

# STEM WORKPLACE CASE STUDIES – AN AUTHENTIC SCALABLE WIL ACTIVITY

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Universities need to develop innovative, sustainable and scalable models of work-integrated learning (WIL) to provide all students with the opportunity to develop employability skills during their studies (Kay et al., 2019). Different types of WIL develop different skill sets and attributes so including a variety of WIL experiences for students is optimal for enhancing overall graduate employability (Jackson & Dean, 2023). In a high enrolment (400+) employability subject primarily for undergraduate STEM and Health students, *Career Options and Professional Identity*, we utilized workplace case study learning activities to introduce students to complex problem solving in the STEM workplace. We collaborated with alumni who were working in industry to develop case studies about a complex challenge or problem encountered in their workplace, and how they resolved it. The workplace case studies are highly authentic (learning activities require students to work on problems that they may encounter in their professions) but have low proximity to industry (industry was involved in the design of the activity and development of resources but not directly involved in delivering the activity) so are suitable as an introductory level authentic WIL activity (Kaider et al., 2017).

During workshops, students used a framework to dissect the problems, understand the relevant context and collaboratively generate solutions, which they then compared to the actual workplace solution. Students also completed individual written reflections post-workshop which were assessed. In this study we investigated what students learned from the workplace case study learning activities. Individual written reflections were collected from two consecutive student cohorts in 2022 and 2023 and the data (n=100 from each cohort) were analyzed using a thematic analysis approach. Students also completed closed questions (Likert scale) about their experience of the case studies. Student reflections revealed gains in their understanding of complex decision making and highlighted key skills utilized for problem solving in the workplace: communicating and influencing, working with others, and ethical conduct. Students also reported enhanced perceptions of employability including a greater awareness of career options available, increased confidence in themselves as a future professional and a greater motivation to pursue a career in STEM.

## REFERENCES

- Jackson, D., & Dean, B. A. (2023). The contribution of different types of work-integrated learning to graduate employability. *Higher Education Research & Development*, 42(1), 93–110.
- Kaider, F., Hains-Wesson, R., & Young, K. (2017). Practical typology of authentic work-integrated learning activities and assessments. *Asia-Pacific Journal of Cooperative Education*, 18(2), 153–165.
- Kay, J., Ferns, S., Russell, L., Smith, J., & Winchester-Seeto, T. (2019). The emerging future: Innovative models of work-integrated learning. *International Journal of Work-Integrated Learning*, 20(4), 401–413.