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I had no idea of what we were going to do:" Reflecting on preflexive learning, the architectural foundation of learning in global service-learning programs

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Abstract

Preflection learning breaks fears of the unknown among prospective global service-learners. This inquiry was based on a social constructivism theoretical orientation and adopted a case study methodology to explore the perceptions of Iowa State University students engaged in pre-departure orientations for their 2020 spring break service-learning trip to Uganda. Five students were purposively selected, and only three students were accessed due to the declaration of the COVID-19 pandemic in March 2020. In-depth interviews were conducted and triangulated with structured observation notes, and were analyzed thematically. Thick descriptions and verbatim statements are presented to share students' perspectives. Findings revealed that students had preconceived ideas about the program relating to its influence on academics, skills, knowledge, community service, intercultural development, career, inspiration, and adventure, which motivated their participation. Students expressed satisfaction with preflexions for creating awareness of the program activities and health precautions, and also based on the program structure of learning in teams and through current affairs. Additionally, students had preconceived ideas about the agricultural systems in Uganda, expressed through their low scale of production and technology, gender disparities, crop improvement prospects, livestock integration, food insecurity, and limited infrastructures. We also uncovered internal barriers, including cultural shock, homesickness, vaccination side effects, personal security, individual commitment, shyness, foreign environment, and parental restrictions to travel; and external barriers such as financial, diseases, limited healthcare, and travel bans likely to impede students' participation in the global program. Some of the students' preconceived perceptions were informed by students' experiences with preflexions, some of which changed after preflexion training. Conducting preflexions with experienced facilitators in global programs and program alumni helps to address such perceptions to allow learning to proceed smoothly. Preflection learning should be followed with experiential learning reflections and post-trip reflections to help students with the management of reverse cultural shocks after trips.

Keywords: COVID-19 pandemic, experiential learning, global service-learning, preflexion learning, study abroad, reverse cultural shock

Introduction

Global service-learning is among the high-impact education programs, intersecting service-learning, study abroad, and international education programs to enhance the educational experiences of students ^[1]. These programs promote global wilderness and citizenship, and cultural immersion while students work with communities ^[2-6]. Global service-learning programs are sometimes referred to as field-based learning, civic engagement, and/or experiential learning.

As an experiential learning program, students get an opportunity to link the theoretical classroom materials learned to real field situations in various community settings where they get immersed. These connections allow students to reflect on class materials on their service and their worldview of community programs, enhancing deep learning of concepts through those critical reflections, and improving their academic performance ^[3, 7-9].

During service-learning, students experience a real field environment that changes their perception of themselves and the community they work with. These aspects make them responsible social citizens as they engage in learning about and collaboratively working toward community development. This study focused on a case study of the United States and Uganda experiences in global service-learning programs since 2005 ^[3, 10-12].

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Description of the Case Study

The global service-learning program of this study is an educational program of the Center for Sustainable Rural Livelihoods (CSRL) based in the College of Agriculture and Life Sciences at Iowa State University^[3, 10-12]. The program is implemented in Kamuli district by CSRL through the Iowa State University Uganda Program (ISU-UP) in partnership with Makerere University, located in Kampala, Uganda.

The CSRL service-learning program has many sub-components, such as the summer program focusing on school gardens^[3, 12]. However, this study was conducted on the spring break program focused on natural resource management. In the spring break program, every year, interested students at Iowa State University apply for this program. As part of the recruitment process and those who get accepted are enrolled for prelections (predeparture orientation) as a spring semester course.

The pre-trip orientations prepare students for the trips during the spring break, after which they travel back for post-trip reflections. At the time of the study, the Iowa State University team was usually composed of at least eight students, with two facilitators, and a student leader who was an alumnus of the program. While in Uganda, ISU students meet the Makerere University program alumni, usually summer alumni, to work with them directly, and the ISU-UP staff in schools supported by the CSRL/ISU-UP. The service-learning program utilizes an experiential learning approach, where students learn by doing while providing a service to and working with the communities and the schools. Students engage with elementary schools and high schools to complete natural resource projects in the school gardens, such as establishing woodlots, orchards, among others^[3, 11, 13-14].

Conceptual Framework

The investigation was based on the frameworks of prelection learning and experiential learning^[15] relating to the anticipated outcome before, during, and after the spring break service-learning trip to Uganda. Over the years, higher education institutions in the United States have worked to increase the number of students participating in global education programs^[16]. The increasing engagement in global programs guarantees enhancing prelective learning to effectively prepare students who participate in these programs.

Prelections, commonly known as pre-departure orientations, involve learning about the details of a trip and/or an education-related event before its implementation or experience.^[17] Jones and Bjelland described prelection as “a process of being consciously aware of the expectations associated with the learning experience” (p. 963)^[17]. They emphasized that prelections “increase the readiness capacity of students to learn from their experiences, thereby increasing their capacity to reflect upon the concrete experience and increasing the overall learning by the student” (p. 963)^[17].

In their wisdom, Jones and Bjelland^[17] affirm that prelection is an interconnection between the *experiences* of the learners and *learning* from the activities during the implementation stage. Prelection learning situates the learners and provides them with opportunities to recognize and analyze their preconceived perceptions and attitudes about the programs and their activities, which the learners

might have before they set off for global experiences. The analyses and reflections involved in the prelection have a positive impact on their learning. Engaging prospective global learning students in intentional reflections before the travel trips and their associated learning experiences can potentially make students aware of their preconceived perceptions and attitudes that may exist.

Prelection has been argued to be a *process* of learning about the activities rather than the learning *outcome* from the activities. Therefore, a prelective stage provides a starting point for the experiential learning cycle^[15], beginning not with the experience itself, but with a conscious assessment of pre-existing thoughts from the learners about the activities that may potentially impact the learning process.

The experiential learning concept also emphasizes that learners need some sort of prior experience with the activity, which the prelective can provide before actual hands-on experiences^[17]. Kolb^[15] attests that learning is a process rather than an outcome because it develops out of learning and re-learning. Experiential learning concept in essence highlights the central role played by learners' prior experiences in the learning process and is described as a “process whereby knowledge is created through the transformation of experience” (p. 49). Learners embrace an engagement in specific hands-on experiences, reflecting on those experiences, intellectualizing them, and proactively experimenting with them.

