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Virtual Labs: Exploring New Boundaries in Teaching Biology

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Millions of STEM-related jobs go unfilled annually. While opinions differ as to why, data suggest the so-called STEM skills gap is the result of a retention problem. New, immersive learning technologies such as virtual labs can help bridge the gap by engaging students, increasing access, and decreasing costs. In this session, Dr. Colleen Nolan, professor of biology at Shepherd University, and Labster's Kayla Gulizia will walk through the experience of evaluating, implementing and using virtual labs in a biology course. Nolan will share lessons learned, while Gulizia leads a discussion about how virtual labs help bridge the STEM skills-gap by: 1) expanding access and providing flexibility to non-traditional students, 2) digitally practicing techniques and visualizing concepts, and 3) focusing learning on autonomy, mastery and purpose. An online tool will be used to help shape the conversation by allowing participants to ask questions in real time and answer polls.

Learning Outcomes: 1) Assess the needs of the modern student and analyze the shifts necessary to make learning more effective, 2) Uncover research on the effectiveness of virtual labs in an educational setting, and 3 Identify areas where virtual labs can have the most impact on learning and teaching..

Keywords: virtual labs, online labs

Mission, Review Process & Disclaimer

The Association for Biology Laboratory Education (ABLE) was founded in 1979 to promote information exchange among university and college educators actively concerned with teaching biology in a laboratory setting. The focus of ABLE is to improve the undergraduate biology laboratory experience by promoting the development and dissemination of interesting, innovative, and reliable laboratory exercises. For more information about ABLE, please visit http://www.ableweb.org/.

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