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Sustainable and Evidence-based Learning and Teaching Approaches to the Undergraduate Psychology Curriculum

ALTC Associate Fellowship
Final Report

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Jacquelyn Cranney

School of Psychology, University of New South Wales

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Executive Summary

The discipline and profession of psychology in Australia is currently under pressure to change from both internal and external forces (Littlefield et al., 2007). This Fellowship project intentionally responded to two of these influences. First, internationally, there is the push toward accountability in the tertiary education sector, and this is partly being operationalised at the learning and teaching coal-face through the delineation and assessment of student learning outcomes (SLOs; Dunn et al., 2007). A primary outcome of the current project was the delineation of a set of national graduate attributes (GAs) for the four-year undergraduate degree in psychology. Second, also on the theme of accountability, there is a need for improved learning and teaching strategies that facilitate students' attainment of these learning outcomes. Psychology, with its ever-increasing knowledge base on the nature of learning, memory, motivation and social influence, should be at the forefront of application of this knowledge to university student learning and performance. A second outcome of this project was to facilitate Australian Psychology's contribution to this field through the strengthening of the activities and outputs of the Australian Psychology Educators Network (APEN).

Graduate Attributes for Psychology: Through a process of broad and iterative consultation with key stakeholders, a significant outcome of this project has been the development of an agreed set of GAs for psychology. This process was facilitated by my appointment to the APS Program Development Advisory Committee, where I obtained an appreciation of both the processes and challenges of accreditation, and the diversity of program offerings at both undergraduate and postgraduate levels. As a result of submissions made by myself and the Advisory Committee, the attributes have now been incorporated into the Australian Psychology Accreditation Council's (APAC) *Rules and Standards* (APAC, 2008; <http://www.apac.psychology.org.au/>). This step legitimizes attempts by Departments and Schools of Psychology to integrate development and assessment of these GAs in their curriculum structures. Resources to support academics wishing to embed GAs in their programs is being made available through the ALTC Exchange. Moreover, a sustainable system of quality screening and review of those ALTC resources is being put in place. The specification of a developmental rubric and benchmarks is the next step in my post-project activities.

Strengthening of the Community of Practice and Promotion of Evidence-Based Teaching in Psychology: Through this Fellowship, APEN (established by Lipp et al., 2007) was formally recognized by the APS through its incorporation as the Teaching Learning and Psychology Interest Group (TLaPIG, www.psychology.org.au/tlpig). This step provides a mechanism for continued and sustainable discussion regarding curriculum design, and the promotion of teaching and learning within the discipline. The Advisory Committee members and myself promoted and disseminated information regarding evidence-based teaching through a wide variety of forums. Through the Fellowship, APEN sponsored a number of workshops and meetings in which internationally recognized scholars in psychology teaching and learning were able to present a case for evidence-based procedures. Advisory Committee members who hold positions on relevant committees of the APS and other organizations, and myself, have been able to disseminate information regarding the Fellowship and its goals. The APEN/TLaPIG website (www.psychology.org.au/tlpig), and activities planned for future meetings of the APS and other conferences, will provide further opportunities for the sharing of best practices and problem solving around evidence-based teaching. Moreover, I will co-chain the 4th International Conference on Psychology Education (ICOPE) in Sydney in 2010, where education leaders will be discussing internationalization of the psychology curriculum.

A Vision for Undergraduate Education in Psychology: An unanticipated development in the final stages of the Fellowship was the articulation of a vision regarding the legacy of an undergraduate education in psychology. If adopted by educators, the intentional and extended development of *psychological literacy* will constitute a paradigm shift in psychology as a discipline and a profession.

Simultaneous with the Fellowship was the ALTC Psychology Discipline Initiative, the aims of which were to (a) support the activities of this Fellowship, (b) create a vision for psychology in Australia, and (c) make a strong contribution to the review of models of education and training in psychology. The outcomes of the latter two aims strongly influenced this Fellowship's "Vision for Undergraduate Education in Psychology", just as this Fellowship's delineation of GAs influenced the outcomes of those two aims (see <http://www.altc.edu.au/carrick/go/home/pid/343>, *Designing a diverse, future-oriented vision*).

Definitions and Abbreviations

AOU:	Academic Organisational Unit
ALTC:	Australian Learning and Teaching Council Ltd
APAC:	Australian Psychology Accreditation Council Ltd
APA:	American Psychological Association
APEN/TLAPIG:	Australian Psychology Educator's Network/ Teaching Learning and Psychology Interest Group of APS
APS:	The Australian Psychological Society Limited
AUTC:	Australian Universities Teaching Committee
Carrick:	Carrick Institute for Learning and Teaching in Higher Education Ltd (renamed ALTC in May 2008)
Course:	Separate and identifiable components of undergraduate and postgraduate courses, usually with their own assessment components and with a member of the Academic staff responsible for coordination, as defined in Schedule 1 of the Higher Education Support Act 2003.
DBI:	Carrick Institute Discipline-Based Initiative Scheme
GAs:	Graduate Attributes
HODSPA:	Heads of Departments and Schools of Psychology Association
ISSoTL:	The International Society for the Scholarship of Teaching & Learning
PDAC:	Program Development and Accreditation Committee of the Australian Psychological Society Limited.
PFA:	The Psychology Foundation of Australia
Program:	A program of study, formally approved by an Institution, the successful completion of which results in the award of a degree, diploma, advanced diploma or certificate as defined in Schedule 1 of the Higher Education Support Act 2003.
SARAG:	Science, Academia, and Research Advisory Group
SLOs:	Student Learning Outcomes

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Dr. Frances Martin, Deputy Head, School of Psychology, University of Tasmania
Dr. Fiona White, School of Psychology, University of Sydney
Associate Professor Lynne Cohen, School of Psychology and Social Science, Edith Cowan University

B. Steering Committee Members

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Professor Henry Jackson, Department of Psychology, University of Melbourne (original applicant and then Chair of HODSPA); Professor Patrick Heaven, Head of School of Psychology, University of Wollongong (current Chair of HODSPA); Dr. Nicholas Voudouris, Manager, Science, Academia & Research, APS; Dr. Iain Montgomery, School of Psychology, University of Tasmania (Chair of PDAC; member of APAC); Professor Peter Lovibond, School of Psychology, UNSW; Dr. Branka Spehar, School of Psychology, UNSW; Associate Professor Michele Scoufis, former Director, Learning and Teaching, UNSW; Dr. Sue Morris, Learning and Teaching, UNSW; Professor Nigel Bond, School of Psychology, University of Western Sydney; Dr. Joanne Earl, School of Psychology, UNSW; Dr. Jo Milne-Home, School of Psychology, University of Western Sydney; Professor Ottmar Lipp, Department of Psychology, University of Queensland.

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D. Participating Universities and Key Discipline Bodies

For their support and contribution:

HODSPA members were consulted at significant steps in this Fellowship; as such all Universities with Schools or Departments of Psychology participated:

Australian Catholic University	Macquarie University	University of New England
Australian National University	Monash University	University of New South Wales
Bond University	Murdoch University	University of Queensland
Central Queensland University	Queensland University of Technology	University of South Australia
Charles Darwin University	Royal Melbourne Institute of Technology	University of Southern Queensland

Charles Sturt University	Southern Cross University	University of the Sunshine Coast
Curtin University of Technology	Swinburne University of Technology	University of Sydney
Deakin University	University of Adelaide	University of Tasmania
Edith Cowan University	University of Ballarat	University of Western Australia
Flinders University	University of Canberra	University of Western Sydney
Griffith University	University of Melbourne	University of Wollongong
James Cook University	University of Newcastle	Victoria University
La Trobe University		

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1. The Fellowship

1.1 Perspectives, Aims and Objectives

Psychology as a science and a profession offers frameworks, methodologies and knowledge that can be applied to improve the human condition, including the capacity of university students to optimally learn and perform (Zinkiewicz, 2003). Knowledge gained from the areas of cognitive, social and motivational psychology in particular can be applied to the educational setting from both a research and a practice perspective. From a research perspective, psychological scientists can test the application to tertiary educational settings of established principles and theories emanating from more laboratory-based research. From a practice perspective, teachers of psychology can reflect upon what is known about the psychology of learning and performance (i.e., the established evidence base), and continually modify their teaching practice to optimize student learning (the ‘teacher-scholar’, Buskist & Davis, 2006; see also Worrell et al., in press). One might conceptualise this process as part of the scientist-practitioner model, whereby practitioners—in this context, psychology academics—deliver evidence-based practice in the classroom, and also engage in psychological research into student learning. This role has recently been termed the “scientist-educators” (Bernstein et al., in press).

Although these are relatively simple ideas, they are in some sense radical. Until recently, most academics did not receive any training in teaching practice, and ongoing teaching practice has been dictated by institutional and personal traditions and constraints. A primary constraint has been the over-arching pressure to deliver research outcomes, despite the significant education and training purpose of universities. Recent Federal Government initiatives, such as the creation of the Carrick Institute for Learning and Education in Higher Education (now renamed the Australian Learning and Teaching Council) has to some extent changed the culture of university teaching. “Stick” approaches, such as the new funding implications of student satisfaction ratings (disregarding for the moment the flaws in this approach), and “carrot” approaches, such as the ALTC Awards, have contributed to this shift. In addition, the nation-wide emphasis on SLOs and accountability has impacted curriculum planning (e.g., Macquarie University, 2008).

Despite significant potential to contribute to debates on these issues, the discipline of psychology in Australia has been relatively silent. There may be two reasons for this lack of contribution. First, psychology’s continuing struggle to establish its reputation as a science with governments, university executives, and the general public (e.g., Badcock et al., 2007), may leave little energy to engage in tertiary education debates. This is a lost opportunity, however, because psychological science has much to offer in understanding the nature of both university student learning (e.g., White et al., 2007) as well as institutional culture change (e.g., Lewin, 1947; Jex & Britt, 2008). Second, basic psychological scientists tend to distance themselves from applied research that they may perceive to be tainted with the reputation of being less than rigorous and subject to “fads”. Fortunately, there has been a recent increase in the amount of high-quality research in the area of university student learning and performance (e.g., Karpicke & Roediger, 2008; McDaniel et al., 2007), and there are now a number of useful integrative reviews (e.g., Halpern & Hakel, 2003; Lifelong Learning, n.d.; Pashler et al., 2007; Zinkiewicz, 2003). Given this context, one of the general aims of the current Fellowship was to encourage psychology and other academics to become more reflective and evidence-based in their teaching practice.

This Fellowship builds upon a recent scoping project, “Learning Outcomes and Curriculum Development in Psychology” (Lipp et al., 2007), and its primary objectives, as stated in the Fellowship summary, were to:

- a) create curriculum structure resources, including SLO guidelines, that are compatible with the Australian Accreditation Council Standards and reflect educationally sound principles;
- b) establish a process for the selection and sharing of learning and teaching materials that are explicitly associated with the SLOs; and
- c) facilitate both the creation and adoption of evidence-based learning and teaching strategies in psychology, to improve SLOs.

During the course of the Fellowship (December 2006 to November 2008), there was a fluidity to the prioritizing of objectives and the methods used, as the project team remained responsive to stakeholder input and changing environmental demands. As such, the objectives are discussed below under the following headings:

3.1 Graduate Attributes (GAs) and Student Learning Outcomes (SLOs) of the Australian Undergraduate Psychology Program

3.2 Promotion of Research into University Student Learning and Performance, and of the Adoption of Evidence-based Practice

Finally, as a result the convergence of the work on (a) the GAs, (b) the future-oriented focus of the concurrent Discipline Investigation (Cranney et al., 2008), and (c) recent opportunities for me to engage in international and cross-institutional educational developments, a final objective emerged: the creation of a vision for the outcomes of undergraduate psychology education.

1.2 Investigative Strategy

An action research methodology was employed, which involved iterative cycles of planning, action, observation, and reflection, for each of the objectives. Key action strategies included: creating forums for free and frank discussion amongst a range of stakeholders; inviting participation through different routes such as forums, surveys, and interviews; attempting to keep stakeholders up-to-date on developments throughout the Fellowship; collecting new data and information as the need arose; running workshops whereby some consensus was reached. A chronological summary of the Fellowship activities is provided in the *ALTC Psychology Fellowship and Discipline Study Activity Summary (Appendix A)*, also available on the ALTC Exchange *Australian Psychology Educators Network (APEN)* site, <http://www.altcexchange.edu.au/australian-psychology-educators-network-apen>). The project was managed by myself in consultation with the project staff and the Advisory Committee, with input from the Steering Committee.