In an interactive process of moving across those four nodes described above, learners learn and re-learn from their cumulative experience gained with the various hands-on activities in their fieldwork, which leads to mastery of the activities^[15]. The chronological record of learning experiences gained from the activities is a representation of the learning outcomes, which ultimately go beyond hands-on mastery to minds-on learning, increasing students' deep learning from their field experiences^[3, 7-9].

However, without prior adequate preparations for students planning to engage in global learning programs, the learning outcome during the experiential stage becomes difficult to achieve. In support of the description of prelection by Jones and Bjelland^[17], other researchers, for instance, Harder *et al.*^[18] also affirm that “a prelection activity can be used to build a substantive theory and increase understanding of pre-trip beliefs of faculty” (p. 15). Arranging prelection learning activities allows students and their facilitators to meticulously examine pre-trip perceptions and attitudes about the program, its structure, and activities. Also, facilitators understand the cultural perceptions of students about the communities they are about to get immersed in, which is critical to their learning during and after the trip to help with managing cultural shock^[19] and reverse cultural shocks^[20], respectively.

Research Purpose

The purpose of this inquiry was to explore the students' preconceived ideas about the prelection exercises, their ideas, attitudes, and beliefs about the study program, the culture and agriculture systems of the communities to be visited, and the pre-trip threats (i.e., internal and external) that were likely to impede their participation. The overarching question was: *What perceptions did students have regarding prelections in preparing them for the spring break service-learning trip to Uganda?*

Methodology

Consistent with the epistemological assumptions of social constructivism, this investigation employed a social constructivist perspective, an “epistemological consideration focusing exclusively on the meaning-making activity of the individual mind” (p. 58) ^[21]. This theoretical orientation was informed by the notion that knowledge is socially constructed and that meaning emerges inductively ^[22]. In this inquiry, the students who participated in the prelections to prepare for their spring break trip to Uganda were believed to have preconceived perceptions about the programs. Gaining knowledge of perceptions guaranteed an in-depth qualitative investigation.

A case study research methodology was adopted, and each participant was treated as a case/unit of analysis, which facilitated an analysis of the data on a unit basis ^[23]. Given the multicultural nature of the study program and the variety of topics being covered in the prelections, this case study approach allowed for an in-depth, rich, and detailed collection of data from the cases. The case study allowed us to use various sources of data gathered from in-depth interviews and observations using standard guides and enhanced our data with field and analytic notes to report an account case-wise and on case-based themes.

Participants and Procedures

A purposive sampling technique was employed in the selection of the study participants. The team of our study was the 2020 spring break service-learning students who had prepared for a trip to Uganda. This team had eight students. We recruited five students purposively selected based on gender, geographical background, and major program of study to have a mix of perspectives. The lead author built a rapport with the students by attending the prelection classes three times between February and March 2020 upon request and/or invitation by the class instructors for purposes of this study.

Of the five participants, three were able to participate in the in-person interviews before the spring break and the declaration of COVID-19 as a global pandemic. This declaration led to the closure of the university and all global travel programs, which made it difficult to have face-to-face interviews with the other two participants. In this study, all participants were given pseudonyms and their instructors to protect their identities.

All three students (Rona, Nia, and Zari) who completed the interviews were females. Rona and Nia were senior students; Rona majored in Agronomy and Molecular Genetics, and Nia majored in Animal Science. Both Rona and Nia grew up in an urban environment detached from agriculture; however, they gained enthusiasm for agriculture during their high school education. Zari was a sophomore in Agriculture Communications and grew up in a rural farming environment.

Data Collection

Adhering to the constructivist approach, emphasizing the use of intensive interviews and multiple sources, the method of data collection employed was mainly in-depth interviews ^[24]. Interview data were triangulated with observation notes and field notes taken both during the prelection seminars and interview time. In the interview guide, four open-ended questions and sub-questions for probing were drafted. Each question focused on a particular category of interest; for

instance, the first question was about preconceived students' interest and motivation in participating in the service-learning program in Uganda.

In a face-to-face interview, each participant took a maximum of 30 minutes; with an effective recording time of about 20 minutes, and the rest of the 10 minutes were spent in pre- and post-interview relationship building. All interviews took place in a reserved office. The lead author interviewed which following the rules of natural settings, aiming toward the objectives of the study ^[25]. A rapport was first established through a warm welcome, and participants were led to the interview room. This welcome was followed by an introduction of the research purpose and a request for consent for voice recording.

During interviews, questions were asked with clarity and articulated using the art of probing to get rich information on the subject matter. Caution was exercised while probing and writing notes so as not to be judgmental and argumentative while probing. This caution prevented the distraction of the composition of the stories and distortions of the flow of natural conversation ^[25]. During the interview, eye contact was maintained as a way of engaging in a natural conversation.

All interviews were conducted in one day with at least an hour interval between each interview. This time interval allowed the lead author to synthesize and jot down points in a narrative that were not noted down in the limited time of the interview. Also, due to the anxiety of university announcements of closure due to the COVID-19 pandemic, declarations were made on the same day.

In the interviews, body language, the relay time, and moments of silence between question and response were among the main items for field note-taking. The relay time provided me with major points about each question, which showed a change of themes, satisfaction, discomfort, and a need for clarification. The observation notes and field notes taken during the three prelection seminars that the lead author attended were used in triangulation to support the themes generated during and after transcription and reading of the verbatim ^[26].

Data Analysis and Presentation

All data were audio-recorded. Before transcription, the lead author first played the audio for each case. Transcription was done word by word while actively listening to the audio, keeping note of the relay time that potentially signified a change of themes, a need for clarification, excitement, and discomfort ^[24]. After transcription, the lead author engaged in a dialogue, after which he proceeded to read the transcripts word by word and line by line, continuously triangulating with the field and observation notes to have a comprehensive analysis to enable readers to understand the phenomenon studied.

In the process, the author sought to recognize and classify commonalities across the experiences of participants as well as perspectives that appeared distinct among cases ^[23]. Themes emerged inductively in this thematic analysis process as the author closely read the responses for each case ^[26]. The lead author used a continual comparison amongst the themes, aligned into categories based on the guiding question, to describe predominant themes related to negotiating distinctiveness and look-alike responses within and amongst cases. All three methods employed in data collection reinforced each other to generate thick

descriptions as the author shared the participants' lived experiences.

In this project, a category is defined as the main descriptor representing the main guiding questions, and there were four categories including motivation, prelection, agriculture systems, and barriers. Themes are those descriptors that emerged to support each category, and codes are the smallest descriptors that support the themes^[26]. Findings are presented in thick descriptions illustrating the "details, emotions, and textures of social relationships" of respondents in relation to specific categories and themes (p. 172)^[25]. We shared our insights about the findings, making connections between categories and themes within and amongst the cases, as well as theorizing with literature in our discussion section across different schools of thought participating in similar global programs.

