Community Engagement through a Health-Related Honors Biology Service-Learning Project

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Session Learning Objectives

- Presentation participants will:
  - Discover how instructional teams and community partners work together as they implement a four-part service-learning model
  - Discuss how the principles of engagement (integration, advocacy, and accountability) may be illustrated by students and instructional teams using the service-learning model
  - Complete a reflection on how they might incorporate the model into their own service-learning projects

Engagement is:

The collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity.

- Carnegie Foundation (2008)

Engagement Principles

Integration of community and university assets for mutual benefit

Advocacy through shared vision, recognition and reward, celebration, and communication

Accountability achieved by measuring scholarly outcomes and community impacts

from: https://engage.osu.edu/for-faculty-and-staff/principles.html

Problem: Students don't understand why they need to learn Biology

Idea Spark: Lilly Conference 2012…Service Learning Project?

Question: How can we use service learning to improve students' ability to connect Biology class to real-world issues?

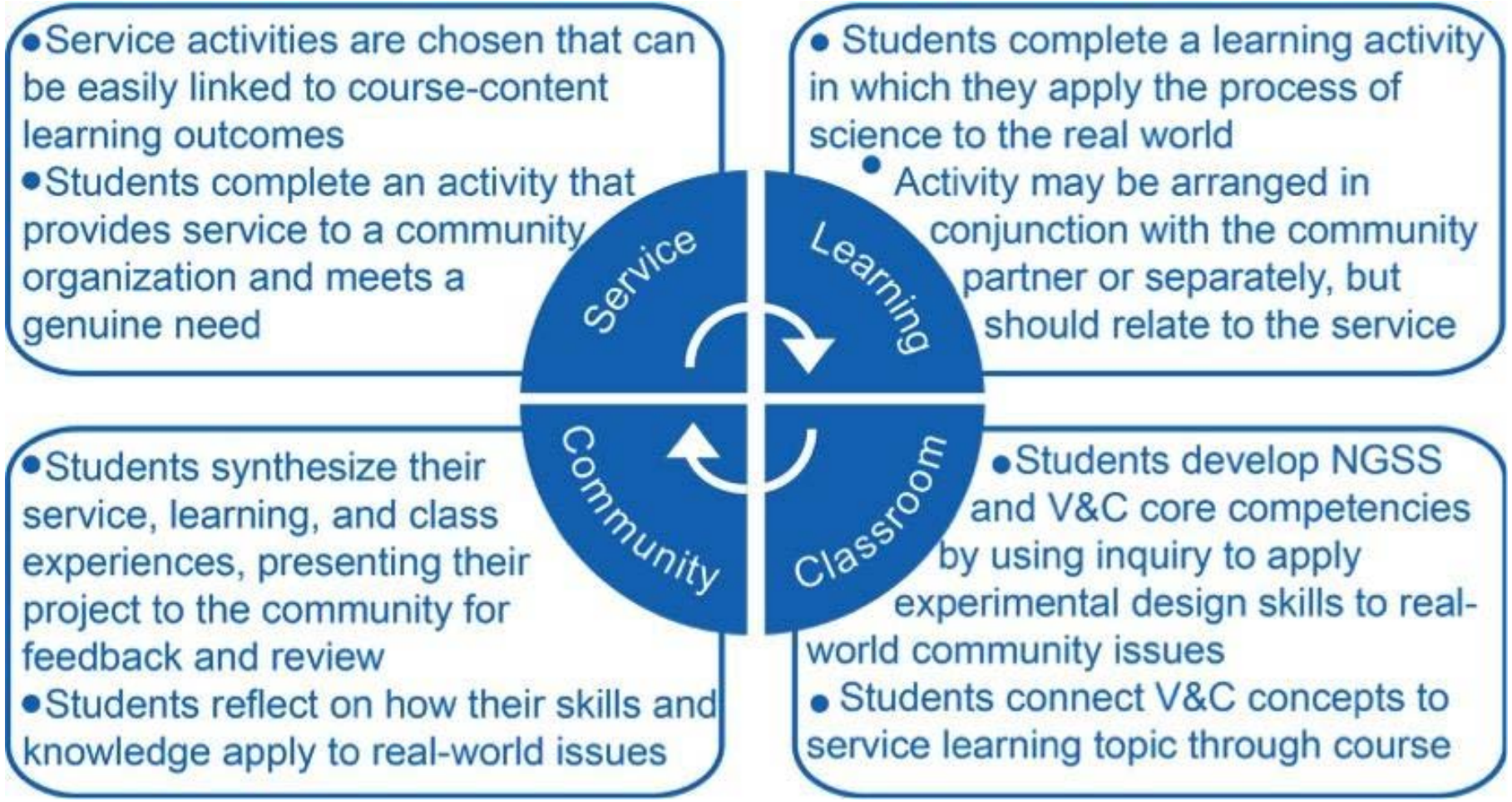
Why is Service Learning High-Impact?