1.3 Stakeholders

The Heads of Schools and Departments of Psychology Association (HODSPA) is the peak disciplinary body responsible for delivering undergraduate and postgraduate educational programs in psychology, and for fostering research in psychology. The 2006-2007 Chair, Professor Henry Jackson, was an original applicant on the related Discipline Investigation which supported this Fellowship, and the 2007-2008 Chair, Professor Patrick Heaven, has participated since March 2007 as a member of the Steering Committee. The 2008-2009 Chair, Professor Frances Quirk, has been involved in the Vision Working Party of the Discipline Investigation since May 2008. I, or my representative, made presentations at the May and September 2007 and 2008, HODSPA meetings.

The Australian Psychological Society (APS) is Australia's largest professional association for psychologists. The association is governed by a Board of Directors and comprises nine specialised colleges. Membership of the APS requires the completion of at least six years of APAC approved study (typically a 4-year undergraduate sequence followed by two years study in a specialist Masters degree program). The former APS Manager of Science, Academia, and Research, Mary Katsikitis, was an original applicant on the related Discipline-based Initiative which supported this Fellowship. The current Manager, Nicholas Voudouris, and the Chair of APS-PDAC, Iain Montgomery, are members of the Steering Committee. Lyn Littlefield, Executive Director of the APS, was also involved in specific events throughout the Fellowship.

The Program Development and Accreditation Committee (PDAC) of the APS is responsible for monitoring program development and accreditation, and provides direct advice and recommendations to the Board of Directors of APAC and the Board of Directors of APS regarding program development and accreditation. The Chair of PDAC, Dr. Iain Montgomery (also an APS Board member), has participated since July 2007 as a member of the Steering Committee.

The Australian Program Accreditation Council Limited (APAC) oversees the accreditation of all undergraduate and postgraduate programs in psychology. The business of APAC is conducted by a Board of four directors appointed by the Australian Psychological Society and four directors appointed by the Council of Psychologists Registration Boards. A member of APAC, Dr. Iain Montgomery, has participated since July 2007 as a member of the Steering Committee.

The Australian Psychology Educators Network (APEN) was established as part of a prior AUTC/ALTC-funded scoping investigation (Lipp et al., 2007). APEN's primary objective is to foster communication and exchange amongst psychology educators in Australia. This exchange is facilitated through the Network's new website (www.psychology.org.au/tlpig) and various conferences, meetings, and workshops held under the APEN banner. APEN foundation member, Dr. Stephen Provost, was a member of the Advisory Committee. In addition, an APEN Group on the ALTC Exchange is being established to facilitate online networking.

The Psychology Foundation of Australia (PFA) aims to foster public awareness of the discipline of psychology as a science. The Foundation represents Schools of Psychology in Australia with a research orientation and encourages the maintenance of quality education and research in psychological science. Vice President of PFA, Professor Peter Lovibond, was a member of the Steering Committee.

Psychology academics, students, employers and consumers. Psychology academics and students were involved in various Fellowship activities; the future need to consult employers and consumers is high-lighted.

2. Psychology Education and Training in Australia

2.1 Overview

The current nature of the Australian undergraduate program is strongly influenced by the Australian Psychology Accreditation Council (APAC), which sets the standards for undergraduate and postgraduate professional psychology programs and the academic organizational units (AOUs; departments and schools of psychology) that offer those programs (Lipp et al., 2007). The standards are based on the scientist-practitioner model of postgraduate professional training, with the undergraduate psychology program seen as providing broad, foundational knowledge as well as strong skills in research methods, data analysis and report-writing. The postgraduate professional training programs (two-year masters programs; three- or four-year Doctor of Psychology programs) consist of a mix of research, course-work and placements in work settings, and specialize in the areas of Clinical, Organisational, Forensic, Counseling, Clinical Neuropsychology, Sports, Educational and Developmental, Health, and Community Psychology, which eventually can lead to membership of the relevant Australian Psychological Society (APS) Colleges. APAC contracts the APS, through its Program Development and Accreditation Committee (PDAC), to undertake assessment of proposed and existing programs, and to make recommendations to APAC regarding accreditation of those programs and AOUs. In order to undertake professional postgraduate training in psychology, students must have a degree from an accredited four-year undergraduate program. This is usually in the form of an integrated four-year program (e.g., Bachelor of Psychology), or a 3-year program followed by a fourth year (usually honours).

2.2 Scoping Investigation

The recent AUTC/ALTC-funded scoping investigation, “Learning Outcomes and Curriculum Development in Psychology” (Lipp et al., 2007; http://www.altc.edu.au/carrick/webdav/site/carricksite/users/siteadmin/public/grants_2005project_learningoutcomes_psychology_finalreport.pdf), was charged with providing a review of the models and methods of teaching, curriculum development and learning outcomes within psychology. In particular the objectives were to: a) identify the disciplinary basis for evaluation, b) provide an overview of the teaching of psychology in Australian universities, c) assess the differing programs’ capacity to meet the interests and needs of students, employers, the profession, and the scientific discipline, d) identify innovative practice in the teaching of psychology, e) develop a platform for future scholarly discussion on the teaching of psychology, f) develop print- and web-based material for dissemination, g) establish an evaluation framework for the project, and h) complete a final report. This two-year investigation involved extensive data gathering, including consultations with stakeholders such as the APS, and interviews with representatives from Departments of Psychology across Australia, the latter of which were designed to provide information relating to formal mechanisms of curriculum design and review, teaching practices, and identification of innovation and barriers to best practice. Amongst the findings of the Investigation were that psychology university teaching representatives perceived that the main constraints on the curriculum are underfunding of programs (obviously a negative), and the need to meet accreditation requirements (mostly a positive: helps ensure minimum quality standards in the face of university economic and policy pressures). Also on the basis of consultation with such teaching representatives, the Investigation identified a number of issues about undergraduate training in psychology that require further consideration, some of which are:

1. The current APAC Standards do not *explicitly* address GAs or their assessment.¹
2. Methods of assessment then endorsed by the APAC Standards, and implemented by most universities in their programs, are not always consistent with best practice (and may disadvantage students not only in terms of sub-optimal learning experience, but also in terms of employer dissatisfaction).
3. There is a lack of resources for innovative and evidence-based curriculum development (and often for the maintenance of current good practice, such as laboratory experience).
4. Current innovations in curriculum development and teaching strategies that have led to improved SLOs, are not being adequately disseminated.
5. There has been little consideration of the pros and cons of internationalization, in terms of (a) cultural competence training, (b) international student exchange programs in psychology, and (c) reviewing psychology education and training in Australia in light of national and international curriculum developments (e.g., the Bologna Agreement).
6. Particularly in light of recent APAC Standards, there needs to be more material to support learning and teaching on indigenous issues in undergraduate programs²; moreover, there is a need to promote indigenous participation in psychology training.
7. There should be more focus on and support of three- and four-year “terminal” psychology undergraduates (i.e., those who do not go on to become professional psychologists), particularly in regard to their graduate destinations and preparation for those destinations (e.g., with regard to alternative avenues of education to complement accredited programs, and relevant GA development).
8. There is inadequate material on the epistemological approach to education and training in psychology; this orientation should be provided from first year.
9. Regarding teaching of psychology in other disciplines, there is a need for more collaborative approaches to curriculum development between Schools of Psychology and the other disciplines, in order to facilitate the development of innovative curricula and the achievement of discipline-relevant positive learning outcomes whilst maintaining the integrity of the psychological perspective.
10. Psychology AOU should utilise Course Experience Questionnaire data to further improve their curricula and learning outcomes.
11. There is a need for a systematic and extensive employer survey, particularly in relation to GAs.
12. There is a need to consider better ways to promote best practice and the scholarly discussion of teaching issues, including support of the network organisation (APEN), and the development of a regular series of workshops and conferences.

The specification of many of the objectives of the current Fellowship was a direct result of these identified issues; in particular, this Fellowship focused on Issues 1 and 12, endorses current action on Issue 6, and recommends further action on all Issues, but particularly 2, 3, 4 and 7.

¹ See Bowden et al. <http://www.clt.uts.edu.au/ATN.grad.cap.project.index.html>: “Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution”

² But see the recent Uni.SA project, <http://www.unisanet.unisa.edu.au/learn/unaipon-psyia/?PATH=/Resources/tcc/Integrating+Australian+Indigenous+content+and+pedagogies+into+psychology+education/&default=Welcome.htm>

2.3 Some Developments in Psychology Education and Training: 2006-2008

This Fellowship project was undertaken in the context of significant change impacting on education and training in psychology:

- (a) increased emphasis on quality learning and teaching in Australian universities (e.g., Australian Universities Quality Agency, 2008; <http://www.auqa.edu.au/>)
- (b) increased emphasis on research productivity associated with the Research Quality Framework (RQF) and now Excellence in Research Australia (e.g., Carr, 2008), and thus necessitating highly efficient approaches to teaching;
- (c) increased emphasis on GAs and SLOs, and aligned assessment and teaching strategies (e.g., Fuhrmann, 1997; UNSW Learning & Teaching, 2008);
- (d) increased emphasis on interdisciplinary education and interprofessional training (particularly within the health professions; e.g., Health Workforce Australia, 2008);
- (e) the morally responsible demand for evidence-based learning and teaching strategies (e.g., Halpern, in press; Zinkiewicz et al., 2003);
- (f) changing student expectations and behaviour (e.g., consumerism; litigiousness; e-learning) and increasing student diversity (e.g., Burton & Dowling, 2005);
- (g) the residual effects of a prolonged period of decreased funding for University educational activities (e.g., National Tertiary Education Union, 1998), particularly impacting on staffing levels, physical laboratory facilities, and other teaching resources;
- (h) changes in cluster funding impacting directly on School/Departmental budgets, with the usual solution being that undergraduate courses cross-subsidise postgraduate professional training (e.g., Littlefield et al., 2007).

Historically, the discipline and profession of psychology in Australia has a strong interest in maintaining high quality education and professional training, and in maintaining disciplinary integrity. In constantly reviewing the accreditation standards, for example, APAC and its subsidiary APS committee, PDAC, attempt to objectively respond in a considered way to requests that reflect some of the pressures listed above, without sacrificing quality and the core scientist-practitioner based philosophy underlying the standards. The primary principle underlying the discipline of psychology (that distinguishes it from other disciplines) is that it uses the *methods of science* to create knowledge about a very challenging subject, *human behaviour*. A further consideration for the discipline and profession is the misconception among the public, governments and university executives that “professional psychology equals clinical psychology”—to the detriment of an appreciation of other professional psychologies, and of the contribution that psychology can make to other disciplines and professions.

3. Fellowship Activities and Outcomes

As indicated in Section 1.1, this Fellowship originally had two broad objectives. As stakeholder engagement progressed and the higher education and political environment changed, aspects of these objectives changed, as is explained in the description of activities and outcomes below. It should be understood, however, that many activities such as stakeholder meetings were designed to achieve progress toward multiple objectives simultaneously. An *ALTC Psychology Fellowship and Discipline Study Activity Summary*, relevant to the resources and outcomes of this Fellowship (in tandem with the ALTC Psychology Discipline Investigation) is presented in *Appendix A*. That

summary is also available on the *Australian Psychology Educators Network (APEN)* site in the ALTC Exchange (<http://www.altcexchange.edu.au/australian-psychology-educators-network-apen>).

3.1 Graduate Attributes (GAs) and Student Learning Outcomes (SLOs) of the Australian Undergraduate Psychology Program

A major objective of this project was to delineate GAs of the undergraduate psychology program. The project sought sector-wide input through the existing APEN established by the earlier scoping investigation, as well as other key stakeholders in the design, delivery and consumption of education and training in psychology (i.e., APAC, HODSPA, UNSW Learning and Teaching Advisory Group in Psychology). Input from a learning and teaching specialist with different discipline training (C. Turnbull), and from the psychology student research assistants and associates (K. Varcin, L. Mellish, K. Watts, S. Zhang) provided invaluable insights throughout this process of GA delineation.

Three activities were undertaken:

- a) a review of a number of key international and national documents were undertaken, including the current APAC Standards, the Scoping Investigation, the APA Guidelines for the Undergraduate Psychology Major (2006), Project EuroPsyT (2001), the School of Psychology UNSW Graduate Attributes (Cranney et al., 2005); moreover, the discussions and responses of stakeholder input at various forums was also taken into account;
- b) iterative development of the GAs from an initial drafting in June 2007 to its current version in March 2008 (see *Appendix B*), with stakeholder input ranging from an APEN workshop at ISSoTL to PDAC input at its 2008 January meeting; and
- c) gradual integration of some of the key GAs and SLOs into the APAC standards.

