

EMBEDDING CREATIVE EXERCISES TO PROMOTE LEARNING-CENTRED EXPERIENCES IN CHEMISTRY TUTORIALS

Reyne Pullen, Stephen George-Williams, Peter Rutledge

Presenting Author: Reyne Pullen (reyne.pullen@sydney.edu.au)
School of Chemistry, The University of Sydney, Sydney NSW 2006, Australia

KEYWORDS: creative exercises, linking concepts, first-year tutorials

An ongoing universal challenge for chemistry education is combatting the historical “silo-ing” of content into distinct topics. One approach towards addressing this challenge is the use of open-ended activities and assessments to prompt students to access prior knowledge and connect concepts through the use of Creative Exercises (CEs) (Trigwell & Sleet, 1990).

This study has adapted the CEs as described by Gilewski and coworkers (2019) to operate as a formative learning activity in first-year chemistry tutorials. Preliminary testing in 2018 anecdotally indicated students persisted in struggling to access prior or interdisciplinary knowledge when confronted with open-ended CEs. Reflecting on this experience, a longitudinal approach has been taken by implementing a portfolio-style approach to encourage students to build upon this through a semester. In addition to the portfolio, limited scaffolding was built to support tutors and students when undertaking tutorial CE activities.

In this presentation, we will focus on the student-generated artefacts by analysing the identified connecting concepts and provide insight into the next iteration of this study design for 2021.

REFERENCES

- Gilewski, A., Mallory, E., Sandoval, M., Litvak, M., Ye, L., (2019). Does linking help? Effects and student perceptions of a learner-centred assessment implemented in introductory chemistry, *Chemistry Education Research and Practice*, 20, 399-411
- Trigwell, K., Sleet, R. (1990). Improving the relationship between assessment results and student understanding. *Assessment and Evaluation in Higher Education*, 15(3), 190–197. doi: 10.1080/0260293900150302
- Proceedings of the Australian Conference on Science and Mathematics Education, 30 September - 2 October 2020, page 65, ISBN Number 978-0-9871834-9-1.