- Students think about biology for an extended time outside of the classroom.
- Students integrate multiple topics across society and the classroom (Kuh 2008).
- Students spend more time interacting with peers, community members, and faculty in purposeful scientific discussion (Brownell and Swaner 2010).
- Students participate in several critical reflections (Ash and Clayton 2009).

What is the distinction between service learning and community service?

Community Service	Service Learning
Make a valuable contribution to the community	Impact student learning through a contribution to the community
Learning is secondary or unintentional	Learning is intentional and the primary goal
No integration of curriculum	Promote curricular goals and apply classroom learning in service settings

Service Learning Model



Bernot, K.M., et al. (2016). "Service Learning as Inquiry in an Undergraduate Science Course." *The American Biology Teacher*, 79(5), 393-400.

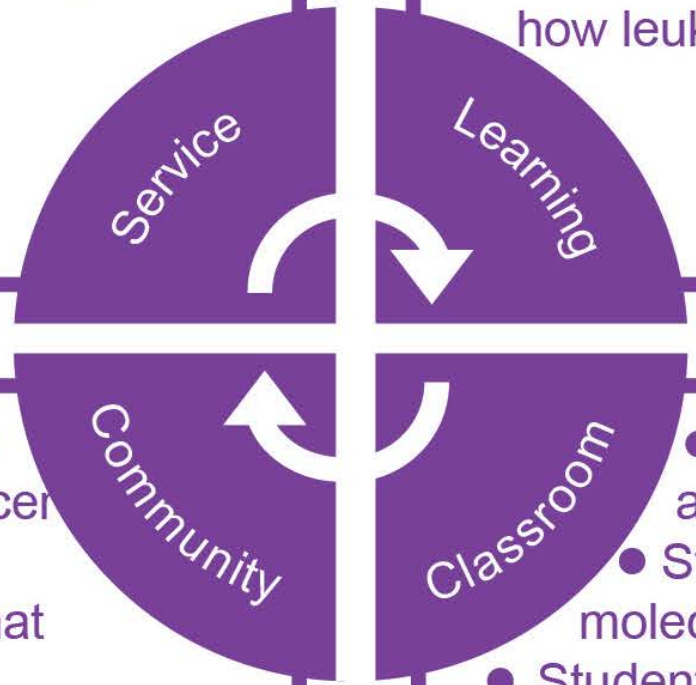
Path to partnership

The Leukemia & Lymphoma Society, Central Ohio Chapter

Leukemia and Lymphoma Society

- Service: students staff the Light The Night Walk (setting up lanterns, swag table, warming nook, kids play area, etc.)

