

Editorial

Toward psychological literacy: A snapshot of evidence-based learning and teaching

THE RATIONALE

Why focus on education in a forum that is obviously research oriented? As professionals, we may consider ourselves to be predominantly (1) psychological scientists, creating basic and applied discipline knowledge, or (2) professional psychology practitioners, utilising discipline knowledge in applied settings to meet client needs. Nevertheless, wherever we stand on the science-practice continuum, if we consider ourselves members of the psychology community, it is likely that we are contributing to the education and training of psychology students at the undergraduate or postgraduate level, whether in the classroom, laboratory, or field. In that regard, we are all practitioners. The question then arises: is our practice in educational settings evidence based? As Bernstein (2011) argues, we need to be ‘scientist-educators’ in that practice, not only by utilising and creating evidence-based teaching strategies but also by modelling to students the psychologically literate professional who applies psychology knowledge, skills, and dispositions in their everyday professional lives.

How can a more evidence-based approach to educational practice be achieved? First, it may be instructive to acknowledge where we individually stand in relation to our own educational practice. In educational settings, one could argue that there are four approaches: the indifferent practitioner, the anecdotal practitioner, the scholarly practitioner, and the scientist–educator. The indifferent practitioner takes a minimalist approach to their educational tasks, which are viewed as an undesirable but unavoidable aspect of their professional lives. This practitioner does not waste time reflecting on or developing their educational practice. The anecdotal practitioner has developed an approach to their educational practice that is based on anecdotes derived from either their own experience as a student or from what they consider works in their current instructional tasks. Their practice is based on untested assumptions about the ‘art’ of teaching. With both the indifferent and anecdotal approaches, practitioners may or may not be effective in fostering student learning, depending on a number of variables including the ‘natural’ (as compared to intentionally developed) capacities of the practitioner.

The scholarly practitioner reflects upon and attempts to improve their practice, for example by intentionally inviting external evaluation of their practice and by seeking relevant literature on evidence-based practice; however, they do not contribute to that literature themselves (see, Wilson-Doenges & Gurung, 2013). In reality, most professional psychology practitioners, regardless of the field of practice (e.g., clinical, organisational), fit this scholarly practitioner category rather than the ‘scientist practitioner’ category, considered the ‘gold standard’ for psychology research and practice (Benjamin & Baker, 2000). The scientist–educator approach aspires to that ideal. At least part of their practice is intentionally planned to create new knowledge regarding effective practice in tertiary education, and they seek to share the outcomes of that research with the wider community through peer-reviewed publication. As such, the authors of the empirical articles in this issue can be described as scientist educators.

There are significant challenges, however, for any practitioner who aspires to this ideal, as it could be argued that applied research is much more difficult to enact in a rigorous manner than is basic research. The primary constraint is ethical. For example, if there is already some empirical evidence that a particular learning, teaching, and assessment approach is more effective than others, then in further investigative work, the random assignment of students to the putative more and less effective conditions would be unethical. Although in theory, there are methods that decrease the inequities, such as wait-list control conditions, in practice, these are often not feasible, such as when the subject/unit is structured to scaffold knowledge and skill development (Karantzas et al., 2013). Thus, the second most common constraint is that the curriculum may not be flexible enough to allow for an experimental approach, particularly the use of comparison groups and the control of extraneous variables. Thus, much of the research that is undertaken in educational settings is not experimental but is more likely to be correlational or descriptive, as is the case in this issue. Nevertheless, aspiring to and achieving the ‘gold standard’ in the scholarship of learning and teaching is possible in some circumstances, and so must always be considered (e.g., Cranney, Ahn, McKinnon, Morris, & Watts, 2009).

Given these caveats, in tertiary education institutions where basic discipline research is pre-eminent, and where research on the effectiveness of teaching strategies is often not valued, why bother? Certainly, there is usually little extrinsic reward for doing so. Thus, scientist–educators must be intrinsically motivated not only to improve their own educational practice but also to benefit other educators by sharing the knowledge they have created regarding the relative effectiveness of different ways of facilitating student learning.

Why is this particularly important in the discipline and profession of psychology? As Crowe et al. (2012) have argued, we know that most problems in our society today and into our students' futures, are related to human behaviour (e.g., obesity, terrorism, climate change). Thus, the more our graduates know about and can apply the knowledge, skills and dispositions of psychology to solving these behaviourally based problems (i.e., the more psychologically literate they are), the better off our graduates will be in their futures (Cranney, Botwood, and Morris, in press). As Dunn, Cautin, and Gurung (2011) have stated, 'To the extent that the acquisition of core psychological knowledge takes place in the classroom, the obvious channel for cultivating psychological literacy is the undergraduate psychology curriculum' (p. 16). Hence, this special issue is a mechanism for sharing evidence-based practice to improve the learning outcomes, and thus psychological literacy, of our students.

THE CONTRIBUTIONS

The special issue opens and closes with invited reviews, and in between are six empirical articles. In the first review, Dunn, Saville, Baker, and Marek (2013) define 'evidence-based teaching' as the use of empirically validated pedagogical tools and techniques that promote student learning. Importantly, they then provide an overview of five learning and teaching strategies that have strong empirical evidence (derived from psychological research) for being effective in facilitating student learning: the testing effect, spaced learning, meta-cognition, writing to learn, and inter-teaching.

In the first empirical article, Owens and White (2013) describe a systematic approach over 5 years to reducing plagiarism in first-year psychology courses. Their dependent variables are the number and type of plagiarism cases detected. Across the years, they systematically change their suite of plagiarism reduction strategies, which focus on educating the student about the nature of plagiarism, within the context of plagiarism detection software. Be warned: reading this article should necessarily change any black-and-white view of students who plagiarise, and should make clear the need for integrated strategies to reduce plagiarism in introductory subjects/units. These strategies can be generalised to

introductory subjects/units in any discipline, thus highlighting the value of psychological research in all domains of human behaviour.