This latter activity is highly significant, as it means that every Department/School of Psychology will need to demonstrate in applications for accreditation how their programs address these GAs and SLOs. Although this is only a start in the integration, development, assessment and evaluation of GAs/SLOs in the Australian undergraduate program, it is a significant start. This outcome was achieved partly because PDAC and APAC were willing to consider outcomes (cf. the traditional “input” approach), partly because of my sustained efforts in that arena, and partly because of the creative inputs of the Advisory Committee. Examples of curriculum structure resources will soon be created by a number of Universities who are “early adopters” of the GAs, and these will be fed into ALTC Exchange *Psychology Undergraduate Resources* site (<http://www.altcexchange.edu.au/psychology-undergraduate-resources>). Some of the anticipated outcomes of the integration of the GAs into curriculum structures are that (a) 3-year graduates should be more aware of the skills they have acquired during their psychology education, and (b) there should be better alignment of learning outcomes and assessment. A more complete description of the background and methods used to achieve the delineation objective is included in the *Graduate Attribute* document in *Appendix B*.

A further objective of the Fellowship was to establish a process for the selection and sharing of learning and teaching materials that are explicitly associated with the SLOs. This goal of the Fellowship project could not fully proceed until (a) the GAs had received broad acceptance by the peak discipline bodies, and (b) the ALTC Exchange was ready to use. More recently, I initiated discussion of a sustainable quality screening and review system that could be implemented by APS and APEN. Decisions regarding this system should be made by the beginning of 2009. Until then, I

have begun to populate the site with resources (see *Appendix C* for an example). We intend to take advantage of any resource review systems that the ALTC Exchange implements. We have also transferred the original APEN website materials to the APS TLAPIG website, which we created as part of the Fellowship. This platform will advertise psychology-relevant developments on the ALTC Exchange. In addition, we continue to apply for further funding to build on these resources. It is intended that the learning and teaching resources will include web-based learning modules, portfolio development tools, experiential learning strategies for cultural competence training, and assessment strategies that are aligned with curriculum objectives but take into account the APAC standards regarding assessments as well as the economic realities of current university teaching. A key criterion in the selection of this material will be sustainability. With the advent of systems such as Excellence in Research Australia, there is an increased need to share existing resources and knowledge regarding learning and teaching. The dissemination of these resources should assist both individual lecturers and departmental undergraduate education committees to deliver high-quality educational experiences to undergraduate students in psychology.

Outcomes:

- The document “Graduate Attributes of the Australian Undergraduate Psychology Program” (see below for excerpts; and *Appendix B*)
- Integration of the GAs and many of the SLOs into the APAC standards (<http://www.apac.psychology.org.au/Content.aspx?ID=1083>)
- The initiation of an ALTC Exchange *Australian Psychology Educators Network (APEN)* site to support development of the GAs (<http://www.altcexchange.edu.au/australian-psychology-educators-network-apen>)
- Inclusion of the GAs in local and national surveys of students and graduates (see the ALTC Psychology Discipline Investigation Report at http://www.altc.edu.au/carrick/webdav/site/carricksite/users/siteadmin/public/grants_project_psychology_report_aug08.pdf)
- The production of a document for the sector on Applied Psychology that highlighted *Graduate Attribute* resources (see *Appendix D*)
- Submission of grant applications to local university granting bodies (e.g., Learning and Teaching Performance Funds) to support GA and SLO integration into curriculum structures and course outlines
- Submission of grant applications by Advisory Committee members to (a) further work on postgraduate psychology competencies, (b) locate or create quality resources for the ALTC Exchange *Psychology Undergraduate Resources* site, (c) assist GA integration within individual Departments, (d) fill various identified gaps such as support for GA6, (e) develop a training module regarding evidence-based practice in teaching, and (f) maintain APEN activities.

Future needs:

- The specification of postgraduate psychology capabilities.
- Specification of a developmental rubric, benchmarks, and curriculum templates or examples for the integration of GAs and capabilities – this will be achieved partly through APEN activities.
- The location and creation of quality resources for the ALTC Exchange *Psychology Undergraduate Resources*.

3.2 Promotion of Research into University Student Learning and Performance, and of the Adoption of Evidence-based Practice

APEN, established by the Scoping Investigation, includes in its objectives the promotion of research into university student learning and performance, and the implementation and sharing of evidence-based practice in teaching. Moreover, APEN played a large part in the initiation of this Fellowship, and it was thus appropriate that one strategy to achieve this particular Fellowship aim was to ensure the continued activity of APEN. Thus, many of the Fellowship activities were pursued under the banner of APEN (e.g., workshops, symposia, newsletters; see *Appendix A*), and the sustainability of the Network was promoted by (a) ensuring that it became an APS Interest Group (i.e., the Teaching, Learning, and Psychology Interest Group), and (b) shifting many of its resources to that website. The outcomes of the previous Scoping Investigation and the current Fellowship were also disseminated internationally during 2008 through APEN member attendance at the UK Psychology Network's PLAT conference (J.Cranney, L.Cohen, D.French), and the International Conference on the Teaching of Psychology, St Petersburg (P.Wilson, D.French). In addition, I attended the APA National Conference on Undergraduate Education in Psychology (2008). It should be noted that these occasions also result in new knowledge and developments (e.g., see 3.3 below), which will continue to influence the activities and resources associated with APEN and the psychology sites on the ALTC Exchange.

Outcomes:

- APEN symposia, posters, workshops, forums and satellite meetings were organised for the Experimental Psychology Conference in 2007 and 2008, the ISSoTL Conference in 2007, and the APS Conference in 2007 and 2008.
- At the 2008 TLaPIG AGM, (a) different TLaPIG members undertook to organize 2009 APS and EPC conference events, (b) APEN sponsorship of the 2010 ICOPE conference was agreed, and (c) APEN sponsorship of the 2008 Fourth Year Student Experience survey was agreed (see Cranney et al., 2008).
- Inclusion of APEN members in key APS committees (e.g., PDAC – J. Cranney; SARAG – S. Provost & O. Lipp; the APS National Psychology Education & Training Advisory Committee – J. Cranney).

Future Needs:

- The dissemination, uptake, and further development of the outcomes of the Scoping Investigation, the current Fellowship, and other such projects, will continue as long as APEN is actively supported by its members, HODSPA, and APS – this need will be specifically discussed at every TLaPIG executive meeting
- The creation of a Centre or Institute for psychological research into university student learning and performance – this will likely be the topic of future grant applications by myself
- The creation of a training module regarding evidence-based teaching, based on psychological principles – this may be undertaken by APEN members in 2009
- The strengthening of strategies to adequately reward excellence in the teaching of psychology at multiple levels – this will continue to be promoted by APEN members

3.3 The Future of Undergraduate Education in Psychology

An unanticipated development in the final stages of the Fellowship was the articulation of a vision regarding the legacy of psychology education and training. This development was influenced by:

- (a) the work on delineation of GAs
- (b) the articulation of a vision for psychology undertaken as part of the concurrent ALTC Psychology Discipline Initiative
- (c) the development of new areas of research and application in psychology, particularly positive psychology
- (d) developments in higher education in Australia and internationally, such as the emphasis on induction and capstone experiences for UG students
- (e) my own ‘capstone experience’ as a participant in the APA’s National Undergraduate Education Conference in June, 2008, which was
- (f) the solidification of these experiences in the context of opportunities such as the ALTC Fellows Forum in September, 2008.

I coauthored a chapter which articulated two concepts, ‘psychological literacy’ and ‘psychologically literate citizens’. McGovern et al. (in press) defined psychological literacy as (a) having a well-defined vocabulary and basic knowledge of the critical subject matter of psychology; (b) valuing the intellectual challenges required to use scientific thinking and the disciplined analysis of information to evaluate alternative courses of action; (c) engaging problems as creative and amiable skeptics; (d) applying psychological principles to personal, social, and organizational issues in work, relationships, and the broader community; (e) acting ethically; (f) being competent in using and evaluating information and technology; (g) communicating effectively in different modes and with many different audiences; (h) recognizing, understanding, and fostering respect for diversity; and (i) being insightful and reflective about one’s own and others’ behavior and mental processes. Essentially, these are the *APA Guidelines* (2007) outcome statements, which are global in the sense that there is much similarity to outcomes statements of many other nations, including Australia. A psychologically literate citizen is someone who responds to the call for ethical commitment and social responsibility as a hallmark of their lifelong liberal learning. That is, the values, knowledge and skills acquired from their undergraduate psychology education, motivates them to take leadership in solving human problems in local and global contexts. McGovern et al. argue that the development of psychologically literate citizens should be a primary aim of undergraduate psychology education. The consequences of acceptance of this argument is akin to a paradigm shift in the pedagogy of psychology UG education, and would involve both a greater emphasis on both evidence-based teaching and a greater acknowledgement of the ethics of tertiary education. Note, however, that the notion of the psychologically literate citizen is very similar to the ‘global citizen’ aspiration stated by major universities world-wide, which may inspire a new look at the value of interdisciplinary education.

Outcomes:

- The integration of current (i.e., the *Graduate Attributes*) and past (i.e., Lipp et al., 2007) Carrick/ALTC project outcomes into an international text
- A strong Australian contribution to what will be a classic collection on undergraduate psychology pedagogy
- My articulation of a vision for undergraduate psychology which is international in perspective (see *Appendix E*)

- The strengthening of old and the formation of new international collaborations

Future Needs:

- An Australian focus on the psychological science of psychological literacy and the ‘global citizen’
- The further discussion and development of this vision and these concepts, including that of sustainable educational models, by both national and international psychology educators
- The extension of these discussions to implications for interdisciplinary education and interprofessional training, and for postgraduate professional psychology training
- The development of optimal pedagogical practices to achieve the agreed aims of an undergraduate education in psychology
- The development of meaningful and effective induction and capstone experiences (including work-integrated learning) for undergraduate students

4. Dissemination Strategy

Dissemination has been achieved during the progress of the Fellowship through: (a) special inter- and intra-institutional workshops, (b) symposia, workshops, forums and satellites at national conferences, and (c) a number of APEN email newsletters distributed to all academic psychologists through the HODSPA mailing list, and posted on the APEN/TLAPIG website. Dr Nicholas Voudouris, Manager of Science, Academia and Research at APS, facilitated the publication of articles about the *Graduate Attributes* and TLaPIG/APEN in the “annual conference” issue of the APS member publication “InPsych” (see <http://www.psy.unsw.edu.au/profiles/jcranney.html>). The majority of APS members would at least scan this publication, so this would have been a high impact dissemination event.

Dissemination of outcomes and processes will be achieved beyond November 2008 through: (a) this Final Report, which will be sent to all members of HODSPA and other national and international psychologists, and be made available on critical websites, (b) presentations at national and international (e.g., NITOP Conference 2009) conferences, (c) Fellowship materials available through the ALTC Exchange, APEN/TLAPIG and my websites, including further publications, (d) membership on and leadership by advisory committee team members on key national learning and teaching committees, (e) promotion of the outcomes and resources at the local university level by APEN members, and (f) maintenance of the APEN community through its APS website and through its active promotion of learning and teaching activities (e.g., cross-institutional grant applications, symposia and satellite activities at national conferences).

5. Linkages

International linkages were established or strengthened during this Fellowship with the APA Division 2 (as evidenced by Tom Pusateri’s ISSoTL participation, and my participation in the 2008 APA National Conference on Undergraduate Education in Psychology), and with the UK Psychology Network (as evidenced by Annie Trapp’s ISSoTL participation, and my participation in the PLAT 2008 conference). Greater engagement with other countries such as China and India is

required in the near future. I will be organising the International Conference on Psychology Education (ICOPE) in 2010, which has already created many new international linkages.

National linkages were strengthened by the participation of myself and Advisory Committee members in key APS learning and teaching committees. Through the Fellowship Project activities (usually under the banner of APEN), collaborations have been formed that are supporting further grant applications to improve learning and teaching in psychology. In addition, I have connected with concurrent ALTC psychology projects such as the University of South Australia's "Disseminating strategies for incorporating Australian indigenous content into psychology undergraduate programs throughout Australia", and Macquarie University's "Development and evaluation of resources to enhance skills in higher degree research supervision in an intercultural context".

Through ALTC Conferences and other formal gatherings, I made contact with other ALTC Fellows and ALTC project team leaders, and this led to some mutual sharing of pedagogical approaches, knowledge and potential future project ideas. Within universities, I have become involved in university- or faculty-wide projects on subjects such as GAs, and the scholarship of learning and teaching. For example, I am a member of the Advisory Committee for the ALTC Priority Excellence Initiative Project at UNSW. In summary, both through discipline and university avenues and through structured ALTC events, there is no doubt that fruitful linkages have been made that not only enhanced this Fellowship's outcomes but will continue to support innovation in quality learning and teaching in the future.

6. Evaluation and Fellowship Processes

6.1 Evaluation

An independent evaluation of this Fellowship Project was undertaken by Professor Annie Trapp, Director of the UK Psychology Network (*Appendix F*) in June 2008. It should be noted that since the evaluation, some updates have been made as well as the addition of Section 3.3. Some of Professor Trapp's comments regarding the curriculum have been passed onto PDAC for consideration. In addition, it should be noted that the iterative stakeholder involvement meant that the constant adjustments were made to the Project's activities to meet the needs of the discipline and profession. There have been a number of significant outcomes to date, such as the inclusion of GAs into the APAC standards, and increased involvement of academic psychologists in APEN activities (e.g., presentations at the UniServe Science 2008 Conference). The extent to which the activities of this Fellowship will influence the discipline will become apparent over the next few years.

