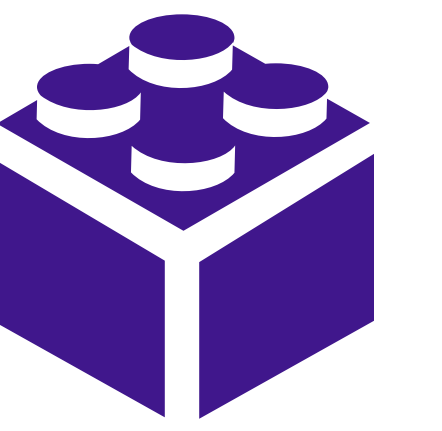


# FROM THE CLASSROOM TO THE FIELD

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

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### Connecting biology concepts with real world situations



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 content 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.



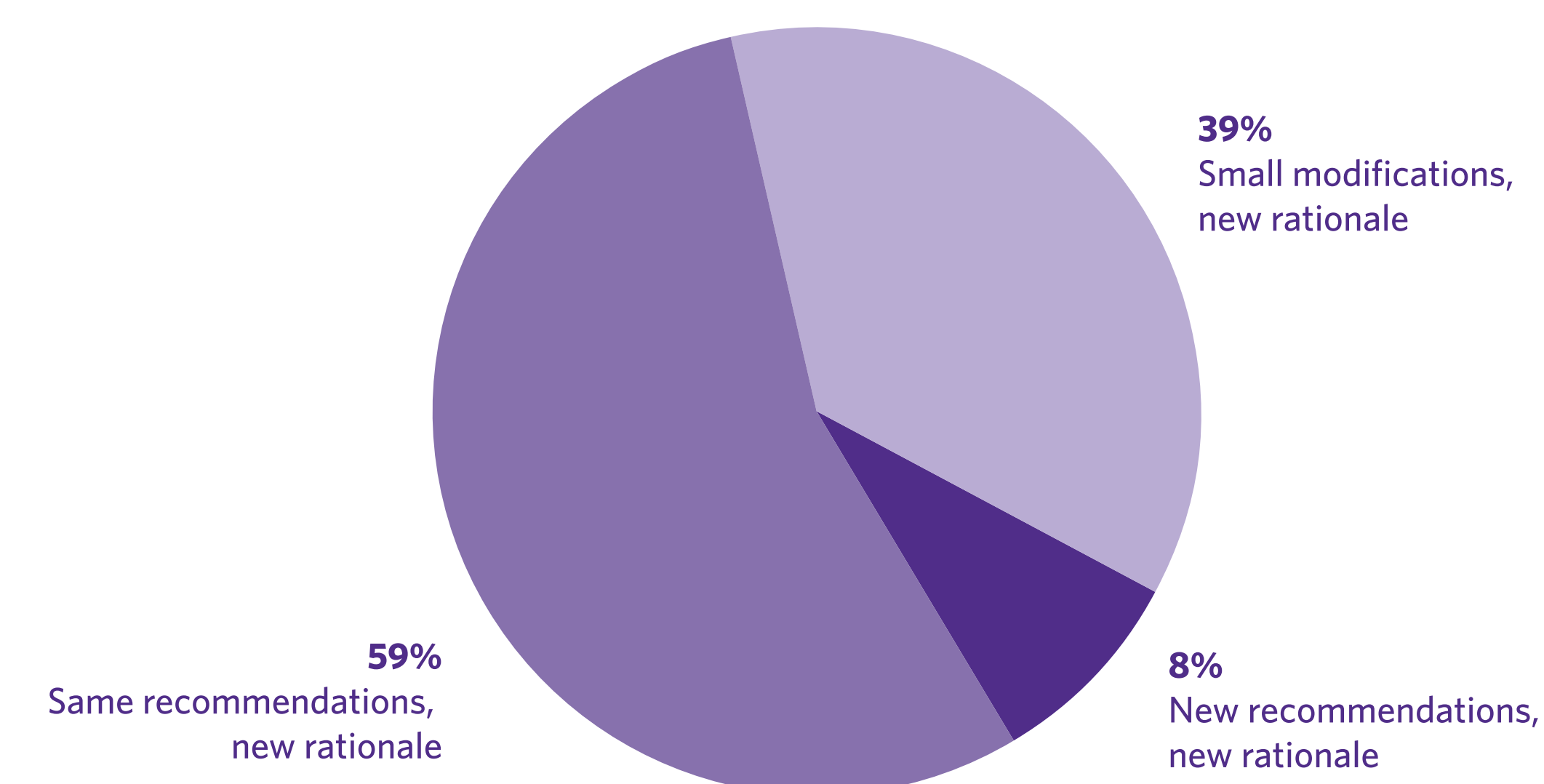
Centre for Community Engaged Learning  
Department of Botany  
Department of Zoology

### University and community collaborating to develop relevant community experience



All parties came together to design a student experience in community that would support both the course learning outcomes and the mandate of the community partner. The collaborative nature of this process ensured a strong sense of reciprocity between university and community.

*"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.

### Integrating a framework for community based experiential learning into the curriculum

Metro Vancouver identified a significant reforestation initiative at Tynehead Regional Park in Surrey that could be supported by all 220 first year biology students. The park provided a perfect example of a forest community undergoing changes due to both

human activities and natural processes, thereby addressing some of the course learning objectives. Students were engaged in a half a day experience hosted by Metro Vancouver staff including: biologists, park stewards and landscape designers.



#### 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 learning outcomes

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 to me was the fact that I got to compare the baby trees I planted to what they would look like in fifty years. The reason I was so astonished was I was able to put into perspective what would happen to the area we redeveloped in fifty years. To imagine one day, enormous trees will be standing due to our efforts is an exceptional feeling!"*

### Future directions

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

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

*"The most interesting thing I've learned throughout this experience is the relevance of fieldwork. In high school, biology always meant memorization - I know there's much more to it than that now."*

Several students acknowledged the role of teamwork and cooperation as part of a larger sense of accomplishment.

*"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."*

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.