Under this study (i.e., a small qualitative inquiry), caution was exercised in transferring and or generalizing the findings beyond the study's scope. However, the good side of this study is that the case study methodology allowed us to overcome several limitations by looking at the phenomenon of the study from multiple points of view, utilizing multiple methods, and data triangulation. Also presenting the findings in the form of a rich thick description as well as participants' verbatim statements to account for their views. Such a detailed account of the particularity of the subject matter allows researchers and readers to potentially consider the findings of the study and their use within their unique study and/or program settings.

The lead author maintained an awareness of his positionality in this research and maintained a reflexive account of the whole research process^[27]. As a graduate student at the time of this study, he shared the insights of the study findings through three different presentations with peers and continuously consulted with the program facilitators. These presentations provided constructive feedback to improve the discussion and presentation of the themes and made constructive conclusions and implications for conducting prelection learning. Also, the different peer-briefing controlled for personal bias that might have influenced data analysis, in such situations where the lead author is a native of the country where students participate in global service-learning. The lead author was fully engaged in the research process, both through attending prelection classes and conducting interviews.

Findings

Motivations of Students to Participate in Global Service-Learning Programs in Uganda

In this category, the inquiry sought to understand what motivations students had and felt that the trip to Uganda would contribute to their development. Eight themes emerged, including academics, skills, knowledge, community service, intercultural competence, career, inspiration, and adventure as key motivators to participating in a spring break trip to Uganda.

In academics, Rona, an Agronomy and Molecular Genetics major, had an interest in improving food security via crop breeding. Rona first pointed out her program goal: "...I want to work in plant breeding to address crop nutrition." Thereafter, Rona narrated her motive, "...I want to go on this trip to learn more about agriculture production in rural communities in Uganda. To learn about what challenges they are facing: is it about disease resistance and or about

nutritional quality that will help to increase yield there? That has always been my goal to increase the yields of crops." She added that "...I wanted to do a little more research on understanding the soil and climate in the region, but I do not know a lot about how the soil effects would be, and what crops can be grown, ...that would be something that I wanted to look into more." Rona.

Related to skills, different perspectives on skills development were presented. For instance, Zari, an Agricultural Communications major, was interested in developing interpersonal communication skills. She said, "...interpersonal skills, those are important, learning how to communicate with people who are different than I am. That is something that I like to do, learn how to work with others." Zari.

Additionally, students expected to gain knowledge of agri-food systems, learn how crops are grown, and how children get their nutrition in Uganda. Rona stated that "...in the pre-orientation class, I learned about that most times people have their gardens which provide food for their family, unlike here in the United States where we have one farmer providing food for a multitude of people." She added "...also, we did a lot of searches on the internet and found a lot of statistics on what other people have done about school gardening, how they are grown and designed, like with keyhole gardens, how they are made." Rona.

Similarly, the service component was expressed, and students showed a passion to give back to the community, making a difference in the lives of the people and their children by working directly with them. Zari narrated that "...there were a couple of trips, and they were going like agriculture tours and stuff, but I think what stuck out to me about the trip to Uganda was the service part. That is what has been important to me before in Community College." She added, "...I have been on a couple of mission trips with my church, and I just like doing the service stuff." Zari.

Developing intercultural competence was a key aspect that students anticipated to gain as they get immersed in a new culture, including food production, housing, and lifestyle. Zari said, "...I had to think about this trip with an open mind regarding the people I am about to meet and the way I am about to live. A lot of our class has been dedicated to understanding the lifestyles of people from Uganda." In the prelection, Zari learnt about the people of Uganda that "...agriculture is very important to their culture, so we have learned a lot about their farming practices." She added that "...I like the houses, it is much interesting how they are separate from the kitchens, it is so much different from here in the United States, where the kitchens are within the houses." Zari.

Similarly, students saw that this trip to Uganda had a decision-bearing factor on their future career in research by understanding the local situation and informing decisions. Nia, an Animal Science major, said, "...being a Veterinarian, I am going to be exposed to a lot of different viewpoints of animals. I have not decided as to whether I will go by large or small animals." In her mind, she reasoned that, "...I think being exposed to that side of a large range of animals and gaining a large perspective, seeing a different side of things, I can be a more rounded Veterinarian." Nia.

Global service-learning also involves travel and adventure, an opportunity to fulfill students' adventurous dreams. Nia gave a narrative and said, "...I knew when I signed up, I

would either go to Belize or Uganda.” She added, “...when I told my family, they all said Belize. So, I chose Uganda.” Nia’s parents reacted, “...they asked why I decided to go to Uganda. I told them I wanted to change. I have never been to a country like this. This is my time to go and do something good.” Nia.

Another motivation was inspiration from alumni and peers who had made a difference after they participated in the program, as well as family and friends’ support. Zari narrated, “...Ann, an alumna, was inspiring. I think it was cool that she came back and raised money to put back into the very ISU-UP. So, that is something that I can or want to do after I go, and it does not need to be that I must go to Uganda; I can do it now.” Zari also talked about family and friends’ support, that, “...when our group was told to kind of collect donations and school supplies, I was happy. I guess when I asked my friends and family if they had anything to donate, I got a lot of support. That was cool to see how my going to Uganda affects people back home, wishing me the best.” Zari.

Students’ Thoughts about Preflections

In this category, the inquiry focused on understanding students’ thoughts about preflections on how they prepared them for fieldwork. Specifically focused on how the training was structured and how students felt prepared for the trip. Six themes emerged, including awareness, satisfaction, structure, team-based learning, current affairs, and health.

Zari expressed gaining awareness that “...I had no idea of what we were going to do, how the field was going to be looking like. The first day we just had an overview of what the program is like, the trip, learn about the people we were going to be with and interact, learn about the lifestyle there.” Zari spoke about the guest speakers and said, “...I appreciated the guest speakers who came into our class and told us about their experiences in Uganda. I was excited to hear about the stories of where we will be going.” She added that the guest speakers “gave me a better idea of what we would be doing and how to interact with the people there. I liked to see how the trip impacted others because it makes me excited about how it will impact me.” Zari.