6.2 Processes, lessons learned and generalisability

This Fellowship was a direct result of the Scoping Investigation funded by AUTC and ALTC, and was specifically designed to address some of the suggestions made in that final report (Lipp et al., 2007). The process of delineating the *Graduate Attributes* is summarized in the Appendices of the *Graduate Attribute* document (see *Appendix B*). A concurrent development was the awarding of an ALTC Discipline Investigation to H. Jackson, M. Katsikitis, and myself. Some of the objectives of that Investigation were to support Fellowship objectives, and so many of the activities were intertwined (see *Appendix A*). Moreover, the Investigation Team served as the Fellowship Advisory Committee, with the Steering Committee common to both. One shared objective was promoting the

creation and application of the psychology evidence base to effective learning and teaching in psychology. The primary outcome of the current Fellowship project was the *Graduate Attributes*, whereas the primary outcome of the Investigation was the *Vision Statement*. Aspects of the *Vision Statement* refer to the need for evidence-based practice in psychology education. One objective of the Fellowship that was not progressed as much as expected was the creation of a resource website to support psychology academics in achieving SLOs of the delineated GAs. Nevertheless, this process has been initiated, and will be supported by APEN activities, and hopefully boosted by further funded projects. An unanticipated outcome of the Fellowship project was the extension of the GA and vision work to concepts such as psychological literacy (see Section 3.3), and the likely development of new paradigms in psychology education and pedagogy over the next few years, both in Australia and internationally (Halpern, in press).

In summary then, this Fellowship had multiple objectives that required somewhat different methodologies, resources, and timelines, which in many ways was quite challenging. Nevertheless, significant progress was made on objectives to allow delivery of a number of outcomes, including the *Graduate Attributes* and the revitalized and more sustainable APEN. In terms of generalisability to other ALTC Projects, the key to this Fellowship's successful outcomes would appear to be a combination of (a) my deep commitment to advancing these kinds of objectives, (b) a "quorum" of motivated and capable Advisory Committee members and support staff, and (c) my capacity to modify directions and strategies in the rapidly changing environment of psychology education and training.

7. Conclusions

Undergraduate psychology in Australia is at a crossroads in terms of its aims and associated curriculum structure; in particular, further examination is required of the ways in which it articulates with (a) further postgraduate professional training in psychology, and (b) interdisciplinary education and interprofessional training (Littlefield et al., 2007). With the changing international tertiary educational scene, including the challenge of the European Bologna model and the rapid rise in the human service industry in China and India, Psychology in Australia needs to take the initiative in shaping a globally sustainable model of education and training in psychology. This project was a small start toward that end, but a sustained, courageous, innovative and strategic effort is required from the peak disciplinary bodies in psychology to take this leadership role, and avoid becoming a backwater in international psychology education.

It should be noted that one strength of the current model of education and training is its internationally based scientist-practitioner approach, providing a philosophy that many other disciplines and professions lack in their approach to education and training. Nevertheless, the discipline of psychology has been slow to apply psychological knowledge to facilitate university student learning and performance; that is, there has not been discipline-wide support for evidence-based practice in teaching. A start to this process has been made with this Fellowship: support of the delineation of GAs for the undergraduate program, and of the creation and sharing of evidence based practice in the teaching of psychology. Nevertheless, we need strategic leadership in psychology at all levels to achieve the great potential that the discipline and profession has in contributing to the wellbeing and future of Australians.

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to the original ACCI & BCA (2002) paper “Employability skills for the Future” (Department of Education, Science and Training, Canberra.). To quote: “The recognition of ‘scholarly enquiry’ or ‘scholarly attitude to knowledge’ differentiates most higher education policies on graduate attributes from the skills groupings contained in the Employability Skills Framework. The policies developed by universities also recognise an end use of the framework that goes beyond employment. Most contain attributes related to ‘ethical practices’ and ‘social responsibility’” (pg. 6). In terms of how those eight employability skills are represented within the six graduate attributes outlined in this document: self-management, planning and organising, learning skills and initiative and enterprise skills, are explicit in Graduate Attribute 6; teamwork and communicating in Graduate Attribute 5; using technology in Graduate Attribute 2; and problem solving in Graduate Attribute 3.]

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9. Appendices

- A. ALTC Psychology Fellowship and Discipline Study Activity Summary
- B. Graduate Attributes of the Australian Four-Year Undergraduate Psychology Program
- C. An Example of a Resource Submitted to the “Undergraduate Resources” Section in the ALTC Exchange
- D. Applied Psychology in Australian Undergraduate Education
- E. An Essay: “Psychological Literacy for Global Well-being: Disciplinary Identity, Paradigm Shifts and the Case for Compulsory First Year Psychology”
- F. Final Report Review by A.Trapp

Appendix A

ALTC Psychology Fellowship and Discipline Study Activity Summary

Building upon the AUTC/ALTC work on the undergraduate psychology curriculum accomplished by Ottmar Lipp, Steve Provost and others (from UQ, USC, and U.Tas), Henry Jackson (former Chair of HODSPA), Mary Katsikitis (former APS Manager of Science, Academia and Research), and Jacquelyn Cranney (ALTC Associate Fellow), were granted funding for an investigation *Designing a future-oriented vision for undergraduate psychology in Australia* under the Discipline-based Initiative Scheme (DBI). The primary objective of the initiative involved developing and implementing a strategy for the creation of a diverse, future-oriented vision for psychology in Australia, with prioritised strategic plans to deliver that vision. Jacquelyn Cranney also received funding for the ALTC Associate Fellowship - *Sustainable and evidence-based learning and teaching approaches to the undergraduate psychology curriculum*. This Fellowship is driving a nationally focused project seeking to (a) address issues raised by a prior scoping project in psychology, and (b) facilitate national uptake of sustainable and evidence-based learning and teaching approaches to the undergraduate curriculum. The objectives of the project involved (a) building curriculum templates that are compatible with the Australian Psychology Accreditation Council Standards and that reflect educationally sound principles; (b) establishing a process for the selection and sharing of learning and teaching materials that are explicitly associated with the templates; and (c) facilitating the creation and adoption of evidence-based learning and teaching strategies in psychology, to improve student learning outcomes.

Substantial progress was made on the projects, through various activities involving extensive stakeholder consultation as outlined below.

DATE	TITLE	ACTIVITY	LOCATION	RESOURCES
Feb 07 – May 08	National and International Comparisons of Models of Education	Analyses	UNSW	Summaries
1 March 07	APEN: The Research-Teaching Nexus	Workshop	UNSW	Summary Program
2 March 07	DBI: The Future of Psychology Training in Australia (Steering Committee Meeting)	Workshop	UNSW	Summary Program
13-15 April 07	EPC: Effective university student learning papers	Conference	Canberra	EPC Abstracts
4 May 07	HODSPA Meeting	Panel	University of Sydney	Summary
July 07 – May 08	Head of Schools Interviews	Interviews	Aus. Universities	Summary
3 July 07	ISSoTL: The Psychology of University Student Learning and Performance I & II	Symposium	UNSW	Summary Presentations
4 July 07	ISSoTL: International perspectives on undergraduate psychology: Student learning outcomes and assessment, accreditation, and future directions I & II	Symposium	UNSW	Summary Presentations
4 July 07	APEN: Issues in the Teaching of Psychology: From Research to Future Training	Satellite to ISSoTL	UNSW	Summary Program Presentations
5 July 07	Mini-DBI and Steering Committee Meeting	Meeting	UNSW	Minutes
12-13 July 07	Psychology and Indigenous Australians: Effective Teaching and Practice	Conference	University of South Aus.	Summary
16 July 07	Consultation with N. Voudouris & L. Littlefield of APS	Meeting	APS	Summary

28 August 07	ULTAG meeting: Graduate Attributes	Meeting	UNSW	Summary
Sept - Nov 07	Graduate Outcomes Survey	Survey	UNSW	Summary
25-29 Sept 07	APS SoTL Symposium	SoTL Symposium	Brisbane	Summary Presentations
27 Sept 07	Steering Committee Meeting	Meeting	Brisbane	Summary
28 Sept 07	HODSPA Meeting – Presentation of GA Document	Meeting	Brisbane	Summary
25-29 Sept 07	APS Conference Forum	Forum	Brisbane	Summary Presentations
5 October 07	Mini-DBI Meeting	Meeting	UNSW	Minutes
18 October	APEN: The Research-Teaching Nexus	Workshop	UWS	Summary
October 07	Service Teaching: Australian High-Schools Survey	Survey	Schools in Vic, Tas, SA	Summary
October 07	Honours Survey	Survey	Aus. Universities	Summary
6 December 07	DBI Meeting (Steering Committee Meeting)	Meeting	APS Melbourne	Summary
26 January 08	Mini-DBI Meeting	Meeting	UNSW	Summary
25 February 08	APAC Meeting	Meeting	APS Melbourne	Graduate Attributes Doc.
6 March 08	APS National Psychology Education and Training Reference Group	Meeting	APS Melbourne	Summary
20-21 March 08	Mini-DBI Meeting	Meeting	UNSW	Summary
25-26 March 08	DBI Meeting	Meeting	UNSW	Summary
27 March 08	APEN EPC Satellite Meeting	Meeting	Perth	Summary
30 April 08	Vision Statement	Report	UNSW	Document
30 April 08	Implementation Plan	Report	UNSW	Document
1 May 08	Final Report	Report	UNSW	Document
23 May 08	APS National Psychology Education and Training Reference Group	Meeting	APS Melbourne	Summary

27 May 08	DBI Vision Statement Meeting 1	Meeting	APS Melbourne	Summary
13 June	DBI Vision Statement Meeting 2	Meeting	APS Melbourne	Summary
22-27 June 08	APA National Conference on Undergraduate Education in Psychology: Blueprint for the Discipline's Future	Conference/Workshop	Uni. Of Puget Sound, Washington, USA	Summary
1-3 July 08	PLAT Conference	Conference	Bath, UK	Summary
7 August 08	DBI Vision Working Party Meeting	Meeting	APS Melbourne	Summary
11 August 08	APS National Psychology Education and Training Reference Group	Meeting	APS Melbourne	Summary
Sept 08	APS Symposia	Symposia	Hobart	Summary
Sept 08	APS APEN Teaching Learning and Psychology	Satellite and AGM	Hobart	Summary
Jan 09	National Institute for the Teaching of Psychology	Conference	St Petersburg, Florida, USA	Preview
Jan 09	UK Psychology Network Meeting	Meeting	York, UK	Preview

Appendix B

Graduate Attributes of the Four-Year Australian Undergraduate Psychology Program

October 16, 2008

Introduction

The *Graduate Attributes of the Australian Undergraduate Psychology Program* is a comprehensive list of the capacities or attributes that undergraduate students of psychology can develop during their four years at university. The attributes comprise the knowledge, skills and values that are consistent with the science and application of psychology. Each of the six attributes is accompanied by a list of suggested student learning outcomes. The learning outcomes provide students with focal points to demonstrate their attainment of the *Graduate Attributes*, and provide academics with focal points for measuring student performance. The *Graduate Attributes* and related learning outcomes are not intended as a set of rules or directives, but rather as recommendations based on research and consultation with a wide range of stakeholders (see *Appendices B.1, B.2, B.3*). Different levels of development of these *Graduate Attributes* and learning outcomes would be expected across the four years of the program. *Appendix B.1* provides more detailed suggestions for how to use this document, as well as the rationale for considering graduate attributes and learning outcomes. Student learning outcomes that are currently considered to be central to the three year course are indicated with a single asterisk, while those central to the fourth year course are indicated with a double asterisk.

Graduate Attribute 1: Knowledge and Understanding of Psychology

Demonstrate understanding of the major concepts, theoretical perspectives, empirical findings, and historical trends in the core topics of psychology, as outlined by the National Accreditation Body (currently APAC: the Australian Psychology Accreditation Council).

Suggested learning outcomes:

- *Display basic knowledge and understanding of the following core[§] topics:
 - abnormal psychology
 - biological bases of behaviour
 - cognition, information processing and language
 - health and well-being
 - individual differences in capacity and behaviour, testing and assessment, personality
 - learning
 - lifespan developmental psychology
 - motivation and emotion
 - perception
 - social psychology
 - history and philosophy of psychology
 - intercultural diversity and indigenous psychology
- **demonstrate knowledge of the theoretical and empirical bases underpinning the construction, implementation, and interpretation of some of the most widely used cognitive and personality assessments
- **demonstrate knowledge of the theoretical and empirical bases underpinning evidence-based approaches to psychological intervention
- Delineate psychology as a scientific discipline and describe its major objectives.

