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It's Who We Are: New Approaches, Supported by Evidence

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Abstract

This issue poses the question, "Where do we go from here?" Agricultural and extension educators are well equipped to grow, reimagine, and improve our work. First, we go to our foundational training and educational background and apply those key principles in a new contextual setting.

1) Although we never left the country, we built a virtual study abroad using Kolb's model (1984) of experiential learning to incorporate all four phases into our VHIE teaching and learning process. 2) Creating the SPS Policy Framework for Africa introduced our team to the Continental SPS Committee, which provided credibility to conduct two virtual 4-day participatory workshops to initiate the strategic plans for food safety and plant health. 3) When we addressed the impact of COVID-19 in Africa, we employed the most fundamental, important, and effective educational attribute, caring. 4) Conference attendance improved during the pandemic. However, agricultural and extension educators don't view virtual meetings as a replacement for in-person meetings. 5) Students who have intercultural competence are in high demand. Lewin's Theory of Planned Change explains the virtual student exchange rapid growth phenomena. The increase in students of color and low SES within intercultural competency programs is a welcome benefit.

The problems that COVID-19 brought upon the globe challenged our educational, extension, and outreach systems. I observed that agricultural and extension educators utilized their foundational delivery background and talents to adjust quickly to the contextual COVID-19 pandemic world. We grew, reimaged, and improved our delivery and outreach because that is who we are.

Keywords

Extension Delivery Systems, Virtual Exchange; Participatory Approach

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Abstract

This issue poses the question, "Where do we go from here?" Agricultural and extension educators are well equipped to grow, reimagine, and improve our work. First, we go to our foundational training and educational background and apply those key principles in a new contextual setting. 1) Although we never left the country, we built a virtual study abroad using Kolb's model (1984) of experiential learning to incorporate all four phases into our VHIE teaching and learning process. 2) Creating the SPS Policy Framework for Africa, introduced our team to the Continental SPS Committee, which provided credibility to conduct two virtual 4-day participatory workshops to initiate the strategic plans for food safety and plant health. 3) When we addressed the impact of COVID-19 in Africa, we employed the most fundamental, important, and effective educational attribute, caring. 4) Conference attendance improved during the pandemic. However, agricultural and extension educators do not view virtual meetings as a replacement for in-person meetings. 5) Students who have intercultural competence are in high demand. Lewin's Theory of Planned Change explains the virtual student exchange rapid growth phenomena. The increase in students of color and low SES within intercultural competency programs is a welcome benefit. The problems that COVID-19 brought upon the globe challenged our educational, extension, and outreach systems. I observed that agricultural and extension educators utilized their foundational delivery background and talents to adjust quickly to the contextual COVID-19 pandemic world. We grew, reimaged, and improved our delivery and outreach because that is who we are.

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Introduction

This issue poses the question, “Where do we go from here?” As I pondered my answer, I reflected on the past couple of years, and it became clear to me that agricultural and extension educators are well equipped to grow, reimagine, and improve our work. They address the problem, employ evidence-based processes, and create innovative solutions.

COVID-19 shut the world down in March 2020. This pandemic immediately caused travel restrictions, in-person teaching cancellations, and disruptions in our everyday lives, including shortages in grocery stores. As the early weeks of the pandemic continued, new problems emerged such as how to stay safe from the virus and effectively work from remote locations. This global problem challenged the resiliency of agricultural and extension educators and compelled them to utilize foundational tenets and move forward with evidence-based processes.

It was intriguing to observe and compare how institutions across the planet addressed education, research, and outreach over the past two years. Many decisions and policies were made on how to proceed with teaching, research, or outreach without considering solid pedagogical or andragogical explanations. These policies became “how to” processes and a challenge for many university educators. I observed that agricultural and extension educators relied on sound educational theories and processes, resulting in creative and productive solutions that impacted their stakeholders.

The remainder of this article highlights five problems that most agricultural educators, extension agents, and industry professionals faced and their use of evidence-based theories, results, and processes to guide their solutions. Throughout their history, agricultural and extension educators have employed a successful formula in confronting challenges. They identify the problem, strategize processes to address the challenges, and generate solutions. The past two years reminded us how powerful and effective that formula is.

