

## **Editorial: Volume 29 Issue 4**

We are pleased to present Volume 29, Issue 4 of AJET. In this editorial we would like to discuss the importance of building on the results of prior research.

Building on prior research is an important consideration for AJET authors, as it is for authors of educational research publications in general. Arguably, there has been a tendency in educational research to ‘reinvent the wheel’ rather than building on the work of others. This has resulted in a proliferation of studies that propose new conceptual models for learning processes or educational issues rather than testing and refining the conceptual models developed by others. This limits the field in collectively moving forward and also makes it hard for practitioners trying to apply the results of ‘the latest research’ in their own context. A tendency to ignore or duplicate related research done by others may be one of the reasons why average citation rates for educational research publications are generally lower than those in the natural and biomedical sciences.

One of the reasons why this is an even more significant issue in educational technology research is because authors often take a relatively narrow view of what constitutes relevant prior research. For example, authors writing up the results of an empirical trial of a particular technology tend to look for other trials of the same technology rather than looking more broadly for prior studies that have applied a similar pedagogical approach using other technologies (or no technologies at all). Given the well established notion that it is the learning design and the particular learning activities which result in learning rather than the actual technology (see, for example the highly cited debate between Richard Clark and Robert Kozma in *Educational Technology Research and Development* in 1994), authors need to identify earlier precursors to the learning designs used in their studies as much as instances of the technologies used.

A high quality educational technology research article can help to move the field forward in a number of different ways. Through the application of a particular methodological approach, an article can provide a platform for other researchers interested in applying the same approach to similar problems. If drawing on a specific body of theory, the authors can comment on the fit of the theory to the particular problem or context, and advance collective knowledge about the application of that body of theory. Finally, by reporting on the results of a trial of a particular learning technology an article can contribute to knowledge about both the technology and the particular learning design or pedagogical approach.

Crucially, in order to make contributions to theory, methodology, technology or pedagogy, articles need to include a sufficiently strong literature review in each of these areas. In order to achieve this, typically explicit connections need to be made between the theoretical underpinnings of the research and any pedagogical design discussed in the article, prior research in these areas and the methodological approach adopted in the research being written about. This is reflected in strong links between material covered in the introduction and background to the paper, including the literature review, and the method section. Importantly, the results of the research need to then be discussed in the context of these bodies of literature – in the discussion and conclusion of the paper – so that the particular contributions made in each of these areas are clear.

This issue of AJET once again includes a range of interesting papers covering contemporary issues associated with research into and development of educational technology. The first paper by Pegrum, Howitt and Striepe presents an investigation of how preservice teachers perceive and use iPads as learning tools. The paper by de Koster, Volman and Kuiper reports on a qualitative investigation of a central issue in educational technology – interactivity – and considers how interactive whiteboards impact on interactions in different classroom settings. Prokofieva also draws on the interaction literature, but considers different types of collaboration and interaction in a wiki-based learning environment. Collaboration and wikis are also a theme in the paper by Carroll and her colleagues. Drawing on Social Learning Theory, this paper explores critical issues such as the academic standards of writing and research, and how they can be developed in collaborative, and competitive, learning environments.

The issue changes direction somewhat with the paper by Jabbar, Ong, Choy and Lim, which considers more motivational aspects of experiential based learning environments, particularly those which employ video. These more cognitive aspects of students’ learning processes are also reflected in Rias and

Zaman's study of the impact of students' prior knowledge on their learning outcomes when engaging with a multimedia application in computer science. The next three papers in this issue all use the technological, pedagogical and content knowledge (TPACK) framework as the basis for their research. Anderson, Barham and Northcote consider how TPACK can be used as a lens to interrogate lecturers' views about teaching and learning online; Jang and Tsai investigated variations in science teachers' TPACK by gender and teaching experience; and Liang, Chai, Koh, Yang and Tsai employed TPACK as a framework for an empirical investigation of, among other things, the relationship of age and experience to technology adoption. The final paper in this issue (Lau and Yuen) is an empirical investigation in a critical area of our field: professional development of staff. This paper considers the impact educational technology training workshops have on outcomes such as participants' pedagogical orientation and efficacy.

Barney Dalgarno, Sue Bennett and Gregor Kennedy,  
Lead Editors Australasian Journal of Education Technology