- Students listen to cancer survivor stories
- Students visit Dr. Byrd's laboratory and learn how leukemia research is conducted



- Students synthesize the connection between cancer patient needs, cancer biology, cancer research, and the fundraising necessary to carryout that research

- Experimental design skills are applied to community needs
- Students connect form (cell signaling molecules) with function (oncogenes)
- Students consider how mitosis and cell division form the basis for cancer

Community Poster Session

- Poster Design
  - metrics for analyzing the efficacy and significance of contribution
  - identifying specific connections between classroom biology topics and their service activity
  - presenting ideas for future contributions an individual, as a class, and OSU as a university
- Peers, faculty, and community partners at a formal symposium

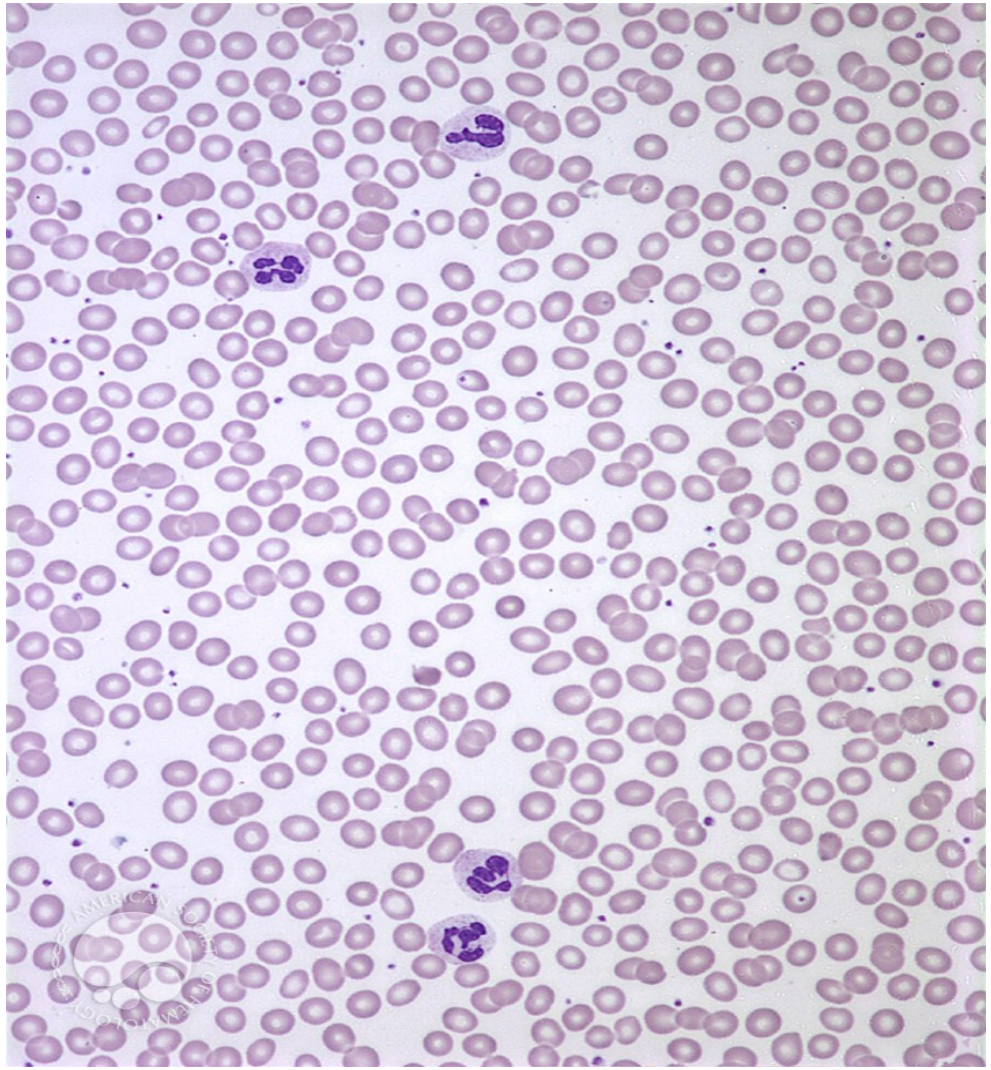
Community Partner Roles: Service

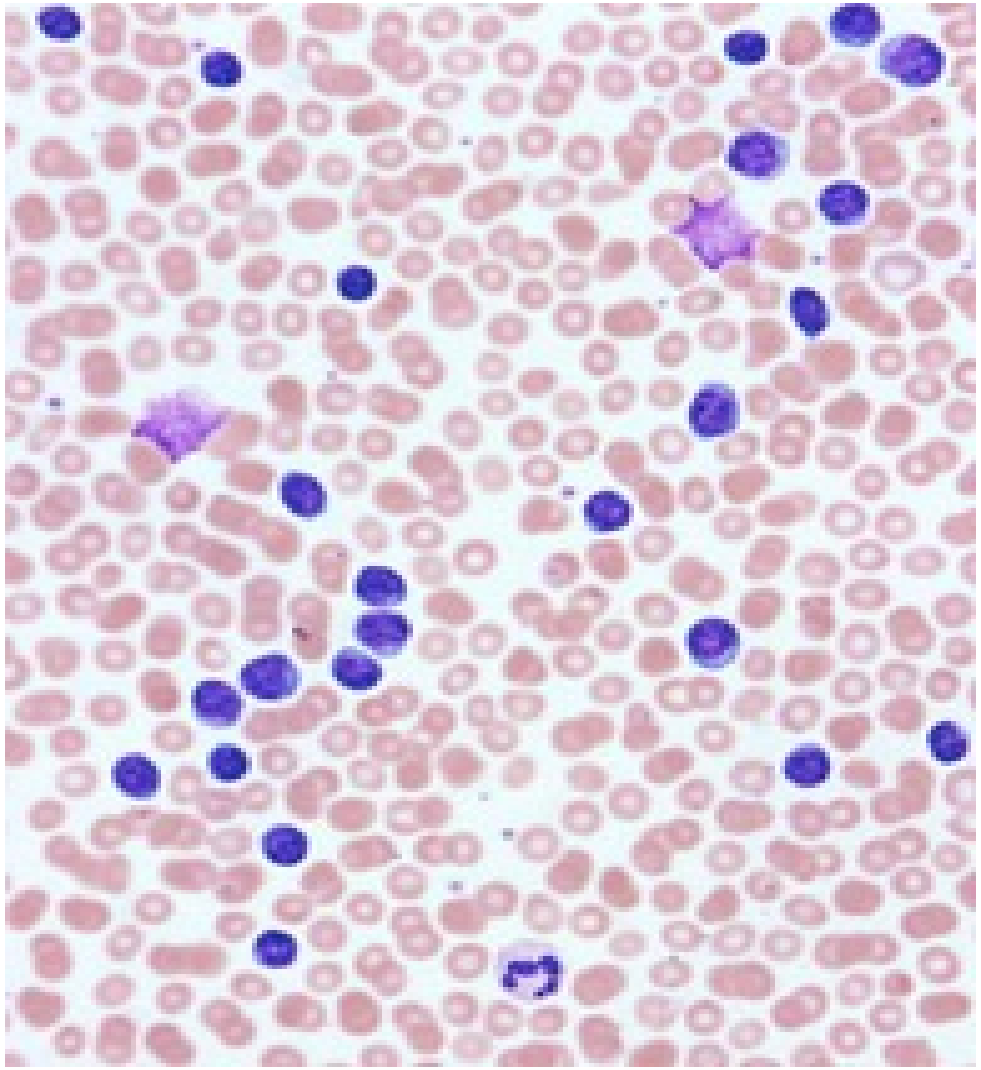
- *Service*:
  - Students volunteered at the LLS annual Light The Night event (Autumn).
  - In the Spring, students will volunteer at the kick off event for the Student of the year event.