The satisfaction was expressed in terms of students’ pride in their instructors and guest speakers and their wealth of knowledge and experience. Zari expressed a change of attitude towards the program after she participated in the training and said, “...before being accepted to go to Uganda, I did not know there was also a course we would have to take in the classroom.” She added that “...now I have a positive attitude towards the class because I respect our instructors, Hilary and Beah. The two of them have been on this trip before, so it is reassuring to have their expertise. I feel confident that I am with responsible and knowledgeable people.” Zari.

On the structure, students indicated that the program set up enabled them to learn what is expected of them and their expectations from the program. Nia said, “...the idea of doing a project before we go is to bring our research to life, so when we do research here, we try to figure out here is what it is, and when we go over there, we see it and visualize. On research, Nia added “...and then get to talk to farmers about how and what their livestock raising systems are like, how intensive they are, the health of their livestock, what type of system they use, what makes them choose that way of raising animals, and what works for them.” Nia.

In team-based learning, students were divided into teams for role-playing projects. Rona explored school gardening with her peers and said, “...I liked how we had teams split up in topics like the school gardens, livestock, and culture. This was good for each team to go deep into exploring the topic.” Rona talked about her interest “...I was interested in exploring more of the school gardening, a topic that was assigned to my team. I like the fact that we could dive deep into what we were interested in and then present it to the class.” Rona.

In current affairs, students said they had a weekly assignment to find a story in Uganda on any theme that captured their attention and was worthy of sharing with their peers in class. Nia said, “...we had a lot of news assignments to help us in kind of learning what was going on over there in Uganda, ...that helped a lot kind of get yourself involved.” Nia.

Also, during preflections, health and safety are paramount, especially in creating awareness and preparedness among students. For such an international trip, it is very critical to make students aware of the possible diseases and precautions that need to be taken. Zari shared her ordeal, “...there is one class when Loy from Thielen Student Health Center came to speak to us about health and safety, it kind of caught me off guard. I was a little overwhelmed with all the information about diseases and prevention.” She added, “...in hindsight, though, I am glad we were given all the information because it is best to be prepared. I did get my vaccines, I got yellow fever, zika pills, malaria, and diarrhea. I got all those, and then I was good to go.” Zari.

Students’ Perceptions about Agricultural Systems in Kamuli, Uganda

In this category, we focused on understanding the students’ thoughts about the agricultural systems and practices based on the knowledge they had gained during preflections. Seven themes emerged, including scale of production, technology, gender, crop improvement, livestock, food security, and infrastructure.

In the scale of production, students had an impression of production mainly on a small scale. Rona said, “...I think I need to see firsthand, but currently, I see there are a lot more smallholder farms, there are not big or large farms, except there is some tea that is grown on a large scale, but typically for food consumption, it is smaller.” She added that “...I have the impression that farms are not very diverse. They are just growing staple crops like beans and sweet potatoes. More leafy green vegetables would be more beneficial; maybe gardens are growing a little of those vegetables.” Rona.

In technology, Kamuli district, whose production is based on a small scale, the technology adopted in production similarly matches the scale of production. Zari narrated her thoughts, “...I think compared to the United States, it seems a lot more underdeveloped. I just feel like the people there are doing a lot of work themselves, and yet here in the United States, we have technology and types of equipment, and stuff like that, and I think that is why it is a little harder for them to distribute their products and earn more of a living from it.” Zari also added that “...but I think there is a lot of potential when it comes to agriculture in Uganda when people are given the right skills. That is why I am looking forward to going and working with them and learning from them and then thinking of ideas of how things can improve.” Zari.

On gender, Rona narrated her ordeal about gender disparities in how they expressed themselves in the agricultural community of Kamuli district. She said, "...I got an impression of the gender inequality where a lot of women work on farms, and the men would get the credit." In her class, she learned and reflected that "...you would have a woman farmer who wakes up every day farming on the land, but they address it as the farmer's wife instead of a farmer herself. Or the woman would do all the labor or the labor-intensive part of it, but the man would handle all the financial." Rona.

Rona was also interested in understanding the perceptions of genetically engineered crops as a crop improvement measure. She said, "...I am interested in people's perceptions of GMOs. I know there are a lot of people in Europe in Greenpeace involved, but that would come down to countries in Africa and advocate for anti-GMO sentiments, saying that these GMOs will harm them." Rona added examples from Africa and said, "...I know in Ghana they would not allow GMOs because of Greenpeace activists. I want to know their perceptions of GMOs, as if there were GMO seeds available to them, whether they would be receptive to it or resist." Rona.

On livestock production, Nia focused her project on how livestock is raised in Kamuli district, also on a small scale. She provided a narrative, "...I know we have been researching how livestock is raised, it is a lot different from here. So here in the United States, they are in a pen in the field, but there, there are more animals free to roam around, less intensive, so, like the goats, they have the tethering system where they tie the goat in an area and it browses around, the cows moving down the roads." She added that "...the herds are smaller, and most of the highest population would be poultry because it is the most common, like the meat poultry, and the kind of layers and broilers." Nia.

On food security, Rona had an observation from class presentations and said, "...I saw that people did have enough access to food, meat was just hanging out in the open butchers, but storing it was a big problem. There are storage and preservatives where you can also store your grains for so long, but when you do not have the means." She also talked about the food chain: "...I also think it would be very interesting to see how food goes directly from farmer to consumer." Rona.

Similarly, on infrastructure, Zari observed and narrated the difficulties farmers face, "...I think it is unfortunate that Uganda's infrastructure is so poor that farmers are unable to take their crops to market and make a profit from them." She added to her observation that "...I think this is what causes a high level of food insecurity in Uganda." Zari.

Anticipated Barriers that May Impede Participation and Anticipated Solutions

In this category, we wanted to learn about the challenges and barriers that students anticipated facing while in the Kamuli district and how they could potentially overcome them. This section was subdivided into both internal barriers and external barriers.

Internal Barriers

For internal barriers, eight themes, including cultural shock, homesickness, vaccination, personal security, commitment, personal shyness, environment, and parental restriction, emerged.

The main challenge that surfaced most was the cultural

shock. Rona recounts, "...I think the biggest challenge will just be the cultural shock. I have moved a lot, but I think it will be a little different." She added "...I expect the majority of the population to be normal but then when we are going to Kamuli district, I think seeing the houses, how people get in, we are supposed to have a day in life where we follow the school child in the day and see how they go through the day from home to school, how they fetch water and seeing how they boil it." Rona. Zari narrated an idea to deal with cultural shock, "...I think it is just around myself to be open-minded when I get there, and I am also worried about fitting into the culture, just expect anything, because we will be visitors there, but being so careful not to offend anybody." Zari.

