

**Thinking Beyond the Fence Line: How Undergraduate Students Reframe Global
Agricultural Issues Over Time**

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Introduction

Global agricultural issues courses aim to move students beyond locally bounded understandings of agriculture toward engagement with complex global food systems shaped by culture, power, and policy (Foster et al., 2024). Achieving this shift requires more than exposure to content; it depends on students' capacity to reflect critically on unfamiliar contexts and to interrogate prior assumptions. Reflection is therefore a central pedagogical tool in global learning environments, particularly in agriculture, where students often enter with experience grounded in local or national systems (Donohoe et al., 2022; Taylor, 2023). Despite the widespread use of reflective assignments, fewer studies examine how students' perspectives evolve across a semester rather than at a single endpoint. This study addresses that gap through a longitudinal thematic analysis of student reflections collected at the beginning, middle, and end of an undergraduate global agricultural issues course. Treating reflection as a developmental process rather than an outcome snapshot, the study examines how students' conceptualizations of global agriculture changed over time, what dimensions became more salient, and which pedagogical features students themselves identified as influential.

Literature Review

Transformative and experiential learning theories emphasize reflection as a mechanism through which learners revise assumptions and construct new frames of reference (Holdo, 2023; Soilis et al., 2024). Transformative learning (Mezirow, 2018) highlights critical reflection and dialogue as pathways to perspective change when students encounter disorienting information. In global and international education, reflective practice has been linked to systems thinking, empathy development, and ethical reasoning, especially when learners engage with issues of inequality and power (Klees, 2008). In agricultural education, reflection is commonly embedded in experiential, service-learning, and global programs (Bowling et al., 2022). However, much of the literature relies on post-course reflections or cross-sectional designs that obscure learning trajectories. Longitudinal qualitative approaches remain limited despite their ability to document how students move from initial perceptions to more integrated understandings. This study contributes to the literature by analyzing reflection across multiple timepoints to capture developmental change.

Methods

A qualitative longitudinal document analysis (Lewis, 2007) was conducted using student-written reflection essays collected at three time points: the beginning of the semester (BOS), the middle of the semester (MOS), and the end of the semester (EOS). Reflections were part of regular course assignments and prompted students to articulate perceptions, learning, and reactions to course content. Three compiled documents containing reflections from each time point served as the data source. Thematic analysis followed an inductive, iterative process (Morgan & Nica, 2020). Reflections within each time point were read in full for familiarization. Open coding was then conducted separately for BOS, MOS, and EOS texts to capture key ideas, explanatory frames, emotional responses, and perceived solutions. Codes were grouped into higher-order themes within each timepoint and then compared across timepoints to identify

trajectories of expansion and integration. Findings are reported as recurring thematic patterns supported by representative excerpts rather than quantified claims.

Results/Discussion

Analysis revealed six interrelated themes that reflect a clear developmental trajectory in students' understanding of global agricultural issues throughout the semester. Early reflections were grounded in localized and personal agricultural experiences, with global agriculture interpreted through familiar contexts such as weather variability and livestock production. Mid-semester reflections demonstrated a shift toward systems thinking, as students increasingly framed agriculture as a global system shaped by economic, political, and social forces. By the end of the semester, students articulated more holistic perspectives, explicitly linking local agricultural outcomes to broader global structures. The human dimensions of agriculture became more salient over time, particularly social inequities affecting women and youth in their access to land, finance, education, and technology. These inequities were initially framed as structural and cultural barriers and later expanded to include moral and ethical reasoning, emphasizing empathy and social responsibility.

Governance and power also emerged as central explanatory frames, with students attributing food insecurity to political manipulation, corruption, trade dynamics, and institutional failures rather than production constraints alone. Technological perspectives evolved from early optimism to more nuanced evaluations acknowledging unequal access, adoption barriers, and potential labor displacement, alongside recognition of innovation in developing contexts. Students' sense of agency also progressed, moving from curiosity and aspiration to articulated intentions for advocacy, career engagement, and knowledge sharing. Finally, students consistently identified discussion-based learning, guest speakers, and applied projects as influential pedagogical drivers, while offering constructive critiques related to course organization, assessment timing, and experiential learning opportunities.

The findings reveal a coherent learning trajectory marked by expansion, integration, and ethical positioning. Students progressed from locally bounded views to global systems thinking that incorporated social equity, governance, and technological complexity. This progression reflects transformative learning theory, particularly the role of reflection in revising assumptions and constructing new meanings. The longitudinal design indicates that these shifts were cumulative rather than immediate. Mid-semester reflections functioned as a transition point, prompting students to interrogate structural causes and human dimensions and enabling deeper integration by the semester's end. Students' recognition of pedagogical drivers further highlights the role of instructional design in supporting transformative learning.

Conclusions/Implications

For global agricultural education, the findings suggest that repeated, scaffolded reflection supports systems thinking, empathy, and student agency. Discussion-centered pedagogy, guest engagement, and applied learning appear particularly effective. Clear organization and transparency further support engagement. For scholarship, this study demonstrates the value of longitudinal qualitative analysis in capturing learning processes often missed by single-timepoint assessments. Future research could integrate reflections with interviews or observations to further examine how pedagogical design shapes transformative learning outcomes.

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