[§] “Core” is used in the sense that these topics must be covered by programs, and not necessarily because they are substantive subject areas in psychology.

- Explain the major themes (e.g., interaction of genetics and environment) and perspectives (e.g., behavioural, evolutionary, sociocultural) of psychology.
- Explain psychological phenomena using the concepts, language, and major theories of the discipline.

Graduate Attribute 2: Research Methods in Psychology

Understand, apply and evaluate basic research methods in psychology, including research design, data analysis and interpretation, and the appropriate use of technologies.

Suggested learning outcomes:

- *Describe the basic characteristics of the science of psychology.
- *Describe, apply and evaluate the different research methods used by psychologists.
- *Demonstrate practical skills in laboratory-based and other psychological research.
- Describe and evaluate questionnaire and test construction, implementation and interpretation.
- Describe the key principles for designing, implementing and evaluating programs of behaviour change.
- Locate, evaluate and use information appropriately in the research process.
- Undertake statistical analysis appropriately.
- Use basic web-search, word-processing, database, email, spreadsheet, and data analysis programs.
- *Design and conduct basic studies to address psychological questions: frame research questions; undertake literature searches; critically analyse theoretical and empirical studies; formulate testable hypotheses; operationalise variables; choose an appropriate methodology; make valid and reliable measurements; analyse data and interpret results; and write research reports.

Graduate Attribute 3: Critical Thinking Skills in Psychology

Respect and use critical and creative thinking, sceptical inquiry, and the scientific approach to solve problems related to behaviour and mental processes.

Suggested learning outcomes:

- *Apply knowledge of the scientific method in thinking about problems related to behaviour and mental processes.
- *Question claims that arise from myth, stereotype, pseudo-science or untested assumptions.
- Demonstrate an attitude of critical thinking that includes persistence, open-mindedness, and intellectual engagement.
- Demonstrate a capacity for higher-order analysis, including the capacity to identify recurrent patterns in human behaviour.
- Evaluate the quality of information, including differentiating empirical evidence from speculation.
- Identify and evaluate the source and context of behaviour.
- *Recognise and defend against the major fallacies of human thinking.
- Evaluate issues and behaviour using different theoretical and methodological approaches.
- Use reasoning and evidence to recognise, develop, defend, and criticise arguments and persuasive appeals.
- Demonstrate creative and pragmatic problem solving.

Graduate Attribute 4: Values in Psychology

Value empirical evidence; tolerate ambiguity during the search for greater understanding of behaviour and knowledge structures; act ethically and professionally; understand the complexity of sociocultural and international diversity; and reflect other values that are the underpinnings of psychology as a discipline.

Suggested learning outcomes:

- Recognise and respect social, cultural, linguistic, spiritual and gender diversity.
- **Explain how the science and practice of psychology is influenced by social, historical, professional, and cultural contexts.

-
- Identify and describe the sociocultural and international contexts that influence individual differences in beliefs, values, and behaviour.
 - *Use information in an ethical manner (e.g., acknowledge and respect the work and intellectual property rights of others through appropriate citations in oral and written communication).
 - Recognise how privilege, power, and oppression may affect prejudice, discrimination, and inequity.
 - Explain how prejudicial attitudes and discriminatory behaviours might exist in oneself and in others.
 - Recognise the limitations of one's psychological knowledge and skills, and value life-long learning.
 - Display high standards of personal and professional integrity in relationships with others.
 - Exhibit a scientific attitude in critically thinking about, and learning about, human behaviour, and in creative and pragmatic problem solving.
 - *Evaluate psychologists' behaviour in psychological research and other professional contexts in relation to the Australian Psychological Society *Code of Ethics* and the complementary *Ethical Guidelines*, as well as the Australian *National Practice Standards for the Mental Health Workforce*.
 - Promote evidence-based approaches to understanding and changing human behaviour.

Graduate Attribute 5: Communication Skills in Psychology

Communicate effectively in a variety of formats and in a variety of contexts.

Suggested learning outcomes:

- *Write a standard research report using American Psychological Association (APA) structure and formatting conventions.
- Write effectively in a variety of other formats (e.g., essays, research proposals, reports) and for a variety of purposes (e.g., informing, arguing).
- *Demonstrate effective oral communication skills in various formats (e.g., debate, group discussion, presentation) and for various purposes.
- Demonstrate basic interviewing skills.
- Demonstrate effective interpersonal communication skills including the abilities to: listen accurately and actively; use psychological concepts and theories to understand interactions with others; identify the impact or potential impact of one's behaviour on others; provide constructive feedback to others; adopt flexible techniques to communicate sensitively and effectively with diverse ethnic and cultural partners, including in the context of team-work.
- Collaborate effectively, demonstrating an ability to: work with groups to complete projects within reasonable timeframes; manage conflicts appropriately and ethically.

Graduate Attribute 6: Learning and the Application of Psychology

Understand and apply psychological principles to personal, social, and organisational issues.

Suggested learning outcomes:

- *Describe major areas of applied psychology (e.g., clinical, counselling, organisational, forensic, health).
- *Apply knowledge of legislative frameworks (including privacy, human rights).
- *Apply knowledge of consumer and carer participation in psychological care.
- *Apply knowledge of psychology, society and the workplace/influencing systems.
- Apply psychological concepts, theories, and research findings to solve problems in everyday life and in society.
- Reflect on one's experiences and learn from them in order to identify and articulate one's personal, sociocultural, and professional values; demonstrate insightful awareness of one's feelings, motives, and attitudes based on psychological principles.

- Apply psychological principles to promote personal development through self-regulation in setting and achieving career and personal goals; self-assess performance accurately; incorporate feedback for improved performance; purposefully evaluate the quality of one's thinking (metacognition).
- *Demonstrate a capacity for independent learning to sustain personal and professional development in the changing world of the science and practice of psychology.

Appendix B.1

Notes to Graduate Attributes of the Australian Four-Year Undergraduate Psychology Program

Graduate Attributes and Student Learning Outcomes

A general consensus has been reached in relation to both the general nature of graduate attributes and a number of principles informing their place in higher education. The most commonly cited definition of graduate attributes in Australian higher education was produced by a DETYA-funded project led by John Bowden, Keith Trigwell and others in 2000:

Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution and consequently shape the contribution they are able to make to their profession and society. They are qualities that also prepare graduates as agents of social good in an unknown future (Bowden et al, 2000).

The *Graduate Attributes of the Australian Undergraduate Psychology Program* is a comprehensive list of the capacities or attributes that undergraduate students of psychology can develop during their time at university. The attributes comprise the knowledge, skills and values that are consistent with the science and application of psychology. While the development of the *Graduate Attributes* reflect the Federal Government's and the higher education sector's emphasis on the development of generic skills, they are more relevant than lists of university-wide attributes because of their explicit focus on psychology. As such, they also assist in the discipline's assertion of its own identity in the face of pressures to impose university-wide graduate attributes.

Each of the six attributes is accompanied by a list of suggested student learning outcomes. Learning outcomes are reasonably specific statements describing what students should know, understand or be able to do as a result of learning (Biggs, 2003). The suggested learning outcomes included in this document provide students with focal points to demonstrate their attainment of graduate attributes, both during and upon completion of their programs. The learning outcomes also provide academics with focal points for measuring student performance, for example, in formative and summative assessment tasks. The graduate attributes and related learning outcomes are not intended as a set of rules or directives, but rather as recommendations based on research and consultation with a wide range of stakeholders.

Using this Document

Although this document is structured to delineate six distinct graduate attributes, this does not imply that they are mutually exclusive. Rather, in practice there should be overlap and integration of the graduate attributes, particularly in the way they are experienced by students. For example, issues in indigenous psychology (GA 1) could be presented in such a way that prompts students to reflect on their own prejudices (GA 4 and 6).

Each attribute can be addressed in School/Department curriculum designs and assessment plans; however, beyond accreditation standards, Schools/Departments may choose formally to *emphasise selected attributes and outcomes* depending on their perspectives, goals, traditions, or resources. An emphasis on certain content areas included as part of the graduate attributes should not be construed as dictating course requirements (e.g., the emphasis on the development of critical thinking skills does not imply that these activities must transpire in a formal course on critical thinking in psychology). Rather, this document is intended to empower and encourage Schools/Departments to determine contexts in which students can learn those relevant skills and perspectives. These contexts may, for example, include training that is offered by other University units such as the library, student learning centre, or careers unit.

The document is based on an assumption that the graduate attributes and learning outcomes are developmental in nature. The attributes and learning outcomes are framed from the perspective of the end point of the development that students experience during their programs (i.e., by the end of their fourth/Honours year). Schools/Departments may determine performance levels against the learning outcomes that are appropriate to their students at any given stage of a program. This document can serve as a useful resource in these determinations. The learning outcomes are organised in a hierarchical manner, with lower order cognitive processes usually listed first (e.g., “describe”), followed by higher order processes (e.g., “evaluate”) (Bloom et al., 1956; Krathwohl, 2002). The comprehensiveness of the attributes and learning outcomes listed in this document is not intended to imply that individual courses should, or even could, support the full development of all six attributes. Moreover, at lower year levels, it may be that students are capable of description but not evaluation within certain student learning outcomes.

The *Graduate Attributes* complement the *Rules for Accreditation & Accreditation Standards for Psychology Courses* (see *Appendix B.2*), and are meant to facilitate provision of a strong educational foundation both for postgraduate studies in psychology and for the application of psychological knowledge, skills and values in other settings. The six graduate attributes simultaneously reflect the principles of the scientist-practitioner model for training in psychology, and give added meaning to the model in the context of university learning and teaching. The graduate attributes also are aimed at supporting the education of students who will take vocational pathways other than professional psychology. As such, this document partly delineates the discipline of psychology at the undergraduate tertiary education level, representing the amalgamation of requirements for the basis of professional psychology training and for a liberal education in the discipline of psychology.

Rationale

The *Graduate Attributes* are underpinned by an assumption that the presence of clearly articulated learning outcomes in programs and courses enhances learning (e.g., Biggs, 1996, 2003). This principle assumption, and the efficacy of the *Graduate Attributes*, is based on a number of secondary suppositions. First, learning outcomes must be closely aligned with course and program content, the activities that students engage in (i.e., laboratory work, small classes, lectures), and the content and format of assessment tasks. Second, learning outcomes should occupy a relatively central position in courses and programs rather than be introduced initially then neglected thereafter. Third, students should be able to perceive an interdependent relationship between their pursuit of an individual learning outcome and the more long-term development of graduate attributes.

Despite this focus on clearly articulated, relatively discrete learning outcomes, the *Graduate Attributes* are also based on an understanding that learning in higher education is a complex phenomenon (Barnett, 2000, 2000a; Knight, 2001). It is for this reason that the *Graduate Attributes* and learning outcomes are not prescriptive, but rather they serve as a shared reference point for academics and students. In this context, it should be recognised that the list of learning outcomes is not exhaustive, and that the provision of learning outcomes does not preclude the attainment of unintended or additional outcomes from learning in psychology.

This document is also important in the ongoing process of defining psychology graduate attributes. For example, this document delineates the personal and professional characteristics that distinguish psychology graduates. This is particularly important given the divergence of views among academics in relation to the content and concept of graduate attributes. Research has demonstrated that academics hold widely varying views of disciplinary-based graduate attributes despite the existence of a consensus about their general definition (Bowden, 2000; Barrie, 2004, 2006). This situation presents a number of problems for students. In response to this situation, the *Graduate Attributes* can help facilitate a higher degree of coherence within and across programs, particularly from a student perspective. They may also help to give focus to a more open debate about learning and teaching in psychology.

Revision

It is intended that (a) the *Graduate Attributes* be reviewed and modified by a Committee consisting of relevant members of the Heads of Schools and Departments of Psychology Association, the Australian Psychological Society, and the National Accreditation Body (currently APAC), on at least a 5-yearly basis, (b) the *Graduate Attributes* be attached to or at least referred to in the National Psychology Accreditation Standards, and (c) the *Graduate Attributes* be available on the Australian Psychological Society Website.

Appendix B.2

Consultation Process to Graduate Attributes of the Australian Four-Year Undergraduate Psychology Program

The process of developing the *Graduate Attributes* was based on two main consultative strategies. First, the content and structure of the *Graduate Attributes* were drafted after consulting a range of key documents and reports on psychology learning and teaching. There were three resources that were particularly influential: the Australian Psychology Accreditation Council's *Standards for Accreditation of Australian Psychology Programs* (January 2007), the final report of a project on *Learning Outcomes and Curriculum Development in Psychology* (2006), and the American Psychological Association's *Guidelines for the Undergraduate Psychology Major* (August 2006). Second, the conceptual development of the *Graduate Attributes* derived from consultation with a range of relevant stakeholders, including psychology students; heads of psychology schools, departments and programs; members of the Australian Psychology Educators Network; leaders in the Australian Psychological Society and APAC; and international leaders in psychology learning and teaching.