In homesickness, Zari recounts that "...as the trip approaches, I am also a little fearful of traveling so far away. I will be away from home on spring break. I know that going to Uganda will be a life-changing experience, but I sometimes find myself feeling selfish about going away." She added her fears about flights "...I was a little scared about the plane rides, I got a little nervous for long distances and layovers. I have never been on a plane for so long, but Hilary and Beah said they have always been over there. So, that was nice to have them as our instructors." Zari.

The side effects of vaccination, Rona narrated, "...in the preparation, getting all the vaccines and medicines was a process." She talked of the effects "...I got very sick with the typhoid pills, I took a pill every other day for a week, and it was a live virus vaccine, every time I took a dose, I would get very sick again, that was not very good for me." Rona.

Relatedly, personal securities were raised by Zari and said that "...I will always be concerned about my safety. Especially since I am going to somewhere so much different from where I am used to. I just need to trust people." She added "...I was also a little nervous about traveling with people in our group because, throughout our classes, we are just so busy, we are always having guest speakers and presentations, and we have not had a lot of time to interact with each other, but I know on the trip is when we will be able to bond with each other well." Zari.

Also, personal commitment to any program trip was a challenge for Zari, as stated, "...before I learned about Uganda, an internal barrier I faced was commitment. I was excited to get accepted on the trip, but I was not completely convinced that I wanted to go. I think it is hard to try something new, and I thought I might back out." Zari.

A related theme was personal shyness as Nia described her lifestyle, "...probably just being myself, not being shy as I put myself out there." She added that "...I am typically the kind of quieter and kinder person to hold myself back. I think the challenge for me is being more open and talking to more people." Nia.

Adaptation to the new environment was also presented with Rona recounting her urban life, "...I think the big challenge will be adapting to the environment, like you do not have continuous fresh running water, or electricity." She added, "...I have grown up in the whole of my life without such life inconveniences. I know, like when we are in Kamuli district in the compound [Mpirigiti Rural Training Center], everything is being prepared for us." Rona.

Parent restrictions were also presented by Rona and said "...when I was signing up for this program, I had to convince my parents that I would be ok, like my parents

were very nervous about it, they do not know anything about Africa.” She added, “...I will have limited contact with them when I am there, and no Wi-Fi. They just had a lot of questions, and at the beginning, it was hard to answer what exactly we would be doing and where I would be staying. I will be accessing clean water.” Rona.

External Barriers

In external barriers, four themes emerged, including financial, disease, healthcare, and travel bans. On the financials, Rona provided her scenario that “...when I go and get my Ph.D. in Plant Breeding and Molecular Genetics and I want to specifically work with crop improvements for developing countries but again if there is no funding, then they cannot take on another graduate student.” Rona. Zari who almost made her reconsider the trip “the external barrier that almost made me reconsider the trip is the expense. I can pay for myself to go, but I sometimes find myself trying to decide if I should. I know that it will be worth it, though.” Zari.

Secondly there was access to healthcare in times of sickness and Rona narrates her ordeal, “...the big thing that has been making me nervous is access to health care like we are here in [US city] with a hospital right down the street” She added “...I am not expecting to need a hospital but in case of any anything that happens, it will a little be more difficult to receive health care. And being more careful with what you eat.” Rona.

The year 2020 started with a disease, later recognized as a global pandemic - Coronavirus (COVID-19). By the interview time, there were still hopes of going on the trip. Zari narrated, “...the most prominent is the threat of the Coronavirus. I am concerned about traveling internationally as more and more people are becoming infected with the disease.” She expressed that “...I hope that we stay healthy and that our plans do not get affected.” Zari. Nia also narrated “...some of the classes were cut short because of this coronavirus pandemic. It was hard to do much with our trip being cut.” Nia.

Global travel restrictions were another issue potentially limiting participation, and Rona provides a summary, “...all the external challenges currently deal with the travel bans; you cannot get a visa anymore to enter the United States.” Rona.

Discussions

The discussions are focused on four categories of the study, including motivations to participate in global programs, perceptions about prelection learning and agricultural systems in Uganda, and anticipated barriers to practicing in the Uganda service-learning programs.

Motivations to Participate in the Global Service-Learning Program in Uganda

Students signed up for the trip because of eight key motivators, including academics, skills, knowledge, career, community service, intercultural diversity, inspiration, and adventure. In academics, students wanted to increase their scope of learning and research in crops and livestock to gain what it entails to be a global scholar, working toward solving the problems of importance to community development, such as food security. Significantly in academics was understanding the community and the people with whom students would like to research, or their needs, to guide their research. Rona showed enthusiasm to pursue

plant breeding to improve food security in developing countries, like Uganda, especially the Kamuli district, with high rates of undernutrition ^[28-30].

By their breeding principles, ^[31] Rona wanted to understand what to breed for in each crop as disease, pests, drought resistance, and nutrition quality, and understand the climate and soils of the area. Moreover, these are the same areas that the program has invested in through supporting service-learning alumni to conduct research in Kamuli on soils ^[32-34], crop improvements such as tomatoes ^[35-36], and pumpkin ^[37] for income and food security. Like Rona’s aspiration in academics, Perez-Encinas *et al.* ^[38] conducted a meta-analysis among European mobility students using the Latent Dirichlet Allocation and also found academics as among the motivators of students joining global programs.

Also, gaining knowledge relating to understanding agri-food systems motivated students’ participation and was tied to Rona’s values as an Agronomist and Molecular Geneticist. Similar findings are found among students of tourism in studies focusing on conservation ^[39] and volunteer vacationers ^[40]. A similar interest in global programs was developing interpersonal communication skills, as Zari narrated, which mesh with Luo and Jamieson’s ^[41] finding among U.S. college students of gaining skills as a study abroad predictor.

Students were enthralled because of the community service, as Nia narrated that service has been part of her lifestyle with a passion for giving back to the community, making a difference in the lives of the people and their children, a key aspect of global service-learning programs in Uganda ^[3, 12]. Also, developing intercultural competence was a core component that participants anticipated gaining. Students signed up for the trip to go and learn about rural Uganda, and get immersed in a new culture, ranging from food consumption, housing, and the lifestyle of citizens, as Zari stated. Her trip expectations on intercultural development reflect what other students in global programs across Europe ^[42-44], Asia ^[45], Africa ^[3, 46-47], Americas ^[48-49], Australia ^[6] are seeking relating to culture immersion and broadening their global wilderness.

