

# HARNESSING THE POWER OF OPEN PEDAGOGY FOR COLLABORATIVE AND INNOVATIVE EDUCATION

## Open Educational Resources (OER) & Sustainable Learning Cal Poly Humboldt

Presenter: Juergen A. Riedelsheimer, Graduate Student, Academic Research, Cal Poly Humboldt

**From Knowledge Consumers to Knowledge Producers** - Numerous studies have found that active learning approaches, emphasizing student-centered and collaborative learning, can improve learning outcomes and student engagement compared to traditional lecture-based methods (Freeman et al., 2014; Prince, 2004). Additionally, research has shown that students who engage in project-based and experiential learning can better apply what they have learned to real-world situations and develop critical thinking and problem-solving skills (Barron & Darling-Hammond, 2008; Kolodner, 2002).

In traditional higher education settings, students are often seen as passive recipients of knowledge, primarily focusing on transmitting information from teacher to student. However, there is a growing recognition of the importance of transforming students from knowledge consumers to knowledge producers. This shift involves empowering students to participate actively in their learning, engaging in research, and creating their knowledge through experiential and active learning. This approach leads to deeper understanding and increased engagement and provides students with valuable skills and experiences to benefit them in their future careers. In this presentation, we will explore the benefits of this shift, provide examples of successful implementation, and discuss the challenges that educators may face when moving towards a more student-centered, knowledge-producing model of education.

### • Pedagogical Value

**Title: A curriculum development simulation in a graduate program (Newton & Hagemeyer, 2011).**

The course aimed to increase graduate students' self-confidence and skills in designing and evaluating curriculum and assessment plans. The study emphasizes the importance of providing experiential learning opportunities in curriculum development for graduate students, preparing them for future curriculum development activities and additional tasks that require conflict management, consensus-building, and meeting the needs of the college and institution.

Item	Pre-Course Assessment (n = 15)			Post-Course Assessment (n = 14)			p <sup>b</sup>
	NC	SC	C	NC	SC	C	
I am confident that I can create a vision statement.	1	8	6	0	4	10	0.165
I am confident that I can create a mission statement.	1	8	6	0	4	10	0.165
I am confident that I can create a curriculum philosophy.	5	8	2	1	8	5	0.111
I am confident that I can create a theoretical framework for a curriculum.	8	4	3	1	8	5	0.104
I am confident that I can create curriculum goals.	4	7	4	1	2	11	0.033 <sup>c</sup>
I am confident that I can create curriculum objectives.	4	9	2	0	3	11	0.001 <sup>c</sup>
I am confident that I can select courses to support curriculum goals and objectives.	1	10	4	1	2	11	0.047 <sup>c</sup>
I am confident that I can create curriculum assessment tools.	4	9	2	1	5	8	0.022 <sup>c</sup>
I am confident that I can create a curriculum assessment plan.	6	7	2	1	7	6	0.069

Abbreviations: NC = not confident; SC = somewhat confident; C = confident.

<sup>a</sup> The number of responses was unequal in the pre- and post-assessments.

<sup>b</sup> Paired t test

<sup>c</sup> p < 0.05

### • It works, and here is how...

**Title: What Happens When Trained Graduate Student Instructors Switch to an Open Textbook? A Controlled Study of the Impact on Student Learning Outcomes (Harding et al. 2019).**

Did student learning outcomes vary as a function of instructor experience and textbook type, end-of-semester critical thinking, and content scores?

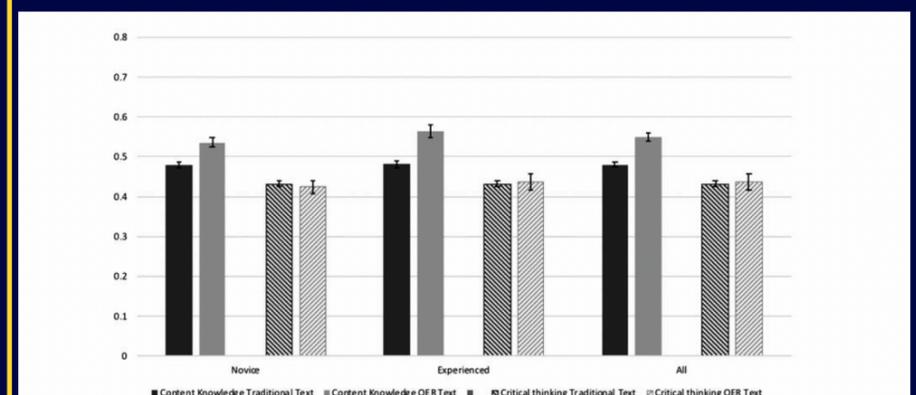


Figure 1. Estimated marginal means of end-of-semester content and critical thinking scores as a function of instructor experience level and textbook.

### • Barriers to this work

OER and open pedagogy has the potential to transform education by making knowledge more accessible, collaborative, and innovative. However, overcoming the challenges and barriers to their adoption and implementation is critical to their success. Using OER in conjunction with open pedagogy can provide several **benefits**. However, several **challenges and barriers** exist to adopting and implementing OER and open pedagogy (Commonwealth of Learning and UNESCO, 2017).

Table 22: Barriers to personal use and adaptation of OER

BARRIER	VERY IMPORTANT	IMPORTANT	MODERATELY IMPORTANT	SLIGHTLY IMPORTANT	NOT IMPORTANT	NO RESPONSE
Lack of skills	21%	21%	11%	8%	20%	20%
Lack of time	15%	25%	17%	10%	13%	20%
Lack of hardware	15%	16%	11%	9%	28%	20%
Lack of software	16%	18%	13%	8%	24%	20%
Lack of access to computers	15%	15%	8%	7%	35%	20%
Lack of Internet connectivity	25%	13%	7%	6%	29%	21%
Lack of content of quality and cultural relevance	13%	24%	16%	11%	15%	20%
No reward system for staff members devoting time and energy	26%	25%	13%	6%	8%	20%
No support from management level	24%	27%	12%	7%	9%	21%

### • OER/AL\$ Cal Poly Humboldt

Open pedagogy projects can be multi-faceted, single-semester, or multi-year, resulting in any number of student-authored/created/directed scholarly or non-scholarly outputs. These outputs could include, for example, a public-facing blog post, translating a Wikipedia page, creating a digital scholarly edition, socially annotating, revising an open textbook, and/or contributing to crowd-sourced transcription projects (Christina Riehm-Murphy and Bryan McGeary, CC BY-NC 4.0).

- **Open pedagogy** is projects or assignments that engage students as information creators rather than consumers.
- Students are invited to be part of the teaching process and participate in the co-creation of knowledge.

### OPEN PEDAGOGY PROJECT ROADMAP



SCOPE



SUPPORT



STUDENTS



SHARE & SUSTAIN

H.



Supplemental Material/References



OER/AL\$ Cal Poly Humboldt



Contact the Presenter