Key documents and reports

The *Graduate Attributes* utilise and draw upon:

Australian Psychology Accreditation Council (2007). *Standards for Accreditation of Australian Psychology Programs*. Melbourne: Australian Psychology Accreditation Council.

The Standards are referred to or integrated into the *Graduate Attributes*. For example, the core topics (Standard 3.1.7) are explicitly stated in Attribute 1, the strong emphasis on research methods and report writing (Standard 3.1.6) is reflected in Graduate Attributes 2 and 5 respectively, the recent emphases on cross-cultural and indigenous psychology (Standard 3.1.7) is reflected in Graduate Attributes 1 and 4, and the emphasis on both the science and application of psychology (Standard 3.1.10) is integrated into Attributes 3 and 6 in particular.

Lipp, O., Terry, D., Chalmers, D., Bath, D., Hannan, G., Martin, F., Farrell, G., Wilson, P., & Provost, S. (2006). *Learning outcomes and curriculum development in Psychology*. Sydney: Carrick Institute for Learning and Teaching in Higher Education.

This report highlighted a number of needs in undergraduate training, including (a) the creation of a list of graduate attributes, of which this document is the first attempt, (b) that Schools/Departments should cater more for 3-year and honours graduates who do not go on to postgraduate training in psychology, hence the emphasis on Graduate Attribute 6, whereby the capacity to apply psychological principles to everyday life, including one's career development, is highlighted, (c) the internationalisation of psychology, which is explicitly or implicitly referred to in Attributes 4, 5 and 6.

American Psychological Association. (2006). *APA guidelines for the undergraduate psychology major*. Washington, DC: Retrieved from www.apa.org/ed/resources.html

The structure and content of the Australian *Graduate Attributes* is partly based on the 10 goals and suggested learning outcomes of the APA's *Guidelines for the undergraduate Psychology major*. While a number of the Australian graduate attributes and student learning outcomes are precise duplications of their American counterparts, others have been adapted to make them more appropriate for the Australian context. A decision was

made to utilise the knowledge and expertise underpinning the American Guidelines, since these were based on five reports and an extensive research and consultation period from 2000 to 2006.

Lunt, I., Bartram, D., Döpping, J., Georgas, J., Jern, S., Job, R., Lecuyer, R., Newstead, S., Nieminen, P., Odland, S., Peiró, J.M., Poortinga, Y., Roe, R., Wilpert, B., & Herman, E. (2001). *EuroPsyT - a framework for education and training for psychologists in Europe. Report by Project EuroPsyT, funded by the Leonardo da Vinci programme*. Retrieved from www.europsych.org

This document strengthened the rationale for maintaining an international perspective in the *Graduate Attributes*.

Littlefield, L., Giese, J., & Katsikitis, M. (2007). "Professional psychology training under review". *InPsych*, 29(2). Retrieved from <http://www.psychology.org.au/publications/inpsych/training/?ID=1538>.

This document strengthened the rationale for maintaining an international perspective in the *Graduate Attributes*.

Hayes, N. (1997). The distinctive skills of a psychology graduate. *Monitor on Psychology*, 28, 33-35.

This document, written by an English academic, reproduced in the American trade journal, and utilised by UNSW academics for many years, influenced the shape of some of the learning outcomes, especially that of Graduate Attribute 3. It is a neat synopsis of what undergraduate students usually gain from their degrees, and has assisted many students in explaining to their family and friends what is involved in studying psychology.

Cranney, J., Morris, S., & Martire, K. (2005). *School of Psychology UNSW Graduate Attributes*. Unpublished School Document.

These graduate attributes were developed in consultation with academic staff members, and was a point of comparison during 2007 consultative workshops for developing this document.

Stakeholder consultation

Workshop, "The Future of Psychology Training in Australia", University of New South Wales, 2 March 2007.

This workshop included 21 participants from the University of New South Wales, the University of Melbourne, the University of Wollongong, the University of Queensland, the University of Tasmania, Southern Cross University, the Australian Psychological Society, and the Carrick Institute for Learning and Teaching in Higher Education.

Program Development and Accreditation Committee (PDAC), Australian Psychological Society.

Iain Montgomery, the Chair of the Committee, attended the July ISSoTL Workshop. Consultation with the whole Committee was initiated in September 2007, and continues. Please see "Revision" section in *Appendix B.1*.

Heads of Departments and Schools of Psychology Association (HODSPA)

HODPSA has been consulted extensively during the development of the *Graduate Attributes*, for example: (a) the Chair of HODSPA was an applicant on the Carrick Psychology Discipline-based Initiative (DBI), and remains a member of the DBI team; (b) a discussion panel at a HODSPA meeting on 4 May 2007, (c) interviews with members, on the future of psychology training in Australia, and (d) presentation of this document at the September 28 HODSPA Meeting, with invitation to provide further feedback. Consultation with this key group continues.

International Society for the Scholarship of Teaching and Learning, 2-5 July 2007

The *Graduate Attributes* were discussed in two sessions held as part of the Conference of the International Society for the Scholarship of Teaching and Learning, 'The Psychology of University Student Learning and Performance' and 'International perspectives on undergraduate psychology: student learning outcomes and assessment, accreditation, and future directions'. Feedback was received from numerous national and international leaders in psychology learning and teaching.

Australian Psychology Educators Network meeting, 4 July 2007.

A half-day session on “Issues in the Teaching of Psychology: From Research to Future Training” was held as a satellite workshop of the Conference of the International Society for the Scholarship of Teaching and Learning. The session was attended by 33 national and international leaders in psychology learning and teaching, and featured extensive discussion and reporting on ‘What knowledge, skills and attitudes should have been acquired by our 3rd and 4th year graduates?’.

Australian Psychological Society and APAC

APS has been consulted extensively during the development of the *Graduate Attributes*, for example: (a) the Manager of Science, Academia and Education was an applicant on the Carrick Psychology DBI, and remains as a member of the DBI team; and (b) a meeting with the Manager and Executive Director was held on July 16, 2007. In addition, members of the APS Program Development and Accreditation Committee (PDAC), which reports to APAC, have been included on the DBI team which is overviewing this process. Consultation with these key groups continues, and has recently resulted in the integration of some of the student learning outcomes into the Standards (APAC, February 2008).

Australian Psychological Conference Annual Conference. (2007).

At this conference, a Forum on the Future of Psychology Education and Training in Australia was run. The creation of this document was mentioned, and an invitation to comment was made, and some attendees have taken up this invitation.

Carrick Discipline-based Initiative Team Meetings and Communications: February 2006 onwards.

Appendix B.3

Contributions to Graduate Attributes of the Australian Four-Year Undergraduate Psychology Program

The creation of the *Graduate Attributes* was funded by the Carrick Associate Fellowship project, “Sustainable and evidence-based learning and teaching approaches to the undergraduate psychology curriculum”, and the Carrick Institute for Learning and Teaching in Higher Education Discipline-based Initiative “Designing a future-oriented vision for undergraduate psychology in Australia”, *and* was supported by the Australian Psychological Society and the University of New South Wales (Psychology; Learning & Teaching). Individuals who contributed include:

*Nigel Bond	NSW Representative	Psychology, Univ. of Western Sydney
*Graham Bradley	Qld representative	Psychology, Griffith University
Pia Broderick	Western Australia Representative	Psychology, Murdoch University
*Lorelle Burton	Qld Representative	Psychology, Univ. of Southern Qld
*Lynne Cohen	W.A. Representative	Psychology, Edith Cowan University
*Jacquelyn Cranney	Carrick Fellow & DBI Team Leader	Psychology, UNSW
*Joanne Earl	ULTAG Representative	Psychology, UNSW
Davina French	W.A. Representative	Psychology, Univ. of Western Australia
Greg Hannan	HODSPA & ATEN Representative	Psychology, University of Tasmania
Julie Hansen	Qld Representative	Psychology, Qld Univ. of Technology
Russell Hawkins	International Representative	Psychology, JCU, Singapore
Patrick Heaven	Chair, HODSPA	Psychology, University of Wollongong
Mir Rabiul Islam	NSW Representative	Psychology, Charles Sturt University
Henry Jackson	DBI Applicant	Psychology, University of Melbourne
*Mary Katsikitis	DBI Applicant	Psychology, U. of the Sunshine Coast
*Ottmar Lipp	APEN and QLD Representative	Psychology, University of Queensland
*Peter Lovibond	HODSPA & UNSW ULTAG Representative	Psychology, UNSW
Rena Low	Educational Psychology Representative	Education, UNSW
*Frances Martin	APEN and Tasmania Representative	Psychology, University of Tasmania
*Diana Matovic	Student Research Assistant & ULTAG member	Psychology, UNSW
*Leigh Mellish	Student Research Assistant & ULTAG member	Psychology, UNSW
Renata Meuter	Qld Representative	Psychology, Qld Univ. of Technology
Jo Milne-Home	Chair, APS College of Ed. & Develop. Psych.	Psychology, Univ. of Western Sydney
Iain Montgomery	APAC Representative	Psychology, University of Tasmania
*Shirley Morrissey	PDAC Representative	Psychology, Griffith University
*Sue Morris	UNSW ULTAG Representative	Learning and Teaching, UNSW
*Lorna Peters	NSW Representative	Psychology, Macquarie University
*Steven Provost	APEN & NSW Representative	Psychology, Southern Cross University
Thomas Pusateri	Director, APA Div. 2	American Psychological Association
Rob Ranzijn	S.A. & Carrick Project Representative	Psychology, Univ. of South Australia
Michele Scoufis	Director, UNSW Learning & Teaching	Learning and Teaching, UNSW
*Branka Spehar	UNSW ULTAG Representative	Psychology, UNSW
*Peter Terry	HODSPA member	Psychology, U. Southern Qld
Annie Trapp	Director, UK Psychology Network	Psychology, Uni. Of York, UK
*Craig Turnbull	Carrick Project Officer	Psychology, UNSW
*Kandice Varcin	Student Research Assistant & ULTAG member	Psychology, UNSW
*Nicholas Voudouris	APS Manager of Science, Academia and Research	Australian Psychological Society
*Fiona White	NSW Representative	Psychology, University of Sydney
*Mark Wiggins	HODSPA member	Psychology, Univ. of Western Sydney
Peter Wilson	APEN and NSW Representative	Australian Catholic University
*Lucy Zinkiewicz	VIC Representative	Deakin University

* Commented on recent drafts. Please direct correspondence to j.cranney@unsw.edu.au

APAC = Australian Psychology Accreditation Council

APEN = Australian Psychology Educators Network

DBI = Discipline-based Initiative (Carrick)
HODSPA = Heads of Schools and Departments of Psychology
PDAC = Program Development and Accreditation Committee, APS
ULTAG = UNSW [Psychology] Learning and Teaching Advisory Group.

Appendix C

Sample Resource for the ALTC Exchange

GA Category/intended SLO	GA2 Research--Design and conduct Studies
Other categories	None
Level	Introductory
Title	Undertaking Research in a First Year Bachelor of Psychology Course
Authors	Jacquelyn Cranney & Branka Spehar
Further information contact	j.cranney@unsw.edu.au or b.spehar@unsw.edu.au
Review Requested	Yes

Description:

This exercise is one that first year Bachelor of Psychology students enjoy—usually their first taste of conducting psychological research. Scaffolding is provided by (a) limiting the topics, (b) having them conduct the research in groups, (c) ensuring that there is time in practicals/tutorials to initially design the study, and further time to discuss the data, with the help of an experienced instructor/tutor. Usually the instructor will make an executive decision as to whether differences are significant or not, as UNSW students at least would not have undertaken any statistics training in this first semester course. Communication is a oral rather than written piece for this particular exercise. Each group gives an oral presentation (15 min usually) in a practical, and there are usually two markers (eg tutor and course coordinator). The marking grid is given to students one week before the oral presentation (see separate handout). After the practical, the markers may confer briefly and finalise one single feedback grid that may be given to students in their final week. The entire exercise is spread across several weeks of the semester (they need at least two weeks to gather the data, and we usually give them a week off practicals to do this). This exercise was worth approximately 20% of the final grade. In terms of ethics, each year we usually submit an omnibus first year psychology ethics application to cover a number of small projects, including this one. Student need to indicate on the form what group they are in, in case there are any issues and we need to find the group.

Scholarship/Evaluation of Student Learning/Continuous Improvement:

Initially the students only had one research topic. This was a little boring particularly at oral presentation time, so we increased the number to three. We hope to include one or two more topics for next year. The groups usually do reasonably well with this task, and there is usually not at great deal of difference in their marks. As indicated above, student evaluation of this exercise is positive. This learning strategy aligns with the UNSW/ALTC Guideline for learning #2, “Effective learning is supported by a climate of inquiry where students feel appropriately challenged and activities are linked to research and scholarship” (see <http://www.guidelinesonlearning.unsw.edu.au/guideline2.cfm>).

