

UW Postdocs STEP into Teaching: Trainee Experience and Reflection

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STEP-WISE: Science Teaching Experience Program – Working in Science Education

STEP-WISE at the University of Washington (UW) is a professional development program that prepares postdoctoral scientists – the next generation of biology instructors – to use student-centered practices to teach our increasingly diverse college students through the creation of inclusive and effective learning environments.



STEP-WISE Overview & Timeline

Autumn training:

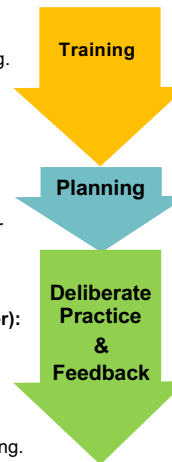
- One 2-hour training workshop on backwards course design, Bloom's taxonomy, & teaching critical thinking.
- One 2-hour training workshop on active learning, best practices, and education research.¹

Planning to teach:

- One 2-hour meeting with teaching team (3 postdocs) and faculty mentor to discuss course planning, syllabus, and assignments.

Teaching (Winter, Spring, or Summer):

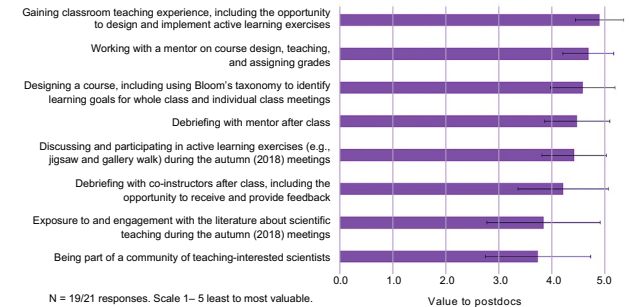
- Teams of 3 teach a 10-class seminar course to either multiple majors or senior biology undergraduates.
- One-hour debrief with mentor and teaching team after each class meeting.



Professional Development Value of STEP-WISE

Participating in STEP-WISE not only helped me learn and apply inclusive and active teaching methods but also boosted my confidence in teaching. The supportive environment created by the collaborative program and the guidance from experienced mentors played a crucial role in my professional growth.

STEP-WISE Program Component Ratings: 2018-2019 Postdoc Exit Survey

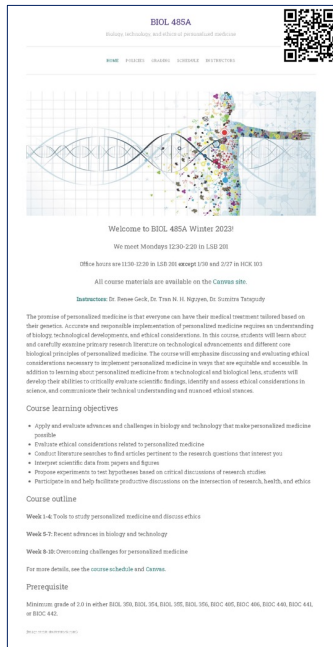


Figures modified from Price et al., CBE-LSE, 2021.²

Trainee's Reflection on Training & Planning

Autumn training sessions:

- Gained insights into active learning strategies and biology education research.
- Practiced data-informed decision-making for teaching improvements.
 - Collaborated with postdocs for diverse perspectives on curriculum design.
- Witnessed varied interpretations and applications of research findings.



Precourse meeting w/ mentor:

- Productively discussed initial class and worksheet development.
- Received constructive feedback on curriculum areas for active learning.
 - Identified clear expectations and areas for improvement.
- Valuable mentor examples enhanced lesson development efficiency.

Example of a course website designed by a STEP-WISE postdoctoral teaching team (Geck, Nguyen, and Tatapudy, 2023)

Early career instructors using evidence-based, inclusive strategies to teach basic science

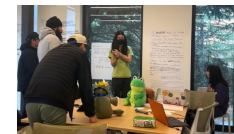
Trainee's Reflection on Teaching

Implementation of active learning strategies with support:

- Exposed postdocs to innovative active learning approaches.
- Collaborations with teammates expanded knowledge of ways to integrate active learning techniques into class design.
- Ongoing feedback by mentors enhanced active learning in classes.

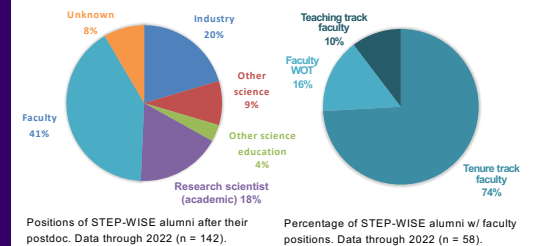
Debrief sessions:

- Met with mentor and team pre-class for logistical support.
- Received detailed feedback post-class, focusing on strengths and improvements.
- Articulated personal teaching goals and reflected on experiences.
 - Identified areas for development and celebrated successes.
 - Fostered a supportive and motivating teaching environment.



Student poster presentations in a STEP-WISE course. (Geck, Nguyen, and Tatapudy, 2023)

STEP-WISE Alumni - Life After Postdoc



Acknowledgements:

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References:

1. Ma EY, Freisem K, Al-Noori S, Klein ER, and Price RM. 2021. An Active Learning Workshop to Teach Active Learning Strategies. CourseSource. [DOI: 10.2455/1536.2021.36](https://doi.org/10.2455/1536.2021.36)
2. Price RM, Self CJ, Young WC, Klein ER, Al-Noori S, Ma EY, and DeMarais A. 2021. Brief training with intensive mentoring guide postdoctoral scholars to student-centered instruction. CBE-Life Sciences Education. 20: ar64. [DOI: 10.1187/cbe.21-03-0083](https://doi.org/10.1187/cbe.21-03-0083)