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## Awakening Transformative Learning: A Comparison of the Dissonance Experienced by Agriculture Majors During Study Abroad Courses to Costa Rica and Thailand

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## Abstract

Students who have participated in study abroad courses exhibit an improved capacity for citizenship, emotional growth, and global competence. However, achieving such requires that study abroad courses be designed to allow students to question their underlying beliefs and values – a concept called dissonance. When individuals reflect on dissonance, it has been reported to spur a process in which their previously held perspectives are transformed. As such, this investigation sought to compare the dissonance experienced by agriculture majors (N =21) at Louisiana State University during study abroad courses to Costa Rica and Thailand. We bounded cases by academic college, degree level, and year. However, they were distinct regarding context and duration. As a result, two forms of dissonance were consistent across cases: intellectual and moral. However, within cases, we also distilled context-specific dissonance that students grappled with that helped them reconsider their previously held worldviews. Our findings demonstrated that when students processed dissonance productively, their global knowledge and perspectives were transformed. We also concluded that although shared forms of dissonance existed, it is imperative for faculty to design students' experiences abroad purposefully to nurture students' perspective changes in transformative ways.

## Keywords

Costa Rica; dissonance; study abroad; Thailand; university agriculture students

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### **Abstract**

*Students who have participated in study abroad courses exhibit an improved capacity for citizenship, emotional growth, and global competence. However, achieving such requires that study abroad courses be designed to allow students to question their underlying beliefs and values – a concept called dissonance. When individuals reflect on dissonance, it has been reported to spur a process in which their previously held perspectives are transformed. As such, this investigation sought to compare the dissonance experienced by agriculture majors (N =21) at Louisiana State University during study abroad courses to Costa Rica and Thailand. We bounded cases by academic college, degree level, and year. However, they were distinct regarding context and duration. As a result, two forms of dissonance were consistent across cases: intellectual and moral. However, within cases, we also distilled context-specific dissonance that students grappled with that helped them reconsider their previously held worldviews. Our findings demonstrated that when students processed dissonance productively, their global knowledge and perspectives were transformed. We also concluded that although shared forms of dissonance existed, it is imperative for faculty to design students' experiences abroad purposefully to nurture students' perspective changes in transformative ways.*

**Keywords:** Costa Rica; dissonance; study abroad; Thailand; university agriculture students

### **Introduction and Literature Review**

Over the past few decades, globalization has affected nearly every aspect of society (Longo & Saltmarsh, 2011). For U.S. higher education institutions, the cultural, economic, political, and social interconnectedness of the world, as well as improved opportunities for collaboration and the sharing of knowledge, have illuminated the need to emphasize global perspectives in the undergraduate curriculum (Blake-Campbell, 2014; Hartman & Kiely, 2014; McCabe, 2001; Ogden, 2007). However, Bok (2006) argued, “it is a safe bet that a majority of undergraduate students complete their four years with very little preparation either as citizens or as professionals for the international challenges that are likely to confront them” (p. 233). Previous evidence has demonstrated that graduates who have been exposed to global perspectives in their undergraduate experience were better prepared to solve cross-cultural issues and problems (Myers, 2010). One approach that U.S. higher education institutions have used to achieve such outcomes is through international education experiences, such as study abroad courses (Boli & Petrova, 2008; McCabe, 2001; Ogden, 2007; Reilly & Senders, 2009).

Study abroad courses are structured academic excursions in which students: (a) participate in well-planned curricular activities, (b) partake in cross-cultural exchanges through direct interaction with others, and (c) engage in a critical reflection on their experiences to obtain a better understanding of global connections and an appreciation for the customs and traditions of their host country (Longo & Saltmarsh, 2011). Over time, study abroad courses have diversified in form and function. For example, they can range from short-term, one week or less, to more involved experiences that span an entire academic year (Strange & Gibson, 2017). Currently, the percentage of undergraduate students who have participated in an international educational experience is limited; however, this number is expanding rapidly (Institute of International Education (IIE, 2019). For example, in the 2017-2018 academic year, 341,751 U.S. undergraduate students engaged in an international educational experience, a 2.7% increase over the previous academic year, but a figure that only accounted for about 2% of all undergraduate students in U.S. higher education (IIE, 2019). As such, additional evidence is needed to help substantiate study abroad courses as an essential element of students’ undergraduate experience, especially in the context of agriculture.