PSYC1021 Group Field Study Handout

Design

Your task is to design and conduct a field study. You should start by re-forming the small groups (around 5) you had for your report-writing exercise. There should be no more than 4 groups. We will spend some time in the Week 8 tutorial on this task.

Each group will choose one research topic (see attached) and test a specific hypothesis within that topic by collecting data from at least 20 participants. For each topic we have suggested several variables that might be looked at in your research projects. However, these lists are not exhaustive and you are free to include additional variables. As soon as you decide on your topic/variables, please send an email to either Jacquelyn (j.cranney@unsw.edu.au) if you are in the Tuesday 1pm tutorial or xxx if you are in the other two tutorials. This email should contain this information:

1. Your research question
2. Your hypothesis
3. Your independent variables
4. Your dependent variables—be specific
5. Your procedure
6. Your debrief (a couple of sentences or dot-points).

Your design *should be approved by the tutorial time in Week 9*. There are no actual tutes on that week, but Jacquelyn will be available in her office (509) from 2-3pm Tuesday, and Glynis will also give you times she will be available during that week.

One big hint: Keep it simple!

Procedure and Ethical Considerations

You should NOT ask other students in PSYC1021 or students enrolled in SCIF1021 (advanced science psychology), or anyone under 18 years of age, to participate in your study. You may not approach schools, hospitals, or any other government agency to recruit participants. Participants must be recruited on this campus or from your acquaintances.

In approaching a potential participant, tell him/her that you are doing a class project for an undergraduate Psychology course at UNSW. Invite them to participate, emphasising that it will only take 5-10 minutes (10 minutes is the maximum it should take), that their responses will be anonymous, and that they can stop their participation at any time. You should tell them that the task involves filling in a brief survey and/or making some judgements about images or puzzles. You should give them the STUDY INFORMATION form to read. If they agree, then they need to sign two copies of the CONSENT form (which you would have already signed). You keep one copy of the signed consent form; they keep the other two forms. These forms are available on WebCT. If they don't agree, thank them for taking the time to consider it (under NO circumstance do you coerce participants).

If they agree to participate, then give them the RESPONSE FORM that (a) at least obtains age and gender information, and also asks them to sign their consent to undertaking the study, and (b) gathers any other information that you need for your particular hypothesis. It would be good idea to number your participant's response forms. After gathering data, you should ask participants if they have any

questions about the study. You should then read out your prepared DEBRIEF FORM to briefly explain the study (possibly without giving away the hypotheses). It is important that:

1. NO INDIVIDUAL IS TO BE COERCED TO UNDERTAKE YOUR STUDY
2. YOUR PROCEDURE AND MATERIALS (including the forms mentioned above) ALL NEED TO BE APPROVED BY JACQUELYN OR GLYNIS PRIOR TO COMMENCING THE STUDY

You are expected to have collected *all data by the Week 10 tutorial*.

Data reduction

Please bring all your data to the week 10 tutorial. At that time, we will discuss how you should summarise and present your data for your oral presentation. Please note that you are not expected to run inferential statistical analyses on this data, and you will not receive extra marks if you do.

Presentations

You will be required to give a group oral presentation of this project in the Week 12 tutorials, which will be evaluated by Jacquelyn Cranney and xxx. A marking sheet will be given out in Week 10.

The presentation should be no longer than 20 minutes. The presentation should outline the background to your research questions, hypotheses, design, methodology, research findings, the support (or lack thereof) of your hypotheses, your conclusions and suggestions for improvement, and at least one specific suggestion for future research.

Topic 1: Body Image

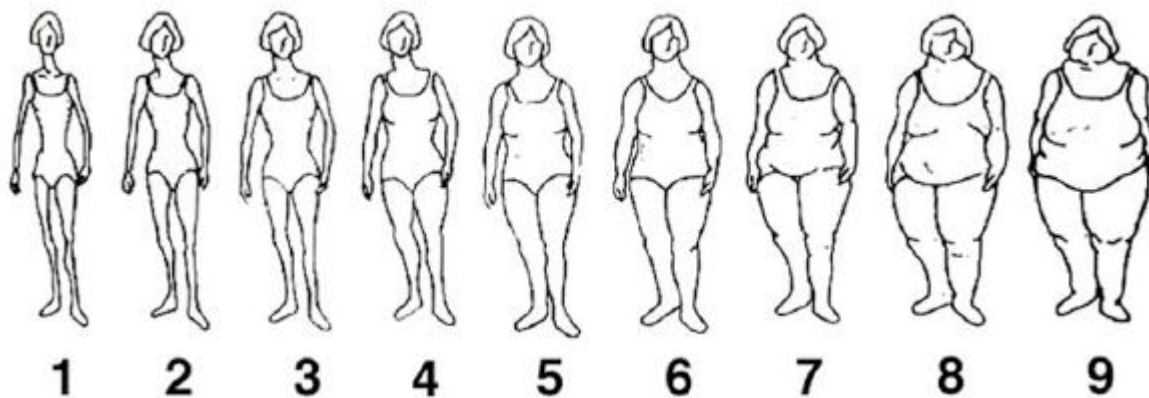
The general research question is: What factors influence people's judgements of body shape? You are required to explore the influence of one factor (independent variable), on specific aspects (dependent variables) of how people react to body shape.

The suggested independent variables are: gender, age, college vs. independent living, adult attachment style. You may also consider manipulating a variable, rather than just choosing a grouping variable.

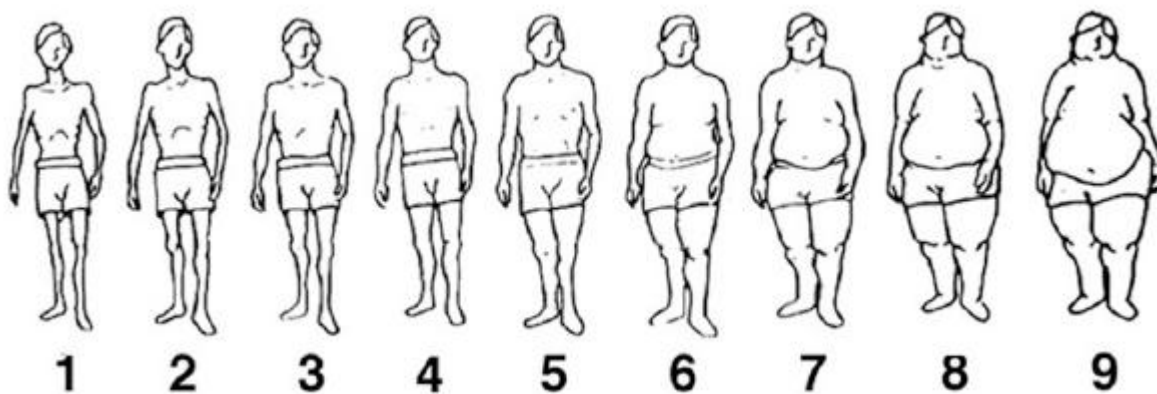
Materials:

Fallon & Rozin (1985) used the following figure drawings to collect a number of judgments from their participants.

Female silhouette figure rating scale:



Male silhouette figure rating scale:



After reading the Fallon and Rozin (1985) reference, your task is to design a study in which you use these pictures to collect data from 20 participants.

In narrowing down your specific research question and hypothesis, your group should think about:

- 1) at least 2 different judgments that each participant will make
- 2) at least 2 different groups that you will be testing (you will have to get at least 10

participants in each group).

Reference:

Fallon, A.E. & Rozin, P. (1985) Sex Differences in Perceptions of Desirable Body Shape. *Journal of Abnormal Psychology, 94*, 102-105.

Topic 2: Adult Attachment

An individual can have a secure style, meaning he or she is comfortable and well adjusted in close relationships, or an insecure style, meaning he or she is either intimacy-avoidant or anxious and clingy in relationships. Research on adult attachment is guided by the assumption that the same motivational system that gives rise to the close emotional bond between parents and their children is responsible for the bond that develops between adults in emotionally intimate relationships.

The general research question is: Are differences in attachment styles associated with differences in patterns of close relationships (number, satisfaction, duration) or related personality characteristics such as loneliness, self-perceived popularity among peers etc..

Suggested variables of interest: gender, age, dating behaviour, marital status, body-image satisfaction...

Materials:

Adult Attachment Scale

Select the statement that best describes how you feel about your relationships.

- A. I find it relatively easy to get close to other people. I am comfortable depending on other people and having them depend on me. I don't usually worry about being abandoned or about having someone get too close to me. I never worry about being alone or about others not accepting me.
- B. I find it difficult to trust people completely. I am somewhat uncomfortable being close to others. Often, I feel like people want me to be more intimate than I feel comfortable being. I do not like to cling to others, nor do I like having others to cling or rely on me. I am quite happy without close friends.
- C. I find that other people are reluctant to get as close as I would like. I often worry that someone I am close to doesn't really love me or won't want to stay with me. I want to merge completely with another person and this sometimes scares people away.

After reading the Hammond & Fletcher (1991) reference, your task is to design a study in which you use the Adult Attachment measure to collect data from 20 participants.

In narrowing down your specific research question and hypothesis, your group should think about:

- 1) at least 2 different judgements that each participant will make
- 2) at least 2 different groups that you will be testing (you will have to get at least 10 participants in each group).

Reference:

Hammond, J.R. & Fletcher, G.J.O. (1991) Attachment Styles and Relationship Satisfaction in the Development of Close Relationships. *New Zealand Journal of Psychology*, 20, 6-62.

Topic 3: Naïve physics

Surprisingly, many people exhibit systematic errors when predicting the behaviour of simple physical events. These errors are strikingly similar to the preoperational child's difficulty with simple Piagetian developmental tasks. For example, Piaget and Inhelder's water-level task (WLT) was originally designed to investigate the development of children's spatial concepts. Children gradually come to construct a euclidean (3-dimensional) conceptual system of horizontal and vertical axes with which to represent space. Very young children typically represent the waterline as fixed relative to the sides of the container, regardless of the container's tilt. Next, they show the water as tilted in all but upright containers. Finally, at about age 9, children consistently produce horizontal lines. However, in the mid-60's, researchers found that undergraduate and even graduate students had difficulty with the task. A clear gender difference also emerged. Results across several experiments indicated that while about 50 percent of males performed very well on the task, only about 25 percent of females did so.

The general research question is: Are there systematic differences in performance in water-level and similar tasks? What might these differences be related to?

Suggested variables of interest: gender, age, physics and mathematics background

After reading the Vasta & Liben (1996) reference, your task is to design a study in which you use the water level task (and possibly at least one of the other two tasks) to collect data from 20 participants.

In narrowing down your specific research question and hypothesis, your group should think about:

- 1) at least 2 different judgements that each participant will make
- 2) at least 2 different groups that you will be testing (you will have to get at least 10 participants in each group).

Reference:

Vasta, R., & Liben, L.S. (1996). The water-level task: An intriguing puzzle. Current Directions in Psychological Science, 5, p.176.

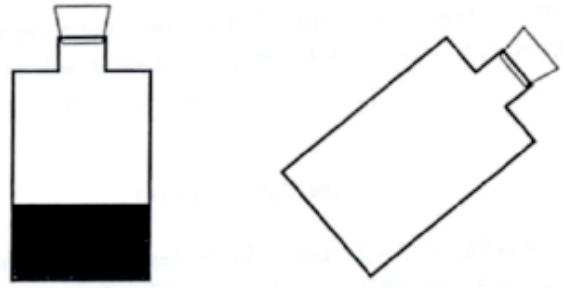
Materials:

Please note the answers are:

1. horizontal
2. a
3. d

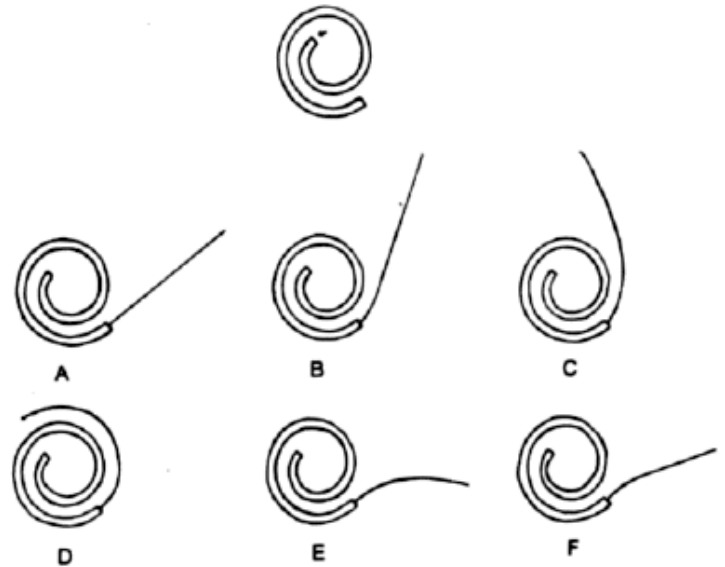
1. The Water Level Task

A partially-filled bottle of water is tilted to the right. Please draw a line to indicate the water level in the tilted bottle.