Global service-learning employs experiential learning, which is crucial to career development. Nia and Rona emphasized their academic research as a determinant of their future career, and that this trip to Uganda had a decision-bearing factor for their future career in research. The United States has invested in global programs with each passing year, with students going abroad to various countries to improve their global understanding and their competitive niche in the global labor force ^[16]. In Europe, students who participate in mobility programs are also motivated to develop their employability by learning a vast array of transferable skills ^[44].

Similarly, global service-learning is also all about travel and adventure. All the students in this study had never been to Africa. This trip was such an opportunity for them to fulfill their adventurous dreams. Global program students form a legitimate body of tourists, fulfilling their touristic adventures. Tourism studies show that with proper planning, vacationers experience happiness in all stages, including pre-travel (though filled with anxiety), during, and post-travel, filled with memories and reflections ^[50]. Moreover, Uganda, the *Pearl of Africa*, is a top tourist destination because of its flora, fauna, and other attractions such as monuments, waterfalls, and traditional performances that

fulfill students' touristic desires [3, 51-52].

Relatedly, inspiration from alumni and peers who have made a difference after the trip, as well as support from family and friends, motivated students to participate in the program. Students got to know about what program alumni did through poster sessions, guest speeches organized by the program to encourage new students [3, 51, 53]. In this case, one alumna, after the trip, organized a fundraising campaign to give back to the school feeding program, which inspired Zari. Studies show that students participating in global service-learning programs are a likely to participate in charitable work, thereby promoting students' philanthropy [3, 51, 54-55].

Also, students wanting to go out of their comfort zone were excited to experience a new culture. Such commitments are driven by motives for personal growth, aligning with the theory of reasoned actions [56]. Parental and family support was also echoed among the motivators in global programs, Kasravi [57], more in support of their children going to developing countries like Uganda, as Zari expressed in her verbatim.

Students' Perceptions about Preflections

Students' perceptions about preflection learning were reflected in six themes, including satisfaction, structure, awareness, team-based learning, current affairs, and health precautions. Preflections created awareness, students were informed about the activities, how they would be accomplished, the people involved, precautions needed, and travels, like how Zari expressed in her narratives. Research in global programs advocated preflections for their ability to create awareness of students' expectations of these educational events before their learning experience [3, 17, 18, 58].

The preflection learning phase was an opportune time for learners to partake in deliberate reflections to give the program administration a chance to address the potential assumptions and biases students had before the trip. Preflections enabled students to reflect on their pre-trip attitudes, creating awareness of prior field experiences and examination of the cultural background of the host country that could affect their time in the country, and these could be addressed before the trip.

Students felt satisfied with the preflections and were well prepared for the fieldwork. Their satisfaction was expressed in terms of their pride in their instructors and guest speakers, who had a wealth of knowledge and experience in global programs, especially the Uganda programs. Also, program instructors structured the preflections to include current affairs about Uganda and Kamuli district, and role plays as well as team-based learning, working on different projects. These learning methods enriched students with knowledge about the program, community, and social bonding among themselves before the trip. Gouldthorpe [58] echoed faculty preparedness and bearing the responsibility to expose students to global materials through different teaching methods. Faculty experiences abroad make them knowledgeable to lead students in preflective discussions to reduce biases, increasing the zeal for learning and eagerness to travel abroad.

During preflections, program instructors and university health personnel raised health and safety aspects as vital and created awareness for students. In global programs, it is key to make students aware of the common infectious diseases

and the precautions needed to avoid the predisposition to those diseases, especially the tropical diseases like malaria. It is recommended to access health, safety, and vaccine information from healthcare providers. Earlier, Hartjes *et al.* [59] conducted a study with study abroad programs in the United States and found that 70% of pre-trip health tips were provided by professional healthcare providers and travel health specialists. Health and safety knowledge requires concerted efforts, including partner organizations, travel agencies, and airlines, to provide the needed precautionary health travel tips.

Perceptions about Agricultural Systems in Kamuli District, Uganda

A thematic analysis revealed seven perceptions, including the small scale of production, low technology, gender parities, crop improvement, livestock integration, food security, and limited infrastructure. In the scale of production, students had an impression of production mainly on a small scale that caters to home consumption, with the surplus for sale. They emphasized production as based on staple food crops of the community. During orientations, students were able to spot rare cases of large-scale production but did not attract their attention as they focused on working with small-scale rural farmers in Kamuli district, tending to crops [14] and livestock [60].

Kamuli district has no known large-scale farm equivalent to what Rona referenced (i.e., tea plantations) in her verbatim, but they learned about it as part of the cash crops grown in Uganda, and they would bypass those plantations on their way to Kamuli. The impression held by students meshes with the findings of the different studies conducted in the area, where land access for food production has been shrinking over the years, with adverse effects on food and nutrition security [28-30]. Also, the impression of the crops grown matches similar studies where traditional crops like maize, sweet potatoes, beans, and cassava are mainly grown by at least 60% of households, [14] as well as small livestock such as goats, pigs, and chickens [60]. Nia, a senior in Animal Science, looking toward becoming an all-rounded veterinarian, focused her project on how livestock is raised in Kamuli district.

Technology adopted in production similarly matches the scale of production, both in crop [14] and livestock. [60] From students, hand hoes, which are a sign of traditional farming, and an element of low technology adoption, coupled with planting by hand, were some of their recounts of how hard farmers work to feed their families in Kamuli, especially women farmers, as well as taking care of the health and sanitation of their households [11, 61-62]. The students saw the potential for the development of farming systems, given that the right technologies are given to the farmers, and they were eager to go and work with them to understand what their problems are, especially in soil and crop improvement prospects, as Rona narrated. These aspirations match the CSRL program operationalization vested in scientific research and blending it with indigenous knowledge to create adaptive solutions to food and nutrition challenges. [11] On gender in agricultural development, a lot of gender disparities were brought out with clear illustrations as learned during preflections. Students recounted that women perform a lot of hard labor in the gardens and rarely handle the cash from the sales. Area studies revealed that women are more involved with small livestock requiring less labor on watering, and men with large livestock [60], and water-

intensive crops like rice, and others that involve managing nursery beds and constant watering ^[14]. However, this signals why men handle cash related to livestock and crop output as Rona's impressions hold.