Community Partner Roles: Learning

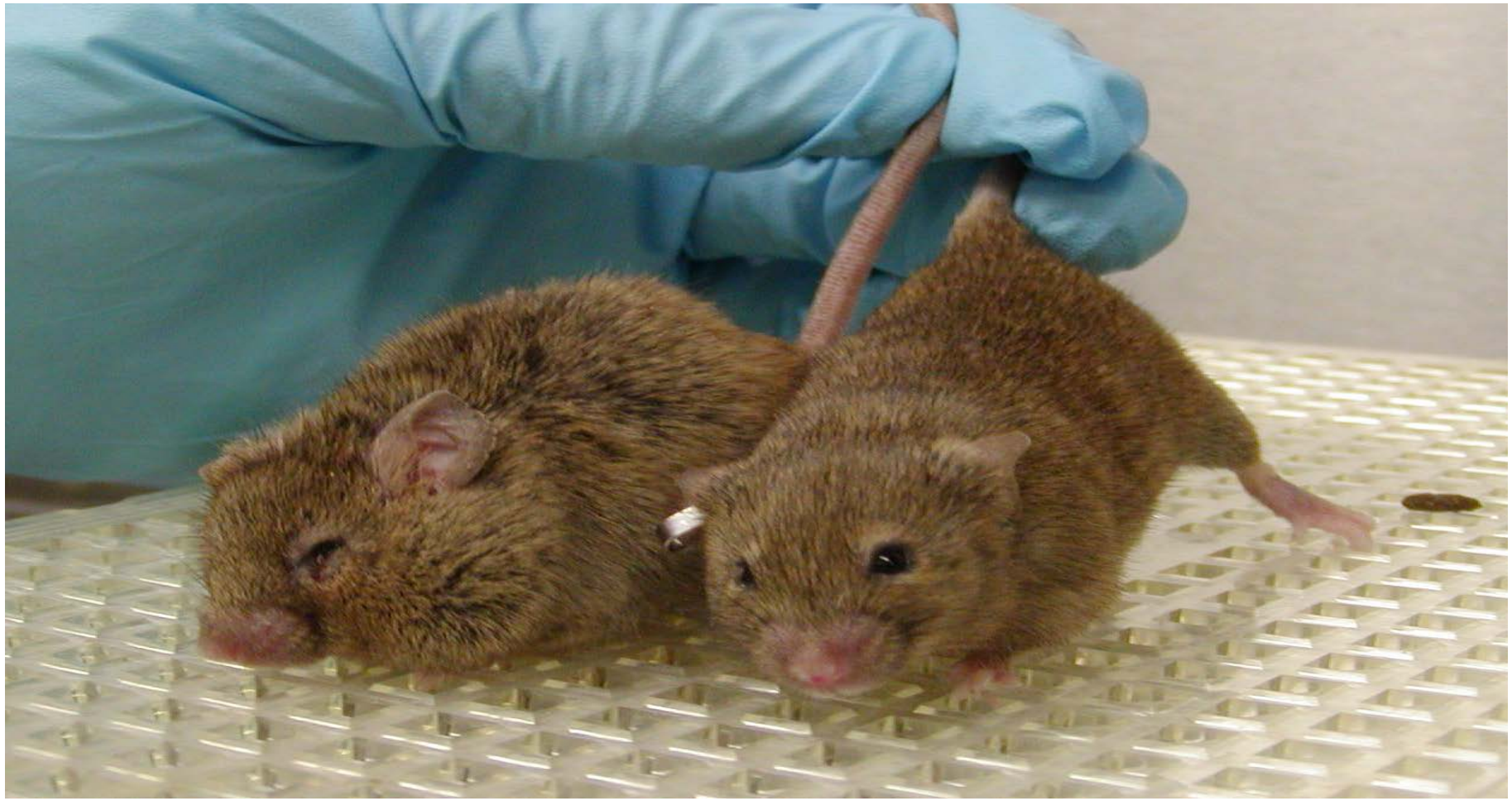
- *Learning*:
  - Visit Leukemia and Lymphoma research laboratory
  - Talk with researchers about current findings
  - Listened to speakers during the event

