Igniting Reflection: Using Photovoice to Enhance Experiential Learning in a Prescribed Burning Course

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Introduction/Need for Innovation

The photovoice method provides an innovative form of reflection but is rarely used in educational settings (Ciolan & Manasia, 2017). Since its inception by Wang & Burris (1997), photovoice methodology has been utilized as a participatory action research strategy with the intent of facilitating identification, reflection, and discussion of community-based social issues through the act of participants capturing images (Sutton-Brown, 2014). Although not widely employed, some researchers have used this qualitative method in primary, secondary, and post-secondary classroom settings (Malka, 2022; Mulder & Dull, 2014; Whitfield & Meyer, 2005). Therefore, this innovative idea explored the use of photovoice as a tool for practitioners to utilize within a prescribed burning course with emphasis on the reflection stage of the experiential learning process. Students relied on what they learned in lectures and were given the opportunity to reflect on experiential learning in the field to enhance their learning by discussing the images captured.

Experiential learning is an integral element within agricultural education that provides hand-on experiences for students in a variety of classroom settings and prepares them for future careers in agriculture and natural resources (Baker et al., 2012; Shoulders & Myers, 2013). In describing Experiential Learning Theory (ELT), Kolb (1984, p. 38) stated, "Learning is the process whereby knowledge is created through the transformation of experience." These experiences are comprised of a four-stage cycle in which students actively engage in learning: Concrete Experience (i.e., feeling), Reflective Observation (i.e., watching), Abstract Conceptualization (i.e., thinking), and Active Experimentation (i.e., doing). By combining the reflective nature of photovoice with the reflection aspect of ELT, there is a need to explore the opportunities students may have when becoming an active participant in their own experiential learning process (Patka & Robbins, 2017).

How it Works

Students enrolled in a prescribed burning course at Texas Tech University were tasked with attending field trips (i.e., burn days) throughout a semester. During the field trips, the instructor and students traveled to a landowner's property in [Region] to discuss burn plan objectives, execute the burn plan, and discuss the results of the burn with the landowner. Students were expected to engage in the experiential learning process by applying what they learned in prior lectures (Abstract Conceptualization, Concrete Experience) to a hands-on, real-world prescribed burning experience (Active Experimentation).

To explore the use of photovoice as a tool for igniting reflection, a three-step process was used: 1) an introduction to photovoice, 2) student participation with photovoice, and 3) reflection of the images captured. First, the instructor presented a PowerPoint that introduced the students to the photovoice process, a timeline for the project's duration, and the topic for their images. For the topic, students were asked to visually document what they learned about wildfire science while enrolled in the course. Second, students were asked to capture five images during their one-week spring break and upload them to a Microsoft OneDrive folder for the instructor to print. Finally, when students returned, a focus group was scheduled during the course's lab time and students were given their printed photos. A moderator guide was developed to enable

discussion about the images, perception of experiential learning, and their experience using photovoice. With consent from each student, Otter.ai, an audio transcription software, was used to record the focus group discussion. The researcher hand-coded images and transcript data.

Results to Date/Implications

Overall, students viewed the photovoice activities as beneficial to their overall learning experience. In addition to students' collection of images, the focus group served as an important part of the reflection process as it allowed students to think back through why they decided to visually capture certain parts of their learning experience. Additionally, the focus group discussion implied photovoice was an effective tool for reflection and sparked discussion among classmates about the images they captured, photovoice methodology, and the importance of experiential learning.

Students discussed how the photovoice activity helped them understand fire-risk landscapes, equipment, fire breaks, and wildlife risks, and the importance of fire management. Several students captured images of potential fire breaks like water (i.e., a river), fire (i.e., burn scars), and fuels (i.e., overgrown vegetation and debris). Students said photovoice gave them the opportunity to derive deeper meaning from their lab experiences. Students also expressed the importance of viewing their peers' images during the focus group discussion. The activity also allowed students to observe other learning styles in the classroom. One student stated, "I'm a visual learner…seeing the photos is better than people writing it down and describing it." Finally, students said photovoice could be a useful tool for instructors to provide direction for what needs to be covered in class or what needs to be addressed in the field.

Future Plans/Advice to Others

Facilitating reflection is crucial for the implementation of photovoice within the ELT model. Because photovoice is a participatory method emphasizing participants' involvement in the results, students were asked about advice they would give to instructors interested in using photovoice. Students advised future practitioners to use photovoice for reflection in courses that use both classroom instructional methods and hands-on experiences to think deeper about the course. Given photovoice can be used in a variety of classroom settings, instructors should develop a detailed plan specific to the course and the interest of the students. Also, instructors should plan ample time for the duration of the photovoice project to clarify the process and answer questions.

Cost/Resources

To allow students the ability to share their images with their peers, the only direct cost was Walmart photo printing services, and each image was $0.12. In terms of indirect costs, students were asked to use their personal smartphone camera to capture images, but others may choose to supply their students with disposable or DSLR cameras if available. Students should already have access to other essential materials such as internet access and laptops for photo submission.

References

Baker, M. A., Robinson, J. S., & Kolb, D. A. (2012). Aligning Kolb's Experiential Learning Theory with a comprehensive agricultural education model. *Journal of Agricultural Education*, *53*(4). https://doi.org/10.5032/jae.2012.0400

Ciolan, L., & Manasia, L. (2017). Reframing photovoice to boost its potential for learning research. *International Journal of Qualitative Methods*, *16*(1), 1609406917702909. https://doi.org/10.1177/1609406917702909

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Upper Saddle River, NJ: Prentice Hall.

Malka, M. (2022). Photo-voices from the classroom: Photovoice as a creative learning methodology in social work education. *Social Work Education*, *41*(1), 4-20. https://doi.org/10.1080/02615479.2020.1789091

Mulder, C., & Dull, A. (2014). Facilitating self-reflection: The integration of photovoice in graduate social work education. *Social Work Education*, 33(8), 1017-1036. https://doi.org/10.1080/02615479.2014.937416

Patka, M., Miyakuni, R., & Robbins, C. (2017). Experiential learning: Teaching research methods with photovoice. *Journal of Counselor Preparation and Supervision*, *9*(2), 11. https://dx.doi.org/10.7729/92.1183

Shoulders, C. W., & Myers, B. E. (2013). Teachers' use of experiential learning stages in agricultural laboratories. *Journal of Agricultural Education*, *54*(3), 100-115. https://doi.org/10.5032/jae.2013.03100

Sutton-Brown, C. A. (2014). Photovoice: A methodological guide. *Photography and Culture*, *7*(2), 169-185. https://doi.org/10.2752/175145214X13999922103165

Wang, C., & Burris, M. A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education and Behavior*, *24*(3), 369-387. https://doi.org/10.1177/109019819702400309

Whitfield, D., & Meyer, H. (2005). Learning from our students: Photovoice and classroom action research. *Science Education Review*, *4*(4), 97-103.