INTERWEAVING INTERDISCIPLINARY EXPERIENTIAL LEARNING WITH CO-BUILDING SOLUTIONS WITH STUDENTS

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The University of Sydney TechLab engages with hundreds of students across the STEAMM portfolios each semester to deliver meaningful Educational outcomes. This paper will discuss and outline the viability of a small unit with specialist futurist expertise for delivering real graduate and learning outcomes in tertiary science education.

We will highlight the capabilities required to deliver this expertise via a collection of 3 case studies employing vastly different methodologies, as well as addition subjective and objective measures that the TechLab targets.

- Case Study 1: Embedding Virtual Reality creation in the science curriculum.
  These projects range from in-depth XR experiences inside a human skull, canine skeletal VR integrated with University's Learning Management System for assessments, 360-degree log book for veterinary doctors, researchers and pet owners
- Case Study 2: Leveraging 3rd Year Coursework to design Interactive Pedagogical tools
  These projects entail third year coursework students building learning experiences for first year students or solutions for business challenges in other parts of the University – ranging from wayfinding in remote campuses, deep learning for candidate application reviews and many more.
- Case Study 3: Developing Industry based XR tools through Interdisciplinary Project based Learning
  Student teams doing multidisciplinary Industry and Community Project Units (ICPUs) each semester showed higher engagement and impact when engaged actively with industry and/or supported for entrepreneurship. Between mid-2018 to early 2019, six start-ups emerged from TechLab and industry engagement e.g., frameworks to check for unconscious bias in HR recruitment systems, WHS training systems in FMCG sectors etc.

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