

A framework for building teacher capacity and student achievement in STEM* within school-university partnerships.

*Science, Technology, Engineering and mathematics.



In 2013 the Office for Learning and Teaching funded a two year project to produce 'A framework for building teacher capacity and student achievement in STEM within school-university partnerships'. The project involved a collaboration between four Australian universities (Federation, Deakin, Queensland University of Technology and Griffith).

A broad literature review considered the potential role of university outreach programs in building, supporting and maintaining STEM capability in regional, rural and remote areas.

A case study approach was used to investigate effective university-school STEM partnerships, with a particular focus on rural and regional contexts. An informal network of STEM outreach practitioners from across Australia was established and used to disseminate information and to share observations and experiences.

A comprehensive national survey of STEM outreach programs, determined that an 'ideal' school-university partnership in STEM offers

- contextually relevant hands-on active learning;
- empowers students (and educators) towards critical reflection on aspirations and pathways;
- provides opportunities for reciprocal conversations between STEM experts, learners and education communities;
- builds relationships between educators and learners, education sectors and communities; and
- has reasonable security of funding, year on year.

Major impediments to program continuity were unclear aims, uncertainty of funding, reliance on a few key personnel, and perceived lack of institutional recognition.

While 90% of survey participants agreed that formal evaluation of programs was desirable, only a third reported that this was the case. An evaluation model that can be applied consistently across different partnerships and settings is needed.

A framework to guide the review of existing STEM outreach programs and the planning and design of future programs was developed. University management and funding bodies can also use the framework to identify successful programs, enabling them to maximise best use of available funds.

Final report completed 2016

Information: <http://federation.edu.au/STEMoutreach>

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