To this point, previous evidence has demonstrated that study abroad courses can yield critical outcomes for students. In particular, students who have participated in such have been shown to have improved capacity for citizenship, emotional growth, and global competence; further, they report a more established sense of career awareness and personal identity (Reilly & Senders, 2009; Roberts & Edwards, 2015, 2016; Vanden Berg & Schwander, 2019; Schlarb, 2019). Therefore, study abroad courses have been advanced as a vital component of students’ personal and professional development during their academic careers (Blake-Campbell, 2014; Seifen, Rodriguez, & Johnson, 2019). For example, Briers, Shinn, and Nguyn (2010) reported that one of the primary motivators for agricultural undergraduate students to study abroad was that they perceived the experience could help advance their career. In response to such findings, much of the recent literature has focused on understanding other factors that either encourage or avert agriculture students from enrolling in study abroad courses (Bunch, Blackburn, Danjean, Stair, & Blanchard, 2015; Danjean, Bunch, & Blackburn, 2015; Estes, Hansen, & Edgar, 2016; Raczkoski, Robinson, Edwards, & Baker, 2018; Roberts, Rampold, Ramage, & Komunjeru, in press). As a result, we now understand that undergraduate agriculture students are primarily intrinsically motivated to engage in such activities; however, their perceived beliefs about the cost and value of study abroad courses also affect their decision to enroll (Raczkoski et al.,

2018). Because many undergraduate students do not engage in global learning experiences until their junior or senior year (IIE, 2019), it is critical for colleges of agriculture to communicate the opportunities and benefits associated with such early in students' undergraduate degree programs. Further, faculty should purposefully design courses to ensure that students' learning experiences abroad support their desired outcomes (Estes et al., 2016).

To achieve this, university faculty should become more familiar with how to design and deliver study abroad experiences in ways that effectively align with students' needs and expectations (Hartman & Kiely, 2014). Perhaps the most commonly used instructional practice to ensure that such outcomes are achieved is through embedding *critical reflection* in the study abroad experience (Whitney & Clayton, 2011). Critical reflection refers to the practice of having students deeply ponder their experiences and question how their views of the world should grow and expand in the future (Roberts, Stair, & Granberry, in press). The use of critical reflection has been shown to catalyze essential processes, particularly in the affective domain of learning (Ash & Clayton, 2009a). As a result, reflection often serves as a primary mechanism by which faculty can effectively facilitate students' shifts in understanding and also help them to productively construct meaning from their experiences abroad (Ash & Clayton, 2009b).

In a global context, reflection also helps open up opportunities for faculty to address potentially problematic outcomes that emerge as a result of students' interactions in their host country such as misinterpretations of the actions of others, the reinforcements of negative stereotypes, and ill-informed judgments (Whitney & Clayton, 2011). As a result of these new understandings, students may also begin to grapple with their experiences and begin to reconsider previously held perspectives and worldviews (Kiely, 2004, 2005). To achieve this, however, requires that reflective sessions in study abroad courses be designed intentionally to allow students to question their underlying beliefs and values – a concept Mezirow (1991) called *dissonance*. Mezirow (1991) explained that when individuals reflect on dissonance, it could spur a powerful learning process, called transformational learning (TL), by which individuals' previously held worldviews are transformed. O'Malley, Roberts, Stair, and Blackburn (2019) reported that university students experienced four forms of dissonance during a study abroad course to Nicaragua: (1) environmental, (2) sociocultural, (3) personal, and (4) intellectual. And, as a consequence of such dissonance, they experienced a transformation of their perspectives (O'Malley et al., 2019). However, a need existed to understand whether agriculture students in study abroad courses in other contexts and at varying durations of time experienced similar forms of dissonance.

### **Theoretical Framework**

We grounded this investigation in Mezirow's (1978, 1991, 2000) transformational learning theory (TLT). TLT lies at the intersection of adult learning theory and seeks to explain how individuals make meaning of their experiences and how such can lead a perspective transformation on an issue or topic (Mezirow, 1991). Through the lens of TLT, this process unfolds after an individual is introduced to alternative beliefs and perspectives that conflict with their previously held worldviews, a phenomenon described by Mezirow (2000) as a disorienting dilemma or dissonance. Mezirow (1991) theorized that after individuals experience *dissonance* and assign meaning to this experience, it has the potential to mature an individual's previously held beliefs and values (Mezirow, 1991, 2000). Because of its emphasis on individual change, TLT has served as a critical tenet of study abroad programming over the past decade (Bell,

Gibson, Tarrant, Perry, & Stoner, 2016; Kiely, 2004, 2005; Strange & Gibson, 2017; Vanden Berg & Schwander, 2019).

