EVALUATING THE EFFECTIVENESS OF SCIENCE AND TECHNOLOGY RELATED SCHOOL-UNIVERSITY PARTNERSHIPS

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ABSTRACT

Students living outside metropolitan areas are under-represented in university student populations (James et al., 2008). Declining university enrolments in the physical, chemical, mathematical and agricultural sciences have been observed over the past two decades (Dobson, 2007). This scenario reflects the demise in mathematics and science learning beyond the middle years of secondary schooling (Goodrum, Druham, & Abbs, 2011) and is particularly apparent in rural and regional areas, where schools struggle to attract qualified senior mathematics and science teachers and to retain STEM (Science, Technology, Engineering and Mathematics) curriculum (Lyons & Quinn, 2010; Skillbeck & Connell, 2003).

Most Australian universities deliver a variety of outreach programs. The majority of these engage directly with secondary students and aim to change students' aspirations towards higher education (Gale, Hattam, Parker, Comber, Bills, Tranter, 2010). However, these programs are difficult to deliver in regional areas, where low population density and wide geographic spread make costs prohibitive. Well-designed school-university partnership programs that engage professionally and geographically isolated teachers can make better use of limited financial resources, reaching many students (albeit indirectly) over time. Here we discuss an approach for determining the kind of school-university partnership programs that are most effective in increasing regional student participation in mathematics and science and, as a consequence, in STEM-related university courses.

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