Additionally, Rona was interested in understanding the farmers' perception of GMOs as a crop improvement measure. This interest stems from her agronomy and genetics background and her future dream of improving food security in developing countries through plant breeding. Improving crop production through genetic engineering has had profound impacts on increasing food production. However, like many countries with anti-GMO sentiments, Uganda faces similar barriers due to limited competence in extension education and science communication on GMOs to the communities ^[63-65].

Anticipated Barriers and Possible Solutions

This inquiry focused on pre-trip barriers, internal (related to personal challenges), and external (beyond their own making), and how they could overcome them. For internal, eight barriers including cultural shock, homesickness, vaccination effects, personal security, commitment, personal shyness, fear of foreign environment, and parental restriction were found. The major anticipated barrier was cultural shock since all students had never visited Africa. Through their prelections, students revealed that they could come up with things that looked different from what they see in their daily lives. Students were worried about fitting into the new lifestyle of being visitors.

Rona recounts her story about one of the activities of having a day in the life of a Ugandan schoolchild, which would involve following this child from the time of waking up to going to school and coming back. Zari's idea of dealing with cultural shock was being open-minded and trying as much as possible not to offend anyone. These results are consistent with what Green and Johnson ^[66] echoed, that cultural tremors like cross-cultural communication and divergent customs were a key challenge in international service-learning. Dean ^[67] also described cultural shock as *daunting*, like being in a new community where you do not speak to the people directly due to language differences. Earlier, Wingenbach *et al.* ^[68] found similar cultural issues raised by the students in the Texas-Mexico Initiative on agricultural food systems.

Homesickness as a result of traveling abroad was presented among the barriers for a sophomore as compared to senior students. In her narrative, Zari still recounts her fear of plane rides, and the long distances over 28 hours made her nervous. Kasravi ^[57] found similar results among the students of color, where 28.8% agreed that they did not want to go far from their home on global programs. Wingenbach *et al.* ^[68] also reported that some students fear being away from their homes for a long time.

Additionally, the side effects of vaccination, especially for tropical diseases including typhoid, zika, and malaria-affected Rona. Although it did not go well with vaccination side effects, the student needed to finish the dose. Incomplete vaccine doses have been found to have negative impacts as they accelerate the disease infection ^[69]. Earlier, Rodger *et al.* ^[70] found that among the students who visited East Africa, one had started malaria treatment but never completed the dose and later became asymptomatic on their trip back to the United States when they had a layover in a United Kingdom airport, while other colleagues reported never sleeping under mosquito nets. Hartjes *et al.* ^[59] also

found that inefficiency in the provision of health precautions caused some students to assume that vaccination alone was enough to protect them.

Personal security and safety concerns were raised by Zari, asserting that, being on a new trip, unaware of personal contact with her peers. However, trusting peers and herself was one of the ways she proposed to overcome the safety issues. Personal security has been echoed in earlier studies as a key to improving experiential learning abroad ^[71], and having experienced faculty to lead such programs is key to their success ^[3, 51, 72]. Shyness, especially if you are a homebody like how Nia described her lifestyle, was a barrier with a tendency to hold back because of not being used to working with many people. Feeling shy can be caused by a perception of inefficiency in communication, especially in a second language ^[73]. Nia said that being more open and talking to more people will help build self-confidence and develop social networks.

Another barrier was adaptation into the new environment with Rona recounting her urban life, and now a trip to Kamuli district, where they learned in the prelections about the limited supplies of water, electricity, access to hospitals, and other infrastructures. What made Rona secure was the location where they would be staying, having most of the requirements in the program's Mpirigiti Rural Training Center ^[10]. Rona's concerns are echoed in earlier studies where students raised issues of food and water safety ^[68, 74]. Meeting safety needs and adapting to the environment is key to learning with ease and emotions ^[75].

Also, parent restrictions were a barrier in this study and Kasravi ^[57] earlier found similar barriers and the perception of one student was quoted about their Dad, "...no matter how hard I try to convince him to let me go and if he still says no, I cannot argue with him. ...But I still really want to do it. I'll still do it a few years from now" (p. 92). Parents resist due to fear for the safety of their children going abroad, where they are not sure of their health and security. External barriers included financial, disease, healthcare, and travel bans. Kasravi ^[57] also found that funding for global programs was presented by students. The use of personal and family funds sometimes increases the debt burden on students. Similar results were found among Florida students ^[76], Canadian students ^[77], and New Zealand students ^[78]. Also in the European mobility programs, for instance, among Portuguese students under the Bologna policy ^[79] and Romanian physician students ^[80], all echo financial issues in their intention to study abroad. Lincoln Commission ^[81] in the United States is among those that echoed financial issues and strives to support study abroad programs, much like the Simpson scholarship programs.

Relatedly, a week before the trip, the world saw the spread of COVID-19, which caused health concerns among global programs in March 2020 ^[82]. As a precaution, all global programs were suspended, although by the interview time in March, there were still hopes of traveling. In May, the university Regents halted all global programs, ^[83] and the federal government also issued travel restrictions and closure of global airports. By March 20, the Department of State suspended issuing visas. United States students and citizens already abroad were recalled, citing volatile situations ahead with sudden quarantining and lockdown due to unprepared healthcare systems. The pandemic left unpleasant memories in the students who had already completed their orientation.

Conclusions

This study found that this trip to Uganda would be the first global service-learning trip of the study participants to Africa; despite that, students' readiness to participate was clearly expressed. Students were driven by the motive to achieve their academic endeavors, develop their skills and knowledge in their program specialties, and as all-rounded, interculturally competent professionals to work in a globalized environment. Further, students were motivated to provide a service to the communities, a desire that originated from their passion for service. This passion was linked to the way they were brought up; some of whom see providing community service as what it means to their life. Students were also inspired by the alumni who have made a difference by raising funds to give back to the program to improve their field operations. These inspirations arouse some of their possibilities of continuing with this philanthropic work to improve the livelihoods of vulnerable communities. As an adventurous age group, a desire to tour Uganda was among their trip motivators, expressing enthusiasm to explore its flora and fauna through National park rides and visit the source of the Nile, the longest river in the world. Also, learn cultural norms by immersing themselves in a community, especially a day-long experience of the life of a child working with them from 6:00 a.m. to 6:00 p.m., doing school work and house chores after school.