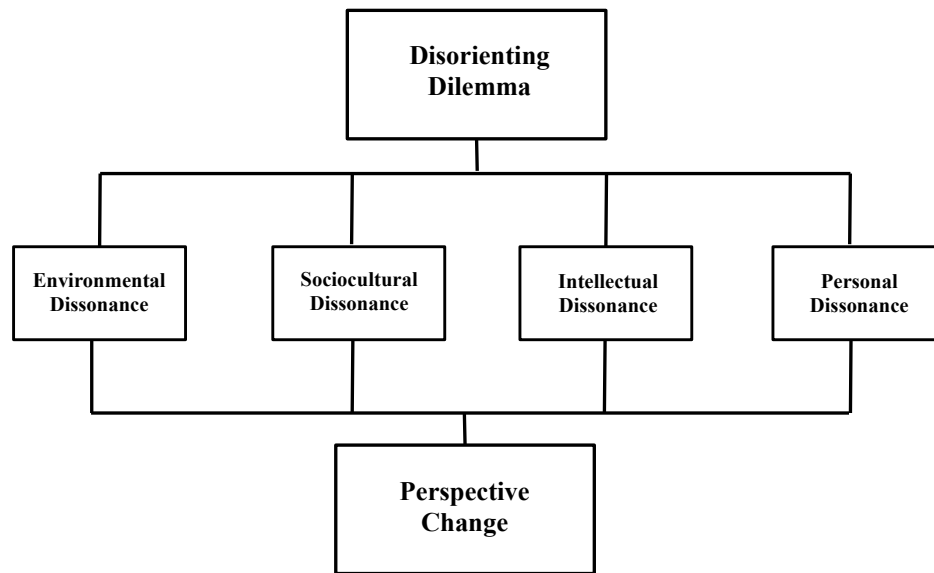
Despite this, however, the theory has been critiqued by scholars and practitioners who argue that transformative outcomes vary significantly due to context, duration, and other programmatic features (Bell et al., 2016; Strange & Gibson, 2017). As an illustration, Perry, Stoner, and Tarrant (2012) advanced the notion that short-term study abroad courses, generally lasting two weeks or less, can serve as a vehicle to elicit transformative shifts in undergraduate students' perspectives. However, a quantitative analysis of similar factors reported that short-term study abroad courses only demonstrated negligible outcomes (Dwyer & Peters, 2004). As a result, Dwyer and Peters (2004) argued that more long-term experiences abroad are needed to transform students' perspectives effectively. In response to such conflicts, researchers have noted the importance of purposefully designing study abroad courses in ways that allow students to experience dissonance and assign meaning to such, regardless of programmatic features, through critical reflection (Strange & Gibson, 2017).

On this point, Kiely (2004) theorized the dissonance students grapple with during study abroad courses influences the transformation they undergo. For example, as they observe differences regarding their host country's customs, dress, language, and other traditions, students begin to consider how this knowledge stands in contrast to their existing frame of reference (Kiely, 2004). Further, as they engage with more profound dissonance, such as economic disparity, gender bias, human welfare, illness, and racial issues, it often sparks a sense of disequilibrium, and students begin to reexamine their existing perspectives and adopt a more mature view of the world (Kiely, 2005). Therefore, students' experiences abroad become a crucial turning point in which their perspectives are influenced by the dissonance they encounter (Kiely, 2004). For example, O'Malley et al. (2019) theorized that the four forms of dissonance – environmental, sociocultural, personal, and intellectual – students experienced during a study abroad course to Nicaragua shaped the perspective changes they underwent as they developed a more mature understanding of “global issues and problems in agriculture” (p. 199; see Figure 1). Nevertheless, more knowledge is needed to describe how contextual and other programmatic features influence the forms of dissonance that initiate transformational learning. As a consequence, we required agriculture majors to process their experiences during study abroad courses to Costa Rica and Thailand through reflective exercises.

### **Background and Setting**

In this investigation, we analyzed study abroad courses led by faculty in the College of Agriculture at Louisiana State University to Costa Rica and Thailand in 2019. The courses had similar focuses; for example, each featured opportunities to learn about agribusiness, production practices, higher education, as well as discussions and experiences that highlighted the role of policy on agriculture. Further, each study abroad course allowed students to engage in unique cultural excursions while also interacting with locals who exposed them to each country's unique customs and traditions. However, the courses also differed in two key aspects: context and duration. Nevertheless, students had similar assignments and expectations.

