

SKILLS REFLECTION IN THE UNDERGRADUATE SCIENCE CURRICULUM: WHAT, WHY AND HOW

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ABSTRACT

Resolution of interdisciplinary problems in research, the workplace and society require application of transferable skills including teamwork, communication, creativity, adaptability, problem-solving, critical thinking and organization/project management. Universities are embedding opportunities for science students to develop such skills. However, past research suggests students have narrow recognition of curriculum-related skill development and may not realise they have the skills to succeed in interdisciplinary contexts.

This mixed methods study explored the impact of engaging sixty volunteer science undergraduates in recording and reflecting on course-related skill development for a semester, supported by group discussions and email prompts. The impact on students was analysed through pre- and post-participation surveys, group discussions/interviews and written reflections. Surveys were designed to investigate whether reflection impacted students' views of their skills, degree, career preparation and employability.

The students (studying chemistry, biology, earth sciences, maths and/or physics) found it difficult to think beyond disciplinary development to identify and reflect on skill-related experiences. However, doing so increased their ability to recognise and articulate skill development, strengths and weaknesses, learn from challenges and value curriculum tasks.

Recommendations are made regarding best practice approaches for incorporating skills reflection in the science curriculum, with further application and research underway in biology and chemistry units.

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