Heathy vs. leukemic blood

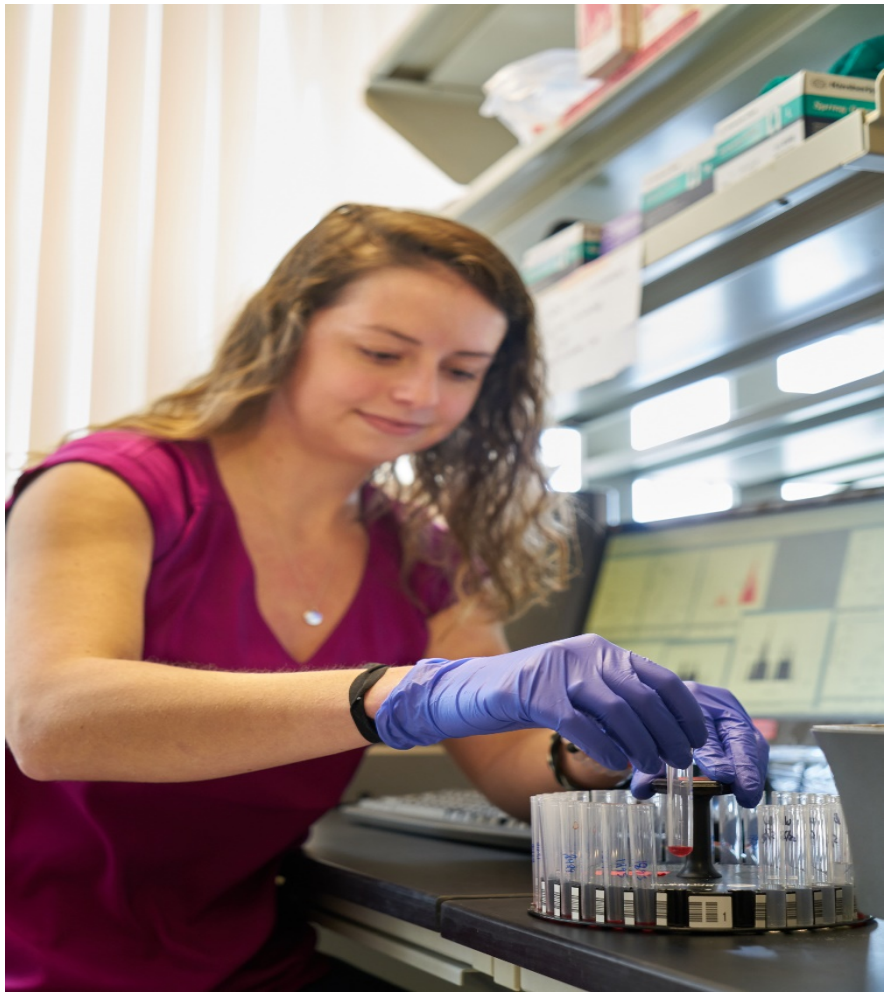




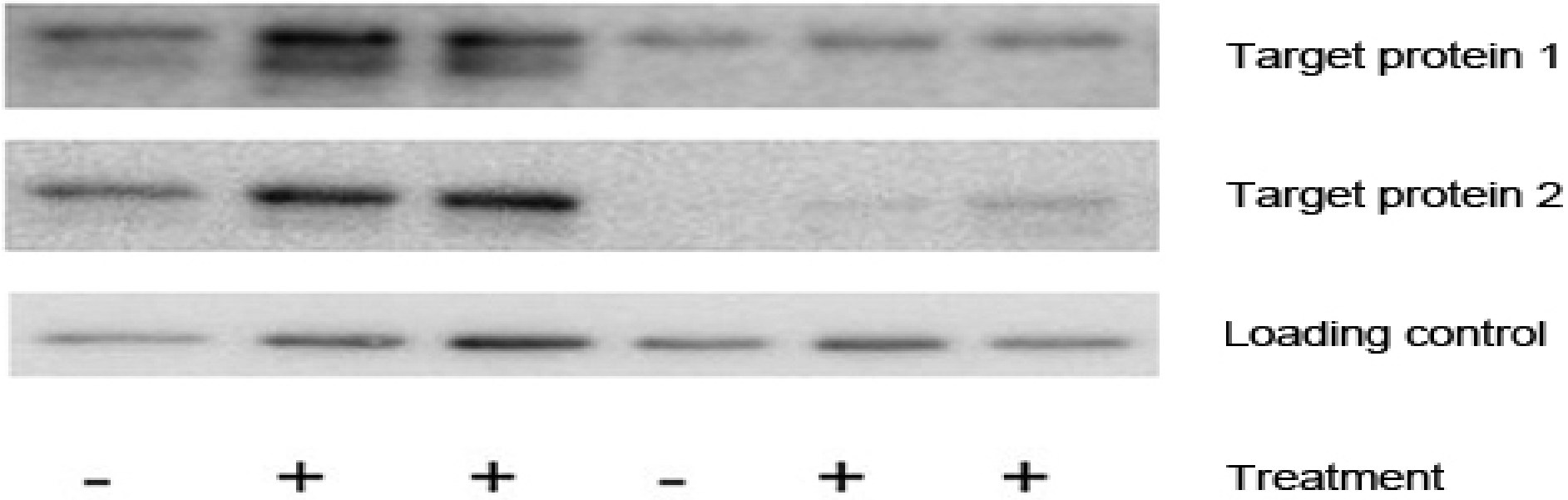
TCL-1 mice



Experimental Hematology Laboratory



Western Blot



Inspiring

Sense of Belonging

Connecting Science to the Community

Eye-opening

Rewarding

Important work / Giving Back

“This activity illuminated the connections between public fundraising and medical/biological research. Seeing those personally affected by blood cancer was harrowing and yet inspiring, and furthered my personal opinion of the importance of biological work. ”

Inspiring	Sense of Belonging	Connecting Science to the Community
Eye-opening	Rewarding	Important work / Giving Back

“I thought it was beneficial to see the impact that diseases like leukemia and lymphoma have on the nearby community alone. It made me reflect on my own goals and values, as well as think more deeply about what I might do in the future to support the work of organizations like LLS.”

Inspiring	Sense of Belonging	Connecting Science to the Community
Eye-opening	Rewarding	Important work / Giving Back

“Touring Dr. Byrd's lab was absolutely fascinating, and provided a tangible, real world example of how biology can be used to improve lives.”

Inspiring	Sense of Belonging	Connecting Science to the Community
Eye-opening	Rewarding	Important work / Giving Back

“I loved to see the research behind treatments for a disease I felt I had gained a connection to. It definitely made it easier to visualize how lessons in the classroom can be applied to real world problems. ”

Inspiring	Sense of Belonging	Connecting Science to the Community
Eye-opening	Rewarding	Important work / Giving Back

Questions so far?