During the week-long study abroad course to Costa Rica, students visited several agritourism industries, including dairy, coffee, wildlife sanctuaries, and national parks. Students also toured E.A.R.T.H University, a private, non-profit university that focuses on agricultural sciences, sustainability, and experiential learning. It should also be noted that Costa Rica is more developed than other countries in Central America, such as Guatemala and Nicaragua. Therefore,



*Figure 1.* A visual representation of the influence of dissonance on the transformation of students' perspectives during a study abroad course to Nicaragua. Reprinted from "The Forms of Dissonance Experienced by U.S. University Agriculture Students During a Study Abroad to Nicaragua" by A. M. O'Malley, R. Roberts, K. S. Stiar, and J. J. Blackburn, 2019, *Journal of Agricultural Education*, 60(3), 191-205.

students had the opportunity to observe more contemporary approaches to agriculture than would be experienced in other destinations in Central America. The second study abroad course under investigation occurred in Thailand over four weeks. During this course, students visited multiple agrotourism and Royal Project sites that featured research and innovation in agricultural production. Students also had in-depth learning experiences at Chaing Mai University by which they were exposed to innovative production practices as well as Extension services that targeted Northern Thailand's Hill Tribe farmers, among other stakeholder groups.

In both study abroad courses, students were required to reflect daily using the smartphone application ReCap®. Using this application, students captured their daily thoughts and experiences regarding (a) what they learned, (b) what was different from their experiences in the U.S., (c) what was similar, and (d) if anything caused them to feel discomfort. Students in both courses were also required to submit a portfolio and create a presentation in which they shared their key experiences and the most impactful moments. Therefore, the design of the courses under investigation greatly influenced our collection of data as well as the purpose of the study.

### **Purpose and Research Question**

This investigation's purpose was to compare and contrast the forms of dissonance experienced by agriculture majors at Louisiana State University during study abroad courses to Costa Rica and Thailand. One research question framed this investigation: In what ways did agriculture students at Louisiana State University experience similar but distinct forms of dissonance during study abroad courses that varied regarding context and duration?

### **Methods**

To achieve the purpose of the study, it was critical to reveal how our biases, prejudices, and relevant experiences shaped this investigation. For example, two of the researchers were faculty at Louisiana State University and were responsible for the design and facilitation of the study abroad courses under investigation. The other researchers were graduate students whose studies focused on international agriculture and global education. It should also be noted that one of the graduate students participated in all activities and experiences associated with the Thailand study abroad; therefore, she served as an additional participant observer (Patton, 2002). Further, all researchers had previous international experience and had facilitated or participated in study abroad courses before data collection in Costa Rica and Thailand. The combination of these backgrounds greatly influenced our collection and analysis of the data, especially regarding how we interpreted participants' lived experiences and the dissonance they endured. As a consequence, our positionality in this investigation greatly influenced our methodological decisions.

When approaching this investigation, we used a constructionism epistemological position to guide our assumptions and investments (Crotty, 1998). As a result, we chose to ground this study in Stake's (2006) multiple case study design. Using this approach, we gained a more in-depth understanding of the central issue, or *quintain*, regarding the dissonance experienced by participants during study abroad courses to Costa Rica and Thailand. The multiple case study approach helped describe the dissonance experienced by participants from varied perspectives to achieve a more granular portrayal of the phenomenon (Stake, 2006). To achieve this, we collected data from agriculture students ( $N = 21$ ) at Louisiana State University to create a description of each case. Thereafter, we conducted a cross-case analysis to compare findings and describe how they converged and diverged across cases (Stake, 2006). As such, our goal was not to generalize from the study's findings (Stake, 2006). Instead, we intended to provide a meta-interpretation to describe how the results might be transferable to other study abroad courses (Grandy, 2010).