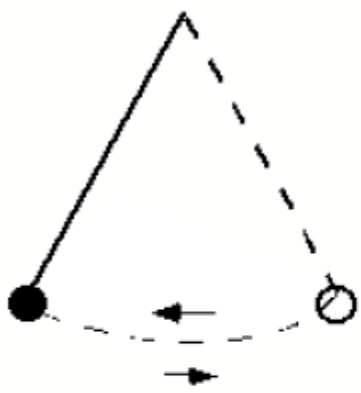


2. The Trajectory Extrapolation

Consider a metal tube lying on the horizontal surface so that it appears as below when viewed from above. Next, a metal ball is pushed through the inner end of the circular tube (indicated by arrow). Circle the letter which corresponds to the correct trajectory of the ball as it leaves the tube at great speed.



3) The Ball and String Pendulum



Consider the ball and string depicted in the line drawing as moving in an arc as a pendulum. Select the path the ball would follow if the string were cut when the ball was at the location indicated by the black colour.

<p>(a)</p>	<p>(b)</p>	<p>(c)</p>	<p>(d)</p>
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UNSW Psychology Oral Presentation Assessment

(Adapted from UNSW Learning Center form)

Tutorial Time: _____

Date: _____

Team: _____

Rater: _____

Rate on a scale of 0 (did not meet criteria at all) to 5 (fully met criteria):

Content/Process: criteria	Comments and rating
<u>Background</u> , Research Question, Hypothesis: all clearly stated and logical; to the point.	/5
<u>Methods</u> : - design made clear; independent and dependent variables explicitly stated and operationalised; materials, subjects, and procedure clearly stated, logical, feasible; ethical constraints adhered to.	/5
<u>Presentation of Results</u> : Clear and logical; tables/figures clear.	/5
<u>Discussion</u> : clear statements of how results relate to hypotheses; consideration of alternative explanations; clear and valid conclusions; consideration of what could be done differently next time re. design, methodology.	/5
<u>Performance and Techniques</u> Made appropriate eye contact. Awareness of body language. Presentation audible; presenter clearly seen by everyone. Pauses and silences used effectively. Verbally fluent. Material clearly organised. Appropriate for oral medium. Presentation interesting. Audiovisual aids/handouts used where appropriate. Clear evidence of adequate preparation. Keeps within time constraints.	/5
<u>OVERALL</u> , how effective was this presentation? Were you convinced this is a worthwhile study to undertake?	/5

Total: /30 (20%)

What did they do well?

Suggestions for Improvement:

Other Comments:

Appendix D
Applied Psychology in Australian Undergraduate Education

A Discussion Paper for Consideration and Comment by HODSPA and APS

Jacquelyn Cranney, Psychology, UNSW
21.11.08 j.cranney@unsw.edu.au

In this paper, I consider the background to the issue of ‘applied’ psychology in undergraduate (UG) education, present possible frameworks for discussion of the issue, and give some concrete examples of how ‘applied’ psychology learning and teaching strategies *are currently* and could further be implemented.

Background

Traditionally, psychology UG programs in Australia have placed an emphasis on the knowledge foundations of psychology, with professional training in psychology being reserved for postgraduate (PG) programs. Education and training in psychology follows the ‘scientist-practitioner’ or Boulder model, which has two components: (a) a graduate professional training model that emphasizes coursework, professional practice training, and research, and (b) the evidence-based practice of professionals and their continuing contribution to the science. There is much controversy regarding whether this is a realistic model, which will not be considered here.

In the current context of reviewing models of education and training, it has been suggested that there should be more of an ‘applied’ emphasis in UG education. The problem is that we may have different understandings of what ‘applied’ means. Some assume that ‘applied’ means professional training in psychology, and so react strongly and negatively to this suggestion, particularly given the resource-intensive nature of PG training and the fact that it is underfunded and so subsidised by UG income. In that sense, the suggestion is untenable. However, there may be different meanings of the word ‘applied’. For example, some assume it means applications of psychological principles to phenomena encountered in the normal world of students, and that giving such examples in lectures makes the material more meaningful, more understandable, and more salient for students, thus increasing the likelihood that they will remember those psychological principles. There is little protest regarding this interpretation of ‘applied’. In between these two extremes, however, there are numerous other possibilities for how ‘applied’ could be operationalised in the context of UG education.

Before discussing possible operationalisation frameworks, it should be acknowledged that there are two factors that make consideration of the ‘applied’ issue somewhat critical. The first is the large numbers of psychology majors who do not go on to become professional psychologists and/or academics/researchers in psychology (whether the latter group can be considered part of the former group, will not be debated here). What knowledge, skills and attitudes (i.e., graduate attributes) do these students take with them into whatever employment setting they enter (we have almost no good data regarding their destinations)? How do they evaluate and use their graduate attributes? What impression of psychology are they giving to their personal and professional associates? We have tended to ignore the needs of this large group of psychology graduates (Lipp et al., 2007). If instead

we made a point of helping them to make the most of their psychology education, this in turn would help the science and profession of psychology, as these students *are* our ambassadors to the general public. The better we prepare them to apply their knowledge, skills and attitudes in their personal lives and workplaces (= *psychological literacy*; McGovern et al., in press), the better ambassadors they should be.

The second issue is the current and increasing shortage of health workers, including those delivering psychological services, in Australia and worldwide. Consequently, there is increased pressure to produce more psychologists and more quickly (i.e., in fewer years). Regardless of whether or how we may change our models of education and training in psychology, the global issues of sustainability and cost-effectiveness of education and training in psychology means that we should consider what learning and teaching strategies produce lasting learning in both our PG professional and UG psychology major graduates.

Frameworks

A framework for ‘applied’ psychology could be provided by an example of an existing program with a carefully considered developmental sequence that integrates aspects of ‘applied’ psychology, in the traditional sense (i.e., professional training), into its UG program. One example is the University of Newcastle’s Bachelor of Psychology program. Apart from the traditional content and research methods units, it also has one professionally oriented unit in each year:

In a *first* year unit, the students are introduced to the range of occupations and professional openings for psychologists - the intention being to highlight professional possibilities plus the similarities and differences of various professional roles and responsibilities (including ethics).

In a *second* year unit, students are introduced to approaches to counseling and some counseling skills. The skills component takes on the micro-skills approach with experiential learning in tutorials to back this up. The theoretical part is a consideration of various models of therapy with an emphasis on the need for evidence-based practice.

In the *third* year unit, a theoretical consideration of testing and assessment (with an introduction to a range of standardised tests) is combined with quite intensive training on WAIS administration. The intention is that the students will be at least competent in the administration of one of the widely-used tests.

As part of the *honours* unit, training in problem formulation, approaches to professional case management and report writing is provided.

The units in Years 2 and 3 are relatively resource-intensive, in the sense that smaller tutorial groups, and hence more staff, are required (M.Hunter, personal communication, November 17, 2008; see *Appendix D1* for further detail). One question for us all is, how much of this material could/should be integrated into coursework that all psychology major students take (regardless of program)?

Frameworks drawing on concepts from education and psychology are touched on briefly in *Appendix D2*. The bottom line may be that the more opportunities students have to actively consider different situations in which psychological principles can be applied, including some skill development, the better their learning experiences are likely to be.

A final framework for operationalising ‘applied’ psychology is that provided by the *Graduate Attributes of the Four-year Australian Undergraduate Psychology Program* (Cranney et al., 2008).

These *Graduate Attributes* (GAs) include content knowledge, research methods, critical thinking, values, communication, and application. These GAs and many of the associated student learning outcomes (SLOs) are now part of the APAC Standards; as such, they could be a useful focus for our consideration of ‘applied’ psychology. I present below some *examples* of how ‘applied’ could be interpreted for each of the GAs, along with some consideration of learning processes (many of these examples are being uploaded to the ALTC Exchange “Psychology Undergraduate Resources” site). Keep in mind that the SLOs with a single asterisk* are part of the 3-year sequence APAC standards, whereas those with a double asterisk** are part of the Year 4 APAC standards.

Examples of ‘Applied’ Psychology in relation to Graduate Attributes

GA1: Knowledge and Understanding of Psychology

“Demonstrate understanding of the major concepts, theoretical perspectives, empirical findings, and historical trends in the core topics of psychology, as outlined by the National Accreditation Body (currently the Australian Psychology Accreditation Council).

Suggested learning outcomes:

- *Display basic knowledge and understanding of the following core topics:
 - abnormal psychology
 - biological bases of behaviour
 - cognition, information processing and language
 - health and well-being
 - individual differences in capacity and behaviour, testing and assessment, personality
 - learning
 - lifespan developmental psychology
 - motivation and emotion
 - perception
 - social psychology
 - history and philosophy of psychology
 - intercultural diversity and indigenous psychology
- **demonstrate knowledge of the theoretical and empirical bases underpinning the construction, implementation, and interpretation of some of the most widely used cognitive and personality assessments
- **demonstrate knowledge of the theoretical and empirical bases underpinning evidence-based approaches to psychological intervention
- Delineate psychology as a scientific discipline and describe its major objectives.
- Explain the major themes (e.g., interaction of genetics and environment) and perspectives (e.g., behavioural, evolutionary, sociocultural) of psychology.
- Explain psychological phenomena using the concepts, language, and major theories of the discipline.”

Knowledge, and how it is acquired, is what defines the discipline. Our traditional learning and teaching approach to content knowledge has been the large lecture format, with a final examination as the primary assessment. As mentioned above, one of the ‘applied’ psychology strategies has been to give examples in lectures of how the psychological principles, derived through the application of the scientific method, can be demonstrated in everyday examples. This is good, but could be made better with more active learning and teaching strategies, that many educators already utilise. The Year 4 assessment and intervention SLOs are required by APAC, and so each university has a unit or part unit that covers this material. The extent to which the knowledge is applied, and how it is applied, varies greatly (e.g., from some exposure to test theory, to WAIS administration, interviewing, and basic counseling skill training). We need a survey of practices in fourth year to gain a better appreciation of the range of practices, and to share what are likely to be very good (and economical) practices.

Example 1.1: Students’ Examples of the Application of Psychological Principles

Within tutorials (or lectures), present students with a psychological principle (e.g., one from current lecture content) and ask them, in small groups, to come up with at least three examples in everyday life (this exercise may be more amenable to some psychological principles than others). Have them report back their examples to class. Variation 1: As an individual or group oral or written assignment, give students a psychological principle, whereby they first summarise the empirical background (literature search), and then find examples across a range of settings (e.g., personal, interpersonal, organisational). A one-page summary handout could be provided to all students. Variation 2: Have students create summaries/tip sheets of, for example, research into application of psychological principles in the classroom and/or research on particular issues (e.g., use of PowerPoint). This approach could be applied to any setting. Indeed, the outcomes could become a public resource.

Example 1.2: Developing an Understanding of a Particular Concept

First year students pick a psychological concept, and use a reflective journal [see Example 6.3 below] to record their increasing understanding of that concept, including finding examples in everyday life (L.Burton, personal communication, September 25, 2008).

Example 1.3: Behaviour Modification of Self

As part of their practical work, students undertake the application of a psychological principle to themselves. For example, they could each choose one of their own (or that of their pet) behaviours that they wish to modify, and conduct a behaviour modification procedure (N = 1 ABA intervention; J.Reece, personal communication, September 25, 2008; see also earlier work by N.Bond). They present the case study in oral or written format, which is assessed. This is a particularly valuable exercise for budding health psychologists, as it gives them an appreciation of how difficult (but still possible) such interventions can be for the client (J.Milne-Home, personal communication, August 20, 2007).

Example 1.4: Professional Skill Training

Some programs include counseling, interviewing, or test administration skill training in UG units, usually at third or fourth year (e.g., Flinders, Swinburne, Tasmania).

GA2: Research Methods in Psychology

“Understand, apply and evaluate basic research methods in psychology, including research design, data analysis and interpretation, and the appropriate use of technologies.

Suggested learning outcomes:

- *Describe the basic characteristics of the science of psychology.
- *Describe, apply and evaluate the different research methods used by psychologists.
- *Demonstrate practical skills in laboratory-based and other psychological research.
- Describe and evaluate questionnaire and test construction, implementation and interpretation.
- Describe the key principles for designing, implementing and evaluating programs of behaviour change.
- Locate, evaluate and use information appropriately in the research process.
- Undertake statistical analysis appropriately.
- Use basic web-search, word