Three Engagement Principles

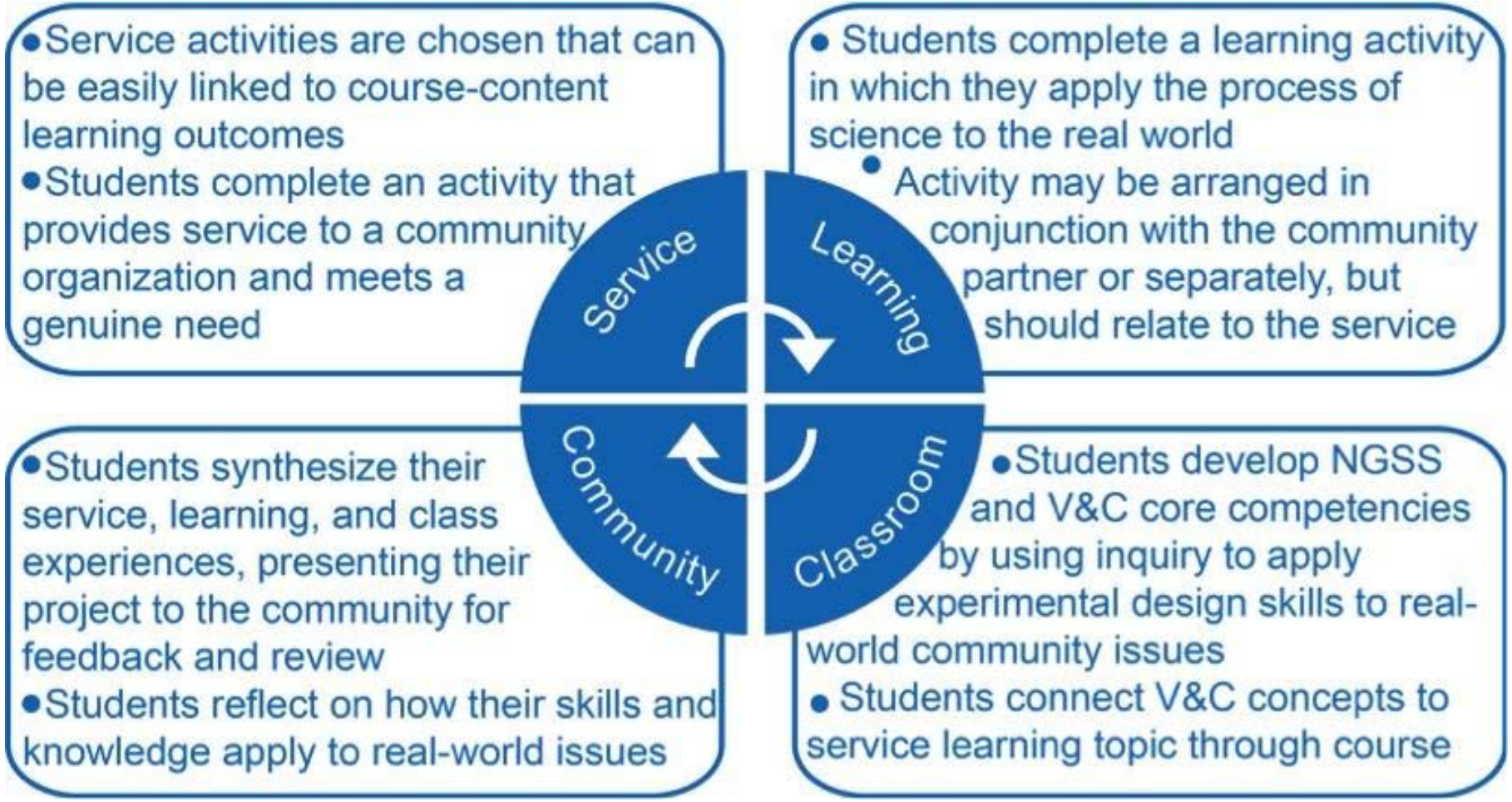
- Integration
- Advocacy
- Accountability

Three Engagement Principles

- Integration
  - collaborative work– the instructional team and the community partners complete in planning service and learning activities.
  - when the honors biology students provide meaningful service to the community partners, university assets are applied to community problems
- Advocacy
  - partners have an opportunity to advocate to the students, making students more aware of health issues and ways they can contribute to the organizations
  - Students advocate to the scientific and layman communities during a poster session that celebrates their work with the community partners.
- Accountability
  - students use the scientific method to hypothesize solutions and choose metrics for analyzing the efficacy and significance of their contribution to the community partner.
  - the instructional staff uses student and community partner feedback to determine the success of the program.

Apply the model in your own context

Service Learning Model



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Questions

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