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Contributed talk: Mini-projects: CURE-like lab projects to increase student learning

Thursday, 19 August 2021 11:15 (15 minutes)

Undergraduate research is one of the most powerful pedagogical tools to educate and inspire stu- dents, especially those from diverse backgrounds.[1] Course-based undergraduate research experi- ences (CUREs) are excellent examples of implementing research-type problems in undergraduate courses allowing students freedom to experiment and even fail while trying to answer interesting questions. CUREs normally include setting the research question in context, providing a true sense of discovery where neither students nor instructors know the outcome of experiments and foster- ing student ownership over the research experience.[2] They have been shown to be successful at increasing student learning in a range of courses.[2]

This talk will detail a CURE-like course implemented over the past two years at the University of Birmingham for third-year undergraduate students. The course utilises the research developed at the University to produce one-week and two-week long research mini-projects. These mini- projects are open-ended and allow the students to explore the research area for themselves under the guidance of world-leading experts in the area. Projects range from battery synthesis to drug discovery to plastic recycling. The talk will outline details of exemplar mini-projects and the new course will be evaluated through student feedback and student outcome analysis.

References

(1) Eagan, M. K.; Hurtado, S.; Chang, M. J.; Garcia, G. A.; Herrera, F. A.; Garibay, J. C. Am. Ed. Res. J. 2013, 50, 683–713.
(2) Williams, L. C.; Reddish, M. J. J. Chem. Educ. 2018, 95, 928–938.

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