### **Description of the Cases, Participants, and Data Sources**

To examine the dissonance, we bounded cases by academic college, degree level, and year (Stake, 2006). For example, all of the students were undergraduate agriculture students at Louisiana State University who participated in a study abroad course offered through the College of Agriculture in 2019. Although these factors bounded cases, they were also distinct in two ways: context and duration. As an illustration, in the first case, students' experiences abroad occurred in Costa Rica for one week; however, in the second case, students studied in Thailand over four weeks. In total, 10 females and three male students comprised *Case #1 – The Costa Rica Study Abroad Course* ( $n = 13$ ). Meanwhile, five females and three males represented *Case #2 – The Thailand Study Abroad Course* ( $n = 8$ ). It is important to note that participants were only enrolled in one study abroad course, i.e., no student participated in both courses under investigation. Further, students' previous international experience varied considerably within each case. After Institutional Review Board (IRB) approval, students were briefed about the purpose of the study. At that time, they signed an electronic disclosure form indicating their agreement to participate. Then, during each study abroad course, the participants were required to record at least one daily video reflection; however, some students submitted more than one upload per day. To capture video reflections, we used the smartphone application ReCap®. Although students' video reflections served as the primary source of data in this investigation, we also used observations and fieldnotes to triangulate findings (Patton, 2002). Of note, the



number of daily video reflections was impacted by technological difficulties experienced by students, which included an unstable Wi-Fi connection during both study abroad courses. Therefore, some students did not submit all of the required reflections. Despite this, a total of 344 video reflections (*Case #1* = 103; *Case #2* = 241) were submitted across cases. To facilitate analysis, all data – including videos, field notes, and memos – were transcribed verbatim. Then, students' names were removed from transcripts to ensure anonymity. Thereafter, we assigned students a participant number to maintain a thorough audit trail.

### Data Analysis

To analyze the data, we used Corbin's and Strauss' (2015) constant comparative method through the use of the following coding procedures: (a) open, (b) axial, and (c) selective. To accomplish this, we uploaded all data into NVivo® qualitative analysis software. The open coding phase involved three separate open coding techniques: (1) descriptive, (2) in vivo, and (3) emotion coding (Saldaña, 2016). During this phase, emotion coding served as the most productive technique because it helped map students' emotional journeys as they encountered dissonance and began to make meaning regarding how their perspectives were transforming during their study abroad course. For example, the following emotion codes emerged during our analysis: (a) *excited*, (b) *confused*, (c) *disturbed*, (d) *surprised*, and (e) *tensed*. After each round of open coding, we also created analytic memos to capture our emergent assertions and interpretations of the data (Saldaña, 2016). In the second phase of analysis, we engaged in axial coding (Corbin & Strauss, 2015). Axial coding is a process by which researchers reduce the data generated in the open coding phase into distinct categories (Corbin & Strauss, 2015). Therefore, we scrutinized relationships among all open codes using code weaving and data displays to arrive at categories for each case. This process also allowed us to more intimately explore discrepancies between the data units and categories and consider alternative interpretations (Stake, 2006). After considering rival explanations, we then created evidentiary warrants, grounded in the data, which helped to create individual case reports (Stake, 2006). In our final phase of analysis, we used selective coding as a way to analyze our axial codes and case reports by *thinking with theory* (Corbin & Strauss, 2015). As a consequence, themes emerged in individual cases by interpreting them through the lens of Mezirow's (1991, 2000) TLT. Finally, to compare and contrast the dissonance experienced by students in each case, we engaged in cross-case analysis procedures. Next, we describe how we upheld rigor in this study.

### Standards for Qualitative Quality

To ensure that we imbued quality in this study, we used Lincoln's and Guba's (1985) standards for trustworthiness: (1) credibility, (2) transferability, (3) dependability, and (4) confirmability. As such, we ensured that credibility was embedded throughout this study by (a) providing thick, rich descriptions of the findings, (b) mobilizing alternative viewpoints and rival explanations, and (c) linking data to existing research and theory. The second standard, transferability was achieved by (a) outlining the characteristics of the participants and the study abroad courses in which they engaged, (b) detailing how cases were bounded and the resulting implications, and (c) were transparent about the limitations of the study, especially regarding data collection and analysis. Dependability, the third standard, reflected the ways in which we (a) revealed how our positionality shaped the study's design and procedures, (b) were explicit about the study's purpose, and (c) upheld a systematic audit trail. Finally, we promoted confirmability by (a) providing our reflexivity statement, (b) fully described our data collection and analysis

procedures, and (c) ensured that all findings and conclusions were connected to data. Our discussion of the study's findings is provided next.

## Results

Through our analytic work, three themes emerged in each case. The themes represented the forms of dissonance experienced by agriculture majors at Louisiana State University during study abroad courses to Costa Rica and Thailand. Although two forms of dissonance were consistent across cases, variant forms also emerged. When interpreted through Mezirow's (1991, 2000) TLT, each theme described how students' perspectives began to expand and mature as a result of their experiences abroad. However, it should be noted that the forms of dissonance identified in this investigation occurred at varying levels of intensity and points in time during each study abroad course. In our description of each theme, we drew on case reports and participants' words within cases to situate our findings. Finally, at this report's conclusion, we offer a meta-interpretation as a result of our cross-case analysis (Stake, 2006).