Study Abroad without Traveling Abroad

The problem: Due to the COVID-19 pandemic and subsequent travel restrictions, all 2020 [university] study abroad programs were cancelled. This high-impact experience included two courses that were already in progress and required for [university] graduation.

The process: To avoid the loss of this valuable international experience and complete the two courses successfully, our goal was to develop a virtual high-impact experience (VHIE). The VHIE was designed to provide a virtual connection to [country]. Research shows that combining virtual elements with interaction and reflection can successfully integrate Kolb’s (1984) experiential learning model (Abdulwahed & Nagy, 2009). Therefore, we combined virtual

experiences, interactive elements, and individual and group reflection to replicate Kolb's (1984) four phases of experiential learning: Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation.

The solution: Seventeen students and four instructors engaged in a 10-day VHIE through various digital and traditional tools that included guest-speakers through a cycle of interactive activities, Zoom discussions, and personal and group reflections. Students met individuals from the [country] government, Peace Corps leadership, tourism industry experts, the Executive Director of the [country's] Uranium Association, the [country] U.S. Embassy officials, the Executive Director and in-country Coordinator for a U.S. Non-Governmental-Organization, and owners of an exotic wildlife veterinary service, all via Zoom. Students engaged each speaker with questions after the guests had ample time to present their experiences within [country], international development, and related topics.

The students engaged one another using other virtual tools. See Table 1 showing technologies used in the international experience course, such as GooseChase (2020). This application required students to break up into teams. In teams, the students competed through in-app photography, videography, and text submissions, answering course-material-based questions and practicing their photography skills. Zoom was utilized to stream the documentaries "Milking the Rhino" (Simpson, 2009) and "Into the Okavango" (Gelinas, 2018). The students watched and participated in show-and-tell photography presentations. One student's enthusiasm of these activities is reflected in this comment, "These activities included team building, communication and creativity. What more could you ask for?"

Students were mailed a package containing postcards, a pre-made [country] wildlife editioned bingo game, and a 360-video Google-cardboard headset. Students used Google cardboard to watch 360 video footage of experiences from the 2019 [country] trip. They later engaged one another through GroupMe (2020) to complete the competitive bingo game using the postcards mailed to different group members. A student commented, "[country] came to life when I got to view it through the videos and play wildlife bingo."

Students reflected individually through concept notes. They later shared these concepts in small-group discussions via Zoom. As a large group in Zoom, we engaged in "Fireside Chats" and "Sundowners" where students came together with facilitators to have large-scale discussions and debriefs—just as we would have in [country]. When asked about the VHIE experience, a student said "Zoom won't ever be [country], but I can confidently say this is still a once in a lifetime experience. It was engaging, uplifting, challenging, and life-changing." We never used PowerPoint during the entire VHIE.

Table 1*Technologies Used in Creating Virtual High Impact International Experience (VHIE)*

Problem	Process	Interactive Digital	Tool Traditional	Summative Solution
Travel restrictions in country and study abroad program canceled	Design virtual high impact experience to connect country and continue student learning	Zoom Fireside Chats Video Streaming Breakout rooms Reflections Sundowners	Industry experts Guest speakers	Implementation of a virtual 10-day synchronous multi-resource interactive engagement for students' experiential learning
Limited contact for Peer-to-Peer connection, engagement, and team building	Facilitate virtual networking, interaction, and competitive assessments among students	GooseChase Group Me	Course material-based questions	Developed creative avenues using in-app photo and video software for peer practice, presentation, and competition
Limited real-life experience for contextual learning outcomes	Carefully plan and pre-design student activities to mimic in-country experience	Mailed Postcards Bingo Game 360 video Google-cardboard headset	Past recordings	Utilization of accessible resources, past footages, and context specific activities to mimic experience
How to assess global competency among participants for continuity of program	Deploy interactive knowledge assessment tools and text submissions	Zoom Kahoot Jamboard Microsoft Teams	Concept notes Show and tell	Modeling and documenting VHIE to demonstrate confidence, community building and increased global competency

Educational importance: The impacts of COVID-19 continue to affect the planning of future study abroad trips and other off-campus high-impact experiences; however, technology gives us the ability to continue generating impactful experiences.

