

THE BUSH MEDICINE PROJECT: AN AUTHENTIC CROSS-DISCIPLINE, CROSS-COURSE AND CROSS-CAMPUS RESEARCH PROJECT AS A LEARNING EXPERIENCE

Benjamin M Long^a, Lara Wakeling^a, David Bean^a, Nina Fotinatos^c, Andrew Greenhill^b, Mark Myers^a, Nicholas Shultz^a, Simone Louwhoff^b.

Presenting Author: Benjamin M Long (bm.long@federation.edu.au)

^aSchool of Health and Life Science, Federation University Australia, Mt Helen, Vic 3350, Australia

^bSchool of Health and Life Science, Federation University Australia, Churchill, Vic 3842, Australia

^cCentre for Learning Innovation and Professional Practice, Federation University Australia, Mt Helen, Vic 3350, Australia

KEYWORDS: Multidisciplinary, Research Skills, Indigenous Culture

The interdisciplinary nature of science is often difficult to impart upon students in teaching laboratories where chemistry students, learn chemistry and biology students, learn biology. To address this, a series of connected laboratories built around a single interdisciplinary research question were developed. The project hoped to engage students in interdisciplinary collaboration, generate meaningful chemical research data, and expose science students to indigenous Australian culture.

The pilot year of the Bush Medicine Project was run not as a standalone unit but as a cross-unit, cross-program, cross-campus and cross-discipline research project aimed at discovering medicinal compounds in native Australian plants, guided by indigenous Australian traditional medicine. Flora students collect, identify and preserve plants of interest; chemistry students prepare plant extracts and create a chemical fingerprint; microbiology and pharmacology students then screen the plant extracts for antimicrobial activity and toxicity. Students (n=55) and staff (n=7) involved in the first year of the project were surveyed or interviewed, respectively, to measure their engagement with the experiment. Participants agreed that they were more engaged than in a traditional practical class and felt they had learnt about the interdisciplinary nature of science. Student and staff attitudes have been positive and the project is planned to be continued over subsequent years.

Proceedings of the Australian Conference on Science and Mathematics Education, The University of Sydney and University of Technology Sydney, 2 - 4 October 2019, page 75, ISBN Number 978-0-9871834-8-4