### Case #1: The Costa Rica Study Abroad Course

In April 2019, 13 agriculture students from Louisiana State University engaged in a study abroad course to Costa Rica for one week. During the course, students had experiential learning opportunities on topics that included: (a) agricultural business, (b) agricultural policy, (c) agrotourism, (d) Hispanic culture, and (e) production agriculture. Based on these experiences, students articulated the dissonance they encountered during moments of critical reflection. Next, we offer our interpretation of the three forms of dissonance distilled from this case through the lens of Mezirow's (1991, 2000) TLT: (1) environmental, (2) intellectual, and (3) moral.

#### Environmental Dissonance.

Throughout the study abroad course, students noted that *environmental* differences existed between the United States and Costa Rica. For example, students explained they were largely surprised by differences regarding the *climate, geography, and wildlife* and their existing frames of reference. As an illustration, Participant #5 shared, "It just so different here... the mountains, the humidity, the wildlife, the driving...it's just a lot different than what I'm used to in the United States." Further, Participant #7 added, "I was surprised how beautiful and clear the water was. I've never seen water like that before in the United States." Other students made a note of how environmental differences had implications for agriculture as well. For example, Participant #3 explained, "Because the climate is different, people in Costa Rica really have to approach farming and agriculture differently. It is just something that had not really crossed my mind." As students made sense of the environmental dissonance they experienced, they also began to notice key contrasts regarding their existing knowledge and what they gained exposure to during their experiences in Costa Rica.

#### Intellectual Dissonance.

During the study abroad course, the students also described how they experienced discrepancies concerning their knowledge and practices, i.e., *intellectual dissonance*. In particular, students encountered new agricultural practices and modes of teaching in Costa Rica that differed from those they had been exposed to in the U.S. For instance, after visiting E.A.R.T.H University they experienced a different model to teaching and learning in which students at E.A.R.T.H acquired agricultural knowledge through "practical experiences rather than theory-based lectures. It just made me consider a different way of gaining agricultural knowledge" (Participant #2). Further, students also noted differences regarding agricultural

practices found in Costa Rica in comparison to the United States. Participant #6 explained, “agriculturalists place a lot more emphasis on sustainability than those in the United States. They just really make it a priority here.” After rendering meaning from these intellectual disparities, students began to consider whether dimensions of their moral values should be modified.

#### **Moral Dissonance.**

The final theme for the first case, *moral dissonance*, reflected how students began to reenvision their sense of moral obligation as a result of their experiences in Costa Rica. For example, after gaining exposure to sustainable practices, they began to articulate how they began to sense a moral duty to integrate sustainable practices into their daily lives. As an illustration, Participant #4 revealed, “their [Costarian people’s] commitment to sustainability has made me reflect on the impact of my own decisions more. I guess it makes me want to do better in the future.” Similarly, Participant #1 shared, “people in Costa Rica are really trying to make the Earth a better place through agriculture. When I go back home, I need to make some changes so that being more sustainable is a bigger priority in my life.” As a consequence, students’ perspectives on agriculture began to grow and evolve.

### **Case #2: The Thailand Study Abroad Course**

The second case draws on the experiences of eight agriculture students during a study abroad course to Thailand in the summer of 2019. Throughout the course, students engaged in experiential learning on the following topics: (a) agricultural business, (b) agricultural policy, (c) agrotourism, (d) production agriculture, and (e) Thai culture. Our interpretation of the dissonance students experienced during is interpreted through the lens of Mezirow’s (1991, 2000) TLT.

#### **Sociocultural Dissonance.**

After arriving in Thailand, students began to articulate stark sociocultural differences between Thailand and the United States. In particular, students spoke to how their experiences with various customs and traditions of Thai society challenged their existing perspectives. For example, Participant #15 shared:

I did not think the food would be so unfamiliar. I knew that they, of course, would have different dishes, but I did not know that they would have vegetables and fruits that I had never heard of. Overall, it has also been an interesting adjustment to the food...

