

Mentorship for Developing Course-based Undergraduate Research Experiences (CUREs): The CUR Mentorship for Integrating Research into the Classroom (MIRIC) Program

Michael J. Wolyniak

Hampden-Sydney College, Biology, Box 183, Hampden-Sydney VA 23943 USA
(mwolyniak@hsc.edu)

The life science education community has responded to the recommendations of the American Association for the Advancement of Science (AAAS) Vision and Change document with several initiatives designed to improve the way in which undergraduates learn science. These initiatives have often taken the form of one-time workshops that generate awareness of and interest in developing authentic research experiences for undergraduate STEM classrooms. However, they have been less successful with respect to generating the sustainable change necessary to bring real reform to undergraduate science education. To create sustainable change, long-term faculty development initiatives focused on mentorship are needed so that instructors seasoned in developing and implementing course-based undergraduate research experiences (CUREs) can convey their experiences to mentees interested in using these pedagogical techniques as the centerpiece of their own teaching. The Council on Undergraduate Research (CUR) Biology Division has created the Mentorship for Integrating Research Into the Classroom (MIRIC) program to provide a means for members with an interest in developing improved and sustainable active learning techniques to gain experience in this style of teaching through close, long-term interaction with a veteran teaching mentor. MIRIC focuses on the development of instructors who wish to develop a dynamic CURE. Current and future life science instructors pair themselves up with seasoned veterans of CURE development and work with them and their students over the course of a semester or longer to develop a CURE that will allow the mentee to bring authentic research into his or her classes.

In our pilot studies, we collected qualitative and quantitative data based on participant interviews and coding videos of student and instructor actions during classroom activity (Smith et al., 2013), respectively, that suggest that MIRIC mentorships have made positive gains in promoting sustainable active learning techniques among participants. Going forward, we wish to use instruments like the Laboratory Course Assessment Survey (Corwin et al., 2015) and Experimental Design Ability Test (Sirum and Humburg 2011) to assess the effectiveness of the MIRIC laboratory intervention.

Keywords: mentoring; CUREs

Link to Original Poster: <http://www.ableweb.org/volumes/vol-40/poster?art=74>

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/>.

Papers published in *Tested Studies for Laboratory Teaching: Peer-Reviewed Proceedings of the Conference of the Association for Biology Laboratory Education* are evaluated and selected by a committee prior to presentation at the conference, peer-reviewed by participants at the conference, and edited by members of the ABLE Editorial Board.

Citing This Article

Wolyniak MJ . 2019. Mentorship for developing Course-Based Undergraduate Research Experiences (CUREs): the CUR mentorship for Integrating Research into the Classroom (MIRIC) program. Article 74 In: McMahon K, editor. *Tested studies for laboratory teaching*. Volume 40. Proceedings of the 40th Conference of the Association for Biology Laboratory Education (ABLE). <http://www.ableweb.org/volumes/vol-40/?art=74>

Compilation © 2019 by the Association for Biology Laboratory Education, ISBN 1-890444-17-0. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the copyright owner.

ABLE strongly encourages individuals to use the exercises in this proceedings volume in their teaching program. If this exercise is used solely at one's own institution with no intent for profit, it is excluded from the preceding copyright restriction, unless otherwise noted on the copyright notice of the individual chapter in this volume. Proper credit to this publication must be included in your laboratory outline for each use; a sample citation is given above.