

# **Engineering an Education Research Field for Sustainable Rural Futures: Research Priorities and Outcomes for Enhancing Agricultural, Digital and Regional Futures**

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## **Abstract**

Engineering education is crucial to developing and graduating successful engineers whose work spans the sustainability of agricultural, digital and regional communities and hence contributes directly to the futures of those communities. Consequently it is vital that the field of engineering education research is as current and comprehensive as possible, in order to maximise the quality of engineering teaching and learning programs.

This paper deploys a recent evaluative framework for analysing the engineering education research field (Borrego & Bernhard, 2011) to interrogate selected elements of that field as they pertain to Australian undergraduate and postgraduate engineering education. In particular, the paper explores current themes in the literature related to curriculum, teaching and assessment practices; the acquisition of professional skills and graduate attributes; and issues of graduate employability and continuing professional development. This account highlights the engineering education research field as diverse, multifaceted, increasingly politicised and subject to the interplay of competing interests and multiple demands.

More widely, the authors argue that the themes elicited from the contemporary engineering education research field reflect significant research priorities and outcomes that are central to enhancing Australian and international agricultural, digital and regional communities. This is because successful graduates from engineering programs are integrally involved in envisaging, devising, testing and evaluating the technologies that underpin these varied domains of human activity. The sustainable and potentially transformative futures of these communities depends in large part on the effectiveness of the engineering programs and the research that informs them.

## **Reference**

Borrego, M., & Bernhard, J. (2011, January). The emergence of engineering education research as an internationally connected field of inquiry. *Journal of Engineering Education*, 100(1), 14-47.