Other aspects of Thai society appeared to stoke dissonance for students as well. For example, in our fieldnotes, an emergent pattern was that differences in the country’s customs regarding travel challenged students. In a video reflection, Participant # 20, provided more insight into this concept, “One aspect that shocked me here [in Thailand] is the traffic... there are motorbikes flying in between the lanes, and Thai people are just fearless. It’s like a death trap.” Students also described how navigating a Buddhist culture challenged their existing frames of reference. Participant #17 explained, “In America, a lot of times people come off as really frustrated. Whereas in Thailand, because it’s a Buddhist culture, they place more emphasis on acceptance. It’s hard to explain, but it’s really made me think.” As students assigned meaning to their sociocultural dissonance, however, they began to ponder other differences more deeply as well.

#### **Intellectual Dissonance.**

After learning more about agriculture in Thailand, students perceived their existing knowledge and frames of reference were incomplete. For instance, after visiting the Hill Tribe farmers in northern Thailand, Participant #14, compared his knowledge of agriculture in the U.S. to the practices he had observed:

I am just so shocked by the agriculture here. I mean I grew up on a farm in Louisiana so I thought I knew a lot of about agriculture and food production...[but] they have two or more crops growing on the same land whereas we usually only have one. The little spaces are still used for the farm...they [the Thai people] are really smart and efficient.

These shifts in students' perspectives extended to other aspects of production agriculture as well. For example, Participant #16 explained: "Today was pretty mindboggling for me. I mean I have seen and done composting before, but vermicomposting [composting with worms] completely blew my mind." Consequently, students intellectual shifts appeared to help them began to reassess values and other principles they had not previously considered.

### **Moral Dissonance.**

The final theme that emerged from students' experiences in Thailand was moral dissonance. Moral dissonance referred to the ways in which students began to critically examine their prior values and consider whether they should adopt a new perspective moving forward. In his final video reflection, for example, Participant #21 shared:

I think my biggest takeaway has been how everyone here, even those who aren't directly involved in agriculture, are dedicated to living more sustainably. In the United States, we are kind of all talk. But everyone here seems to have this ethical obligation to do better.

Similarly, Participant #18 began to make comparisons between the values espoused by individuals she encountered in Thailand and those in the United States. And, as a result, she pondered how to could adopt such values into her daily life. She explained: "I just keep thinking about the values of the Thai people. When I go home, I hope to have a greater appreciation for the environment. It has just given me a lot to think about." As a consequence, students' new sense of moral obligation seemed to foment critical perspective changes.

### **Cross-Case Analysis**

A cross-case analysis (Stake, 2006) of the study's findings illuminated key convergences and divergences regarding the dissonance students experienced during their study abroad courses when interpreted through the lens of Mezirow's (1991, 2000) TLT. In particular, two forms of dissonance were consistent across cases: (1) intellectual and (2) moral. However, additional forms of dissonance also emerged within each case. Therefore, the observed differences appear to illuminate the role of context and duration in facilitating key student outcomes. Table 1 provides an outline of the study's cross-case comparison of themes.

Table 1  
*A Cross-Case Comparision of the Forms of Dissonance*

Theme	Description	Case #1	Case #2
Environmental	Differences students noted regarding the climate, geography, and wildlife with their existing frames of reference.	✓	✗
Intellectual	Discrepancies students experienced regarding agricultural knowledge and practices.	✓	✓
Moral	Reflected how students began to reenvision their sense of moral obligation as a result of their experiences abroad.	✓	✓

Theme	Description	Case #1	Case #2
Sociocultural	Represented how customs and traditions challenged students' existing perspectives.	✗	✓

Note. Not present = ✗; Present = ✓.

### Conclusions and Implications

The purpose of this study was to compare and contrast the forms of dissonance experienced by agriculture majors at Louisiana State University during study abroad courses to Costa Rica and Thailand. To fulfill this purpose, we interpreted the study's findings through the lens of Mezirow's (1991, 2000) TLT. This process helped describe how the dissonance students underwent fomented key shifts in their perspectives because of their experiences abroad. Then, through a cross-case analysis (Stake, 2006) of the study's findings, we found that two forms of dissonance were similar across cases: (1) intellectual and (2) moral. However, students who studied abroad in Costa Rica also experienced environmental dissonance; meanwhile, those enrolled in the Thailand course encountered dissonance that was more sociocultural. We conclude, therefore, that although study abroad courses can facilitate similar results when designed purposefully, context and duration also profoundly shape students' outcomes. Such findings are significant considering that providing quality experiential and international learning opportunities has been reported to influence individuals' decision to pursue an agricultural-related degree (Alston, Roberts, & Warren English, 2019, 2020).