It is evident VHIE can be enriching, as one of our students stated, “Although I have not physically been to [country], I feel that a part of me has definitely experienced the culture. I know that I have more knowledge about [country] than I thought I would, and I would do it all over again. I think VHIEs would benefit so many students who wish to go abroad but cannot for whatever circumstance. Not only did we hear from and gain insight and knowledge from many people familiar with [country], but we also created a community of people within our program. This has been engaging, interesting, inspiring, and so much more.”

This VHIE serves as a model for future programs to implement lessons that students previously could only gain abroad into accessible formats. Students do not need a trip to a foreign country to gain access to global resources. Technology puts these experiences at our fingertips. We can increase global competency, interpersonal communications, self-reflection, and critical thinking right on our laptops.

Participatory Approach when Building a SPS Policy Framework for Africa and Creating its Subsequent Strategic Plans

The problem: Prior to the pandemic, our team, on behalf of the African Union Commission’s Department of Agriculture, Rural Development, Blue Economy, and Sustainable Environment (AUC-DARBE), and supported by the United States Department of Agriculture’s Foreign Agriculture Service (USDA-FAS), facilitated the development of a science-based Sanitary and Phytosanitary (SPS) Policy Framework for Africa that would support Member States (MS) and Regional Economic Communities (RECs) in achieving their trade goals (AU, 2015; AUC, 2019; WTO, 2019). In addition, the Framework provided recommendations detailing necessary action steps to implement the Framework. Then, the pandemic occurred. The next action steps included creating food safety and plant health strategic plans for Africa (AFoSaN, 2019; Molnar, G. & Godefroy, S., 2019). How would we facilitate the preparation of those two critical documents?

The process: Our team expanded the virtual processes used to create the SPS Framework for Africa. We kept these steps the same: conducting an extensive literature review; implementing an online questionnaire with the AU’s Continental SPS Committee and stakeholders; interviewing half of the questionnaire participants; creating meeting agendas; and, preparing engaging workshop tasks. In lieu of a two-day in-person workshop, a four-day, 3-hour/day

virtual workshop was employed for each strategy. The U.S. facilitators began the Zoom workshops at 6:00 a.m. CST so that the Eastern Africa Time (EAT) zone participants could start the meeting at 2:00 p.m. and adjourn at 5:00 p.m. Africa has four time zones, meaning that the earliest African participants began the meetings was at 11:00 a.m. Participatory strategies to engage the participants to review, edit, and add to the strategic plans were employed.

The solution: The AU's Continental SPS Committee created salient strategies and action steps, including dividing roles and responsibilities among AUC-DARBE, RECs, MS, and other related stakeholders. The participation levels increased from 30 participants, when we met in person for the two-day in-person workshop in Ethiopia, to 90 participants for the plant health strategic plan workshop, and to 120 participants for the food safety strategic plan workshop. These two strategic plans are currently in the final stages of review and approval by AUC-DARBE.

Educational importance: With the implementation of the participatory approach, participation levels increased, and people had more time between sessions to reflect and gather resources from their offices and colleagues that enhanced the strategic plans. When engagement activities were not utilized, it was clear that some participants focused on other activities.

Investigating the impact of COVID-19 on African Regional Economic Communities (RECs); A Case Study of 'The Continental SPS Committee'

The problem: The coronavirus (COVID-19) pandemic disrupted the world with attendant impact on agricultural productivity, food insecurity, trade, and socio-economic environment in Africa (Willy et al., 2020). Notwithstanding emergency responses to mitigate the unprecedented disease, the Africa Centres for Disease Control and Prevention, 2021 reported about 8 million positive cases, with a death burden estimate at 2.5% by September 2021. Given our involvement with the African Continental SPS Committee, it was important to gain a practical understanding of responses from the Regional Economic Countries (RECs) on the COVID-19 pandemic to better assist us in facilitating the workshops to create the SPS related strategic plans.

