Community based experiential learning in a large first-year biology course

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Connecting biology concepts with real world situations

University and community collaborating to develop relevant community experience

Instructors of first-year biology at UBC go to great lengths to emphasize the connections between concepts covered in class and real world situations, however, students often lack the relevant experience needed to bridge theory and practice.

To address this challenge we integrated a community-based experiential learning module into the curriculum of one section of a lecture-based course.

Experience in community deepened student learning

Student assignments and informal comments revealed that this integrated module allowed them to experience connections among the concepts learned in the classroom, what happens in nature, specific eco-related issues, and the work that professional biologists conduct in our communities.

An analysis of the recommendations for the future management of the park by students’ pre and post community experience showed that the majority of students provided a new rationale for their earlier recommendations. Students used direct evidence from their experience in the park to support their new rationale and demonstrated a more integrated understanding of the ecology of Tynehead.

"I would change the second recommendation because after seeing the empty state of the park, I realized that humans have to aid in creating biodiversity. Even if we leave it (the park), it would not be too different a few years from now. I would leave it at not having recreational activities while the park is beginning to grow so that harmful human interference, such as littering, does not occur.”

Pre- and post-community experience assignments from a sample of 73 matched students were analyzed to investigate differences between original and revised recommendations.

23% of students also noted the importance of fieldwork to the professional application of biology.

28% of students felt that their contribution of planting trees made a positive impact on the ecosystem at Tynehead Park.

Future directions

Community experience extended to multiple course sections at different sites identified by Metro Vancouver.

Evaluation will be conducted across multiple course sections to further investigate how community-based experiential learning supports academic and civic engagement outcomes in first year biology.

FROM THE CLASSROOM TO THE FIELD

Aim

- Directed Readings
- Tynehead Regional Park Case Study
- Small group discussion
- Individual written recommendations for the management of the Park

Act

- Tour of the Park by park staff emphasizing forest ecology
- Planting native trees and shrubs with park staff
- On site tree identification assignment

Reflect

- Revisit recommendations and revise them based on new learning

Student writing revealed that 95% of students felt that their contribution of planting trees made a positive impact on the ecosystem at Tynehead Park.

"The most interesting thing I've learned in biology.

"Helping to restore the park was invigorating. I had never planted a tree before, and even though it is not as easy as it seems. Looking at the final product felt very empowering knowing that everyone can contribute to making the environment a better place no matter how much effort they put into it. Although, just my efforts won’t have a huge impact, I believe all the UBC students together made an impact.”

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