The literature on study abroad courses in agriculture has primarily focused on documenting why students participate (Bunch et al., 2015; Danjean et al., 2015; Estes et al., 2016; Raczkoski et al., 2018; Roberts et al., in press). However, by offering a more granular depiction of the dissonance students experience across two study abroad courses, we provided a stronger basis for documenting students' shared outcomes, which is a critical deficiency in the broader study abroad literature (Blake-Campbell, 2014; Hartman & Kiely, 2014; McCabe, 2001; Ogden, 2007). As a result, it is important to provide conclusions for each form of dissonance identified in this investigation. First, environmental dissonance represented the differences students noted regarding the climate, geography, and wildlife with their existing frames of reference in Case #1: *The Costa Rica Study Abroad Course*. Consequently, this finding aligns with those reported by O'Malley et al. (2019) regarding how students begin to notice key environmental differences after engaging in a new culture. However, this form of dissonance did not emerge from our analysis of students' experiences in Thailand. Similarly, sociocultural dissonance, or the ways in which customs and traditions challenged students' existing perspectives (Kiely, 2004, 2005), was limited to the experiences of students in Case #2: *The Thailand Study Abroad Course*. As a result, we conclude that both environmental and sociocultural dissonance appear to be more contextually-based and may not be transferable to all study abroad courses – a concept not currently reflected in the broader literature. Students also articulated they experienced intellectual dissonance, or discrepancies regarding their existing knowledge, as they encountered new concepts, practices, and innovations in Costa Rica and Thailand that seemed to stand in contrast to their previous knowledge of U.S. agriculture. This finding supports those reported by O'Malley et al. (2019). However, the final form of dissonance, moral, does not appear to have been explored previously. Moral dissonance represented how students began to reenvision their sense of moral obligation as they contemplated integrating new values into their daily lives because of a maturation in their

perspective as a result of their experiences in their respective study abroad courses. As such, moral dissonance warrants further examination.

### Recommendations and Discussion

This multiple case study provided additional documentation that study abroad courses, at varying durations, can facilitate perspective transformations for university agriculture students (Mezirow, 1991, 2000). However, in comparison to the findings reported by O'Malley et al. (2019), across cases an additional form of dissonance, *moral*, emerged, but *personal* dissonance did not. As such, we recommend that more research be dedicated to examining the dissonance that students undergo during study courses. For example, future investigations should seek to describe whether such transformations are actualized in students' daily lives after they return to the U.S. On this point, we recommend that additional work be dedicated to understanding effective processes that students can use to transfer the positive outcomes they acquire abroad into their academic, personal, and professional lives. Further, because the perspective transformations that students articulated in this investigation often led to them questioning their personal lifestyles, we also recommend that administrators and faculty who lead study abroad courses carefully consider students' post-experience and ponder whether students need additional support. Perhaps by creating a space in which students continue to make sense of their experiences abroad by learning to integrate their altered perspectives into their lives, more powerful long-term change can be achieved. We also recommend that follow-up interviews be conducted with students over time to examine the long-term effects of the perspective changes students acquire because of studying abroad (Kiely, 2005).

In this investigation, several unexpected practical and ethical considerations also emerged that warrant future examination. For instance, as students critically reflected on their dissonance, they began to question deeply entrenched assumptions about themselves, relationships with others, agricultural practices, and societal issues and problems. This approach, therefore, is overtly hegemonic, i.e., a process by which students begin to critically assess the world's existing structures of power (Hartman & Kiely, 2014). Therefore, we caution faculty who lead study abroad courses to carefully consider the challenges embedded in using a critical reflection approach. In particular, before adopting such a practice, faculty should plan to navigate complex discussions with students that could potentially involve issues regarding access, agency, ethics, gendered roles, morality, power, privilege, race, among others. In response, we recommend that faculty development opportunities be created in which practitioners with *transformative intentions* for their study abroad courses begin to learn how to facilitate such using ethical and productive approaches for students. These faculty development opportunities could also foster important dialogue that could help clarify the contextual and programmatic factors that are likely to catalyze as well as hinder students' perspective transformations.

In the study abroad literature, short-term experiences have been critiqued as lacking academic rigor, intensity, and the immersive experiences students need to acquire quality outcomes (Dwyer & Peters, 2004). This study's findings, however, provide additional evidence that short-term study abroad experiences hold transformative potential for students if designed and delivered effectively. Moving forward, we recommend that administrators and faculty consider the design and delivery of the study abroad courses detailed in this investigation to *awaken transformative learning* for their students.

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