The process: We deployed a mixed-methods approach using a desk review of credible primary sources and a participatory survey with interview questions. We specifically targeted the Continental SPS Committee, a technical committee made of leaders across Agriculture, Rural Development, Water and Environment Sectors in the AU. The AU recognizes eight different RECs that are under the administration as follows: The Arab Maghreb Union (UMA), Common Market for Eastern and Southern Africa (COMESA), Community of Sahel-Saharan States (CEN-SAD), East African Community (EAC), Economic Community of West African States (ECOWAS), Intergovernmental Authority on

Development (IGAD), Southern African Development Community (SADC), and the Economic Community of Central African States (ECCAS). Our survey was shared electronically using a questionnaire with three targeted questions to measure the impact of COVID-19.

1. How were they coping with the pandemic?
2. What were their competencies in dealing with the pandemic?
3. What was the difference between rural and urban communities?

We used the Zoom (2020) platform to conduct the actual interviews. Our data was collected and organized into a matrix format and responses analyzed and peer-reviewed to develop overall themes.

The solution: We observed three direct themes in response to our questions, and more importantly, an indirect result. There was a significant disruption to “business as usual” across the spectrum. Given that the pandemic was unprecedented, preparedness, preventive and protective actions evolved. The second common theme reported a multi-sectoral collaboration and partnership that validated the importance of collaborating to effectively adopt ideas within their regions. Conversely, there were complaints of complacency against the safety protocols as months passed, inadequate vaccine and medical infrastructures, a lag in international trade while addressing quarantine regulations, and limited agricultural extension services. The final theme highlighted the disparity between urban and rural communities in the number of positive COVID-19 cases, safety protocol compliance levels, better agricultural extension services, regulatory oversight on food businesses, essential infrastructure and medical facilities, and population density, with rural communities reportedly the most vulnerable across the RECs. (Banga et al., 2020; Willy et al., 2020).

Educational importance: The indirect result was quite simple, yet it resulted in a large impact on the AU. We asked these questions in February 2021, almost a year after the pandemic began. The AU wanted to initiate the SPS action steps in May. Due to our involvement of REC personnel in February 2021, they were re-engaged with the AUC and ready to participate in May at levels much higher than we had experienced in the 2019 in-person meetings.

Global Extension Conferences

The problem: Travel budgets do not often allow participation in every global extension conference that you want to attend. During the past two years, travel restrictions prevented in-person conference participation domestically and globally.

The process: We all became Zoom participants. In addition to attending AAAE, AIAEE, and AIARD via Zoom, I participated and spoke at extension conferences in the Philippines, India, and Taiwan.

The solution: Virtual options are continuing, even as some conferences are returning to an in-person format. Budgets are still a concern domestically and a huge issue internationally. However, we learned that some portions of conferences could be covered effectively via virtual technology.

Educational implications: As university budgets continue as a challenge, virtual options are probably here to stay along with emerging participatory and interactive tools that enhance the experience.

Lewin's Change Model Describes How to Unfreeze International Experiences after COVID

The problem: The global pandemic restricted international travels which canceled university sponsored study abroad programs.

