Australia's National Science Agency

Bachelor of Science (Extended) evaluation case study report

Executive summary

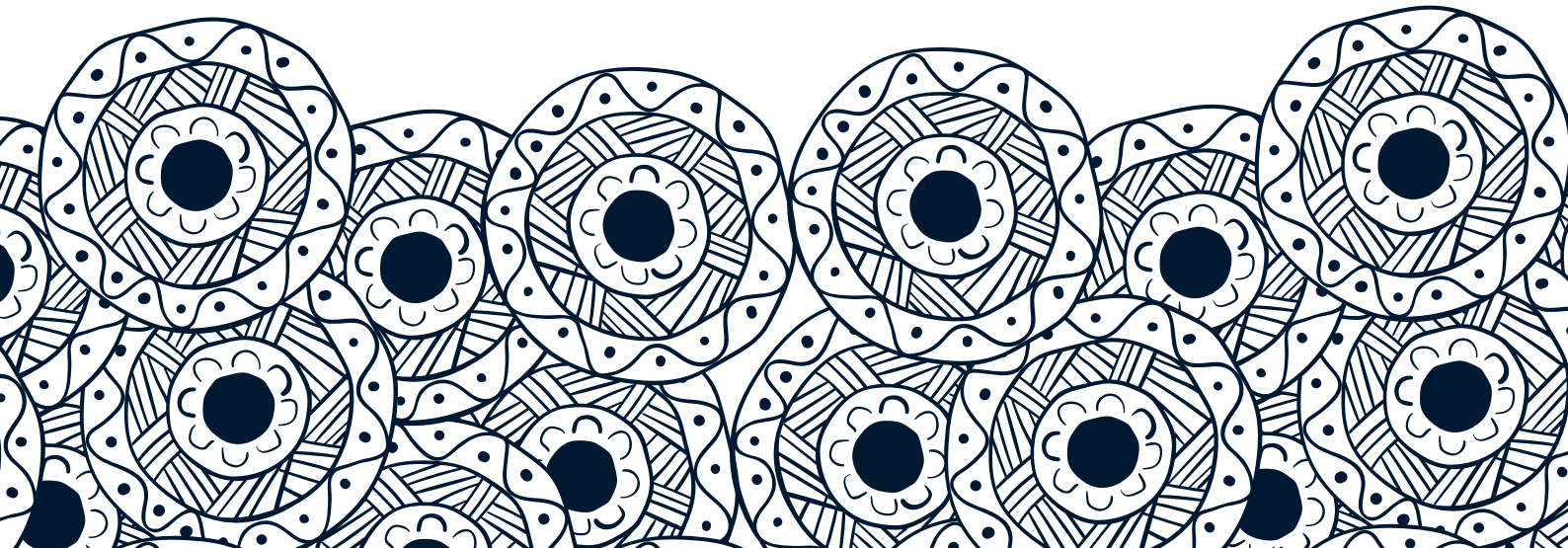
The Bachelor of Science (Extended) is a degree program that provides a supported pathway to complete a mainstream Bachelor of Science at the University of Melbourne for Aboriginal and Torres Strait Islander students who show potential, but who might otherwise not have access to such an opportunity.

The Bachelor of Science (Extended) is one of six programs that comprise the Indigenous STEM Education Project, which is funded by the BHP Foundation and delivered by CSIRO. The overarching goal of the Indigenous STEM Education Project is to provide supported pathways that improve the participation and achievement of Aboriginal and Torres Strait Islander students in STEM subjects.

The purpose of the Bachelor of Science (Extended) case study report is to present the findings from the evaluation case study, which focused on assessing the achievement of the outcomes of the program from 2014 to 2017. The key evaluation question guiding the case study research was: How has the Bachelor of Science (Extended) program progressed to achieve its goal (in part) of providing Aboriginal and Torres Strait Islander students with a supported pathway to complete a mainstream Bachelor of Science at the University of Melbourne?

Overall, the program was found to be achieving its intended outcomes including: students experiencing effective individualised and culturally responsive support; a high student annual retention rate; and the use of Indigenous scientific knowledges in the curriculum. Future evaluation research will need to be conducted to ascertain ongoing and longer-term effects.

B&M | 20-008



The key findings of the Bachelor of Science (Extended) case study report include:

- Engagement and retention. Overall, students, teachers and support staff reported that the course was engaging. When students mentioned feeling engaged, they identified either the inclusion of Aboriginal and Torres Strait Islander scientific knowledge into the curriculum, an interactive format, or a diverse range of class activities. The program has also demonstrated high retention rates. For example, the retention rate in 2018 was 95 per cent, which compares favourably to the 71 per cent retention rate for all Aboriginal and Torres Strait Islander university bachelor students (in 2014). Overall, 19 out of the total of 25 students who have enrolled in the Bachelor of Science (Extended) program were still engaged in the program in 2018.
- Transition and support. Students reported that it had taken time to settle into university life, however they were able to eventually form strong bonds with their peers and felt supported by their teachers and university support staff.
- Integration of Aboriginal and Torres Strait Islander scientific knowledge. Students indicated that the course was culturally responsive. Overall, the students valued the inclusion of Aboriginal and Torres Strait Islander scientific knowledge, but some students did not perceive it as essential to the course.
- Building partnerships. There was additional progress to made in forging closer working relationships with local Aboriginal and Torres Strait Islander community groups.
- Aspirations for future STEM careers. The Bachelor of Science (Extended) program reinforced the existing ambitions of students to build careers in STEM. Students spoke about the important role of their high school teachers as critical to their decision to pursue STEM education and careers after school.

Several challenges and recommendations were identified through the case study, including the need to build stronger partnerships with Aboriginal and Torres Strait Islander organisations and/or role models for advice on the best way to incorporate Aboriginal and Torres Strait Islander scientific knowledge into the Bachelor of Science (Extended) curriculum. The results also showed that there was potential to improve the structure of the course in relation to its placement within the larger context of the University. For example, the practical workshops and tailored academic support portion of the Bachelor of Science (Extended) program were concentrated over the first three semesters including the first semester of the second year.

In line with the strengths-based approach of the case study research, several recommendations to build on the achievements of the program have also been suggested including encouraging more community inspired inquiries; providing students with more explicit examples of how culture relates to STEM careers; and continuing to improve personalised support during and after the summer schools.

The Indigenous STEM Education Project is funded by BHP Foundation and delivered by CSIRO.

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For further information

CSIRO Education and Outreach

Christopher Banks
Monitoring and Evaluation Program Manager
+61 7 3833 5999
christopher.banks@csiro.au
csiro.au/indigenous-education

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