-action. To further breakdown the reflection-on-action data, we incorporated Kolb's Experiential Learning Model, which includes concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 2015). The combined Schon and Kolb models act as a structure to interpret the lived experiences of agricultural educators to understand how skill gaps can be filled, how they respond to learner feedback, and to engage in self-development.

Methods

We conducted a two-part qualitative study in which participants started by journaling over a week whenever they identify the following: a skill gap, a strategy they use to fill a skill gap, a time when they self-critique, and something that prompts them to reflect whether related to a teaching experience or their work in general. Following that week, the journal was shared with the research team and a 30-minute semi-structured interview was scheduled over Zoom with the primary researcher to discuss how participants reflect and what prompts them to reflect on themselves. Two researchers independently completed initial coding of interview transcriptions, reflective journals, and field notes using the constant comparative method (Creswell, 2007). Initial codes were reconciled between researchers and then grouped into categories, and finally into emergent themes. Finally, themes were distilled to form the final themes and recoded accordingly. In reporting of data, identifiers beyond gender were removed from the data set in accordance with IRB requirements due to the nature of the questions being asked and the sample size. Trustworthiness was established using recommendations from Creswell (2007) and Lincoln and Guba (1985) through triangulation of data sources. Triangulation was AI-assisted using ChatGPT (OpenAI, 2025). Clear overlap and confirmation were produced from the large language model and served as an additional reflexive lens to broaden interpretation and enhance transparency. Recent studies corroborate this approach and

describe a strong alignment between human and AI analysis for qualitative research (Arlinghaus et al., 2024; Xiao et al., 2023; Yan et al., 2024).

Findings

Throughout each interview, negative experiences led to the participants entering a state of reflection. This state would be an impetus to start changing for some while others would identify what led to their negative experience and then not go about changing for the better. The feeling “I never want to feel this again”, “hitting a wall,” and negative student responses forced reflection upon the practitioners. When asked what leads you to enter a state of reflection, every participant shared they will enter this reflective state because of something negative. Further, they would share they are their biggest critic and how they are regularly critiquing themselves, as their “own worst critic.”

The primary pain point shared amongst the participants was something not going the way they wanted it to. When Jane was asked how she engages in reflection and self-critique she shared, “Probably when I have a problem that... or, you know, kind of hitting a little wall or something that's not going well, that would be the biggest thing.” Patricia would feel pain points when she would feel stuck or presented with a problem. Jeff shared how audience members’ questions at a presentation were the trigger that made him reflect on why he overlooked an entire piece of content in his presentation.

Students and audience reactions and observing learner behaviors were common triggers for reflective thought, but primarily when they were perceived as negative. The practice of reflecting-in-action to analyze behaviors while teaching was described in the previous theme, however it was never shared that reflection is brought on when engagement is being expressed or the students share positive feedback for personal affirmation as opposed to critique. All of the participants shared the ability to reflect when prompted by student expressions, by peers, and by negative experiences. A couple of the participants shared how they would regularly put themselves into a state of reflection intentionally without an external prompt. Most of the participants did not share an ability to do this metacognitive reflection.

Conclusions

Across all participants, negative experiences turned out to serve as a trigger to enter a reflective state. The negative experiences varied from student disengagement, a lack of questions, perceived failures, a lack of adequate knowledge, and forgotten material. This was in line with Mezirow’s concept of disorienting dilemmas (Mezirow, 1997). Perhaps the most consequential finding is the uneven ability to enter into a metacognitive reflective state. While all of the participants described a form of reflection-in-action and reflection-on-action, only a couple of the participants experienced reflection because they deliberately chose to. Most of the participants only entered a reflective state because of external or negatively associated stimuli. This aligns with Flavell’s distinction between metacognitive knowledge and metacognitive regulation and having the ability to monitor one’s own thinking (Flavell, 1981). We recommend programming to build intentional reflective practices with educators of all types through peer groups and direct instruction.

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