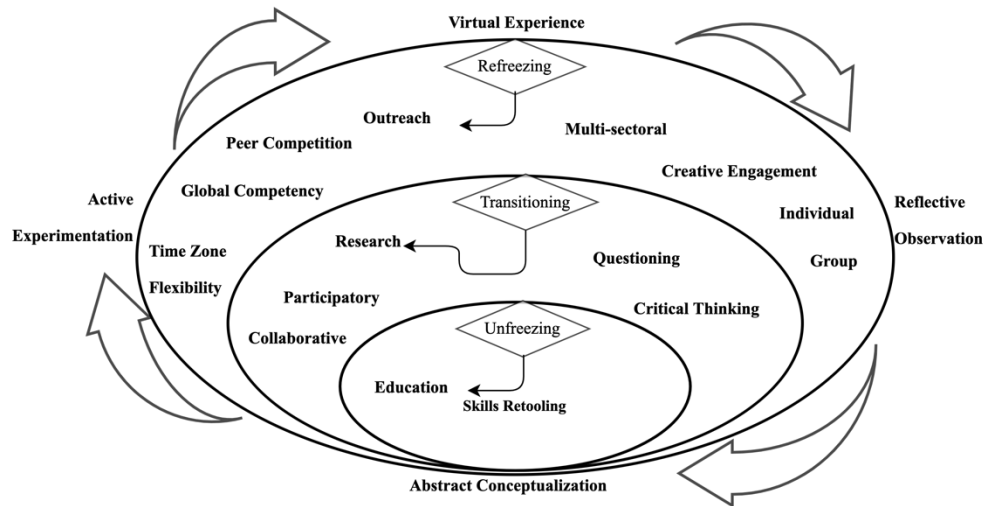
The process: The idea of virtual student exchange is not necessarily new to the world of education. However, due to COVID, utilizing them to provide intercultural competency opportunities to students gained traction. Lewin's Theory of Planned Change (2013) provided direction and rationale for this process. There are three stages of Lewin's Change model: unfreezing, moving or transitioning, and refreezing (Schien, 1996; Shirey, 2013). This model, shown in Figure 1 circulates the idea that when certain known processes that are "frozen" experience a forced change through "moving or transitioning," they are "refrozen." This description illustrates the escalation of virtual student exchanges as a mechanism to enhance intercultural competence.

The solution: The idea of utilizing virtual student exchanges to expand the diversity of students who can participate and gain intercultural competencies became an unexpected outcome. According to Simon and Ainsworth (2012), study abroad experiences hold a level of exclusivity, especially regarding students of color and low socioeconomic (SES) groups. Despite recent improvement in diversity, enrollment in study abroad continues largely restricted to White, affluent, middle-, or upper-middle-class female students who study the humanities or social sciences. By producing alternative opportunities for underrepresented and low SES students, the number of students who graduate with international experiences and intercultural competence can increase.

Educational implications: No longer is cost a barrier to gaining intercultural competencies. All students who attend college have the potential to participate in an intercultural educational activity. When the high cost of traditional international experiences is removed from the equation, more students are able to improve their intercultural competence, making them more competitive in the job market.

Figure 1

Evidence Based Framework Conceptualizing New Approaches for International Agriculture



Note. This framework demonstrates how the four stages of Kolb's experiential learning was integrated into Lewin's 3-stage change model to equip agricultural and extension educators re-imagine new approaches for international agriculture during the pandemic.

Conclusion

By utilizing the problem, process, and solution framework to address “new approaches” to agricultural and extension education, I answered, “Where do we go from here?” First, we go to our foundational training and educational background and apply those key principles in a new contextual setting.

1) Although we never left the country, we built a virtual study abroad using Kolb's model (1984) of experiential learning to incorporate all four phases into our VHIE teaching and learning process. 2) Creating the SPS Policy Framework for Africa introduced our team to the Continental SPS Committee, which provided credibility to conduct two virtual 4-day participatory workshops to initiate the strategic plans for food safety and plant health. Knowing your audience or students improves communication and transfer of knowledge. Basic pedagogical and andragogical strategies were employed as we created the agenda to elicit input from all participants. 3) When we addressed the impact of COVID-19 in Africa, little did we realize the therapeutic value of those three questions. Essentially, the participants viewed our request for information, that we cared

about them, one of the most fundamental, important, and effective educational attributes. 4) Conference attendance improved during the pandemic. However, agricultural and extension educators don't view virtual meetings as a replacement for in-person meetings. People seem to be anxious to meet face-to-face as evidenced by recent high attendance at a regional research conference in [state]. 5) Finally, corporate America is clamoring for globally minded university graduates. Therefore, students who have intercultural competence are in high demand. Lewin's Theory of Planned Change explains the virtual student exchange rapid growth phenomena. The increase in students of color and low SES within intercultural competency programs is a welcome benefit as described in the refrozen phase of the model.

The problems that COVID-19 brought upon the globe challenged our educational, extension, and outreach systems. Some organizations attempted to move their group interactions to Zoom without incorporating effective engagement strategies. However, I observed that agricultural and extension educators utilized their foundational delivery background and talents to adjust quickly to the contextual COVID-19 pandemic world. We grew, reimagined, and improved our delivery and outreach because that is who we are.

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