Students expressed satisfaction with the prelections as this created awareness of the program's expectations of them and their expectations from the program and host communities - learning triad. Students went through their planned and previous years' trip activities presented by their instructors and guest speakers, such as the program alumni. Also, students were satisfied with the organization and structure of the prelections through team-based learning, role plays where they chose topics of interest to their academic programs and researched about them for a presentation to the class. The use of current affairs by searching for interesting weekly Ugandan stories in the news and presenting them to their peers made students feel they were already in-country, adding morale to their trip. Also, as a program in the African tropical zones, students' health was paramount, which was addressed by health professionals from the Students' Health Center. Students had vital health precautions and vaccinations to protect them from acquiring tropical diseases that could impact their health and learning abroad in Uganda.

Similarly, students had pre-trip ideas about the agriculture systems of Kamuli district, Uganda. Such ideas included small-scale production, such as planting by crops hand using hand hoes compared to their modern systems of using planters in the United States. Students also had ideas related to food security and poor nutrition linked to low production, coupled with poor storage and preservation of foodstuffs, affecting food stability and food safety. This perception matches the recent studies within the program on food and nutrition security^[28-30], agronomy and post-harvest^[14], and animal production^[60].

The agronomy major, Rona, had ideas related to exploring a remedy for food insecurity through crop improvement. Rona wanted to have a study on the soils, climate, disease, and pests that inform them as breeders. Also, students wanted to explore the farmers' perceptions of GMOs, a contested crop improvement technology in Uganda^[63]. Rona's goal was to

find out if crops were available to them and/or if they were willing to adopt them. Additionally, Zari, an animal scientist, was interested in livestock systems, especially being seen as poor with animals loitering around town, along roads, and poor meat sales and preservation in open butchers, raising safety concerns that Nabwiire *et al.*^[84] addressed in their study in the same area. Zari wanted to learn more practices and devise strategies to contribute to their improvement as a future veterinarian.

Students also had ideas on gender disparities in agriculture, with women doing more farm labor but addressed as husbands' wives, not farmers themselves, as well as income handling and use from the harvest proceedings. Those ideas were conceived out of the prelection through role plays, guest speakers, and their instructors. These conceptions sank into the students' minds, and based on their specialties, they each elaborated on how they plan to work on some issues to resolve the problems. Previous cohorts have tried to address gender issues through extension education in their team projects^[53]. This spirit is the essence of global service-learning, immersing in a community and finding solutions to emerging issues. The communications major students, for instance, were greatly touched by how much the farmers do hard work and gain less. Her motive, just like an earlier alumna, the student plans to raise funds to give back to the program, promoting student philanthropy.

In the internal barriers, students expressed cultural shock as visitors to the host country expressed their worry about fitting into the new culture for the first time. Homesickness was specifically expressed by the sophomore as compared to the senior students, a feeling of need to be near home members during such a spring break holiday. Also, other students felt shy with a tendency to hold back from the members of the group, while others had issues with personal commitment to the program, with a feeling of whether the trip was worth it, with some tended to back off. These perceptions changed after the prelection learning and all students felt ready and eager to travel.

Personal security and safety were also raised related to being new to each other in a small group, with limited meetings owing to their busy schedules, as well as being new to the community and the staff they were about to meet. Students suggested making more bonds during travel and while at work in-country could potentially improve their safety and security with mutual trust while talking to one another, as well as reducing of tendency to hold back and shyness.

In health, the side effects of vaccination caused sickness to some students whenever pills were taken, affecting their health. Additionally, a new environment was characterized as less giving, with limited communication, a lack of a constant supply of internet, running water, and electricity, and healthcare facilities. However, after learning about the availability of infrastructures, such as the program' Mpirigiti Training Center and all other required services, including transport, food, water, electricity, first aid, and medical arrangements^[10]. Students felt safe and ready to travel. Also, parent restrictions against the trip related to a lack of information about Africa on both parents and students, especially during program sign-up before participating in the prelective learning. This barrier was resolved after prelections and learning about the experiences of the facilitators in global programs, especially the trips to Uganda and other service-learners, both at Iowa

State University and Makerere University whom they would work with in the field.

In external barriers, financial issues were raised specifically relating to funding the students' desires to continue their research projects, especially in plant breeding. Trip expenses were presented by other students, and they were potentially thinking about reconsidering the trip. Limited access to healthcare facilities being Kamuli district, the health sector in the country is not as good as compared to the American health insurance system. Some students expressed that they have grown up with no inconveniences related to accessing health facilities. Also, diseases, especially COVID-19 that were spreading so fast across the globe by the time of the trip. This resulted in the official cancellation of the trip in the very week of travel. Related to COVID-19, travel restrictions on international travel were put on hold, and no visas were to be issued.

Implications and Recommendations

Quality education helps prepare students for a global workforce. Students should participate in global education programs to experience a new array of environments that prepare them to work in the globalized world ^[85-86]. The global component in an education curriculum broadens students' intellectual and socio-cultural skills.

Learning about students' motivation to participate in global programs is a paramount indicator for the success of pre-reflection learning and subsequent experiential learning activities abroad. The perceptions held by students tend to cause imaginary barriers, stigma, and fears of the unknown, which may impede their participation in global programs. The perception of threats by prospective students is graver to their learning according to neuroscientists ^[75].

Conducting pre-reflection exercises with experienced instructors and facilitators and inviting guest speakers such as program alumni tend to address such notions and allow learning to proceed smoothly. These pre-reflection exercises help students compare their prior perceptions with those after participating in the pre-reflections as well as after participation in the global education trips. These comparisons help them to make informed judgments that are helpful for their understanding of global education.

The pre-reflections, therefore, are benchmarks for global learning students and trip planners to make evaluations during and after trips to improve their programs for future teams. Having several mechanisms to get feedback from the students before, during, and after the trip is deemed relevant. Feedback provides ideas on how students are progressing with the activities, learning, and service, and getting a feel of their emotions, as some tend to unintentionally hold back by their nature and/or an expression of uneasiness, which affects learning and service abroad.

In pre-reflections, it is important to encourage students to reflect on their communities with their peers. These reflections are important to build intercultural knowledge and awareness. Instructors can frame learning activities that reflect their perception, which makes it easy for students to make connections as they immerse themselves in a new culture to prevent cultural shocks. There are lessons learned in their reflections, where some of the perceptions are shaped by the communities where they have lived and/or studied.

Self-awareness is essential to intercultural learning among diverse students since learners tend to perceive some

communities differently, which affects the way they judge them as well as their peers ^[87]. Engaging in reflections of self and between ourselves, having problem-solving techniques at play tends to close preconceived notions, and improve our learning in an intercultural diverse team and community with mutual trust and respect.

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