In the second empirical article, Roberts and Allen (2013) report on their development of a brief measure of *Student Perceptions of the Educational Value of Research Participation*. The bulk of psychology research is based on testing psychology students; thus in the increasingly 'student-centred' educational culture, the educational value of the experience needs to be examined. Some of us go to considerable lengths to increase that educational value, but do those strategies have any impact, or indeed, are they necessary? This measure will provide empirical data that can be utilised by educators to answer those questions, and also may be used by departmental heads to defend the practice which is fundamental to psychological science (Stanovich, 2013).

In the third empirical article, Chester, Burton, Xenos, and Elgar (2013) describe the effectiveness of a third-year to first-year student peer-mentoring system from the perspective of the first-year psychology student mentees. The study is based on well-established theoretical frameworks (e.g., Lizzio, 2006), and the authors conclude that the peer-mentoring strategy is associated with increases in rated success attributes, as well as increases in actual grades, during this critical transition period in higher education. Once again, this psychological research has relevance beyond the discipline, and could be adapted in any discipline degree program.

In the fourth empirical article, Karantzas et al. (2013) describe the putative impact of a collaborative and problem-based learning approach on student perceptions of increased critical analysis and problem-solving skills. The strategy involves scenarios of a relationship psychologist assisting with family relationship problems—that is, an authentic learning situation. In the fifth empirical article, Knott, Mak, and Neill (2013) describe the putative impact of implementation of the Excellence in Cultural Experiential Learning and Leadership (EXCELL) program on student perceptions of increased cultural awareness and skills. Both of these articles describe strategies relevant to the development of graduate attributes that traditionally have been challenging for undergraduate (UG) educators. Thus they should find these articles of value. In the last empirical article, Morris, Cranney, Jeong, and Mellish (2013) describe explicit strategies to introduce students to the graduate attributes, and the putative impact of such strategies on student awareness and perceptions of the importance and development of these attributes. It could be argued that the more students are made aware of, and explicitly seek to develop these graduate attributes, the more psychologically literate they will be, and hence the more successful they will be as students, graduates, professionals, and citizens (Cranney & Dunn, 2011; Cranney, Botwood, & Morris, 2012a; Cranney, Morris,

Krochmalik, & Botwood, 2012b; Cranney et al., in press). These three articles provide valuable findings that should be further investigated in research utilising behavioural indices and comparison conditions.

In the final article and second review, Wilson-Doenges and Gurung (2013) give an introduction to what constitutes 'scholarship of teaching and learning' (SoTL), and most importantly, they provide benchmarks for SoTL, defining three levels, with Level 3 being the 'Gold Standard'. These different levels necessarily vary in terms of scientific rigour, and guidelines are given on the place of theory, research approach (e.g., descriptive, correlational, experimental), research design, number of participants, diversity of sampling, nature of dependent variable, complexity and type of data and data analysis, and ethical standards. These benchmarks will be useful to psychology scientist-educators, as well as SoTL practitioners in any discipline. Thus, once again, psychology provides leadership in evidence-based practice.

THE FUTURE

The authors of the articles in this special issue are likely to be referred to as 'champions' of evidence-based learning and teaching by SoTL advocates at their institutions. Champions are essential, but not enough, to promote widespread valuing of SoTL and the uptake of a rigorous, evidence-based culture of educational practice within a department and across the institution, discipline, and profession. What is needed is systemic support within these different domains. That is, heads of departments, deans, and institutional leaders are encouraged to provide tangible support to SoTL researchers to collaborate and to influence across discipline boundaries, as well as within their department and discipline. It should be noted that the explicit strategy of most universities to attract the brightest students belies an implicit undervaluing of evidence-based learning, teaching, and assessment strategies that benefit the majority of students who are necessarily in the middle of the academic pack. In addition, national and international psychology associations could provide mechanisms which value and support those educators interested in utilising the science of psychology to improve learning outcomes for psychology students and indeed all higher education students.

We in psychology often complain about being misunderstood and undervalued as a science and as a profession. Yet we fail to recognise that in educational settings, we have significant opportunities to correct misperceptions. For example, it has been estimated that 15% of university students in Australia take an introductory psychology subject/unit (Cranney et al., 2008), and we know that more than 50% of students who undertake a psychology major in Aus-

tralia (Cranney et al., 2012a), the USA (Takooshian & Landi, 2011), and Britain (Trapp et al., 2011) develop a variety of careers that are not in professional or scientific psychology. That is, there is significant potential in UG psychology education to develop psychological literacy in all students, regardless of their career destination. In particular, these graduates have the potential to educate others in their community about the benefits of psychological science and of professional psychology. Thus, it is imperative that we educate effectively in our UG psychology subjects/units. Success in this endeavour could be reflected by a closer match to the SoTL 'Gold Standard', as well as a greater awareness of the importance of psychological literacy in both educators and students (e.g., as demonstrated in the next special issue on psychology education in this journal).

In summary, we have argued that the knowledge and research methods of psychology are critical to the creation and application of evidence-based practice in educational settings. However, it is the disposition of psychologically literate citizens that will motivate engagement with the SoTL enterprise:

The aim of education is not only to prepare students for productive careers but also to enable them to live lives of dignity and purpose; not only to generate new knowledge but to channel that knowledge to humane ends; not merely to study government but to help shape a citizenry that can promote the public good. Thus, higher education's vision must be widened if the nation is to be rescued from problems that threaten to diminish permanently the quality of life. (Boyer, 1990, pp. 77–78)

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