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Universal design for learning creates accessible structures for underrepresented undergraduate students training in biomedical research

Aaron Raz Link, MFA, MA ¹, Shanthia N. Espinosa, BS², Sarah E.D. Autry, BS¹, Mathern Glass, BS ¹, Stephanie E. Paris, BS ², Karlyn R. Adams Wiggins, PhD¹, Rose Agulto, BS², and Lisa K. Marriott, PhD²; OHSU-PSU School of Public Health

1 Portland State University

2 Oregon Health and Science University

Keywords

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Abstract

Federally-funded biomedical science training programs aim to increase the diversity of scientists necessary for research innovation and the reduction of health inequities. Training in technical data collection and information analysis is typically emphasized, though development of other critical skills has gained traction as non-dispensable (Marriott, Raz Link, et al., 2021). Trainees in biomedical programs represent visible and non-visible diversity as they navigate university and academic research systems, to pursue access to workforce networks, jobs, and education beyond a Bachelor's degree. Due to the historical exclusion of most populations from university education, academic and research systems were not designed for diverse students. Barriers within academia to student access and performance can be exacerbated by stressors beyond it; our prior work demonstrated that undergraduate biomedical research trainees experienced significant stressors in response to the COVID-19 pandemic, including impacts on mental health, financial outcomes, physical health, and research training (Honore et al., 2021). Enrichment was created in 2015 as a non-formal curricular intervention to serve diverse undergraduates pursuing biomedical research (Marriott, Raz Link, et al., 2021). It provides key curriculum not offered in standard required undergraduate courses, in formats not offered in standard undergraduate courses. Now in the ninth year of implementation, Enrichment is the only program component of BUILD EXITO in which its student participants regularly see each other. This project describes how Universal Design for Learning (UDL) guidelines (<https://udlguidelines.cast.org/>) were aligned with Enrichment features to “ensure that all learners can access and participate in meaningful, challenging learning opportunities” (CAST, 2018).

This presentation shares perspectives on supporting cultural and economic equity into conversation with the UDL literature, and facilitates discussion about its integration into biomedical science training programs. In developing the formats of Enrichment delivery, we learned that its benefits extend across underrepresented groups. We will share results in the context of thematic areas for the program and considerations for replication by others. Ultimately, our findings reveal that UDL guidelines can be used to equitably invite, engage, and retain underrepresented undergraduates pursuing biomedical training by supporting individualized student professional development within a diverse community of peers, and their retention as diverse biomedical scientists and health professionals.

Learning Objectives

At the end of the poster session, the attendee will:

- Compare and contrast nine Universal Design for Learning (UDL) guidelines that support equitable access to instruction when applied to biomedical research training
- Identify opportunities for incorporating UDL guidelines into existing work to enhance student engagement and access to biomedical science

Framing Idea

Our presentation shares perspectives on supporting cultural and socioeconomic students into conversation with the UDL literature. Learning about benefits for other underrepresented groups when we altered the mode and formats for delivery.