

Experiential learning teaches change and adaptation

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Economics, environmental impacts, social dynamics, and production levels are all major factors that influence the overall success of an agroecosystem. Positive or negative, these factors enact change on the system, forcing individuals and social groups to continuously adapt farming and food systems in order to survive.

Experiential learning theory suggests that knowledge is gained as a direct result of firsthand experiences. Such lessons are especially valuable for environmental and agricultural educators as they consider strategies to help agroecosystem stakeholders learn how to manage change.

Agroecosystems Analysis, a course conducted in a farm and rural landscape setting, is an example of an educational program that combines experiential learning and teaching. The course required students to ask questions and look at the complexities and interactions within an agroecosystem in order to develop problem-solving skills in the area of agroecology.

Dr. Kristyn Harms, an agricultural educator at Norris High School near Lincoln, NE, in conjunction with Dr. James King and Dr. Charles Francis of the University of Nebraska-Lincoln, conducted a mixed methods study which analyzed the impact of the agroecology course on enrolled students. Through a combination of pretests and posttests, daily qualitative evaluations, and personal reflections, they determined that the Agroecosystems Analysis Course measurably impacted participating students. The research results are published in the latest issue of the *Journal of Natural Resources and Life Sciences Education*.

Based on results from the study, a model was created that outlined the factors needed to create an effective experiential [learning environment](#) and, ultimately, engage behavioral change. Hands-on activities, emotional responses to experiences, human interactions, amount of self-efficacy, and intensity of experiences all contributed to an experiential learning environment that fostered behavioral change among participants. In addition, the length of course, appropriateness and rigor of content, learner-centered curriculum, ongoing education, and metacognitive processes clearly produced a more likely path for experiential learning. Economics, the environment, production-related factors, and [social dynamics](#) were also added to the model as contextual factors that influence the experiential learning environment. Inevitable changes in knowledge, attitude, skill, and behavior were considered as well. Ultimately, when working in a trusting learning community, the causal conditions of experiential learning and agroecological system factors create an environment where changes in knowledge, skills, attitudes, and behaviors are more likely.

Based on this study, future research should focus on analyzing the metacognitive processes present within experiential education, specifically within an agricultural environment. Further studies should also examine the impacts of the causal conditions for experiential education on the outer factors of the model (economics, environmental well-being, social dynamics, and production-based issues), and measure the correlation among causal conditions and behavioral changes of individuals participating in agroecology courses.

More information: View the abstract at www.jnrlse.org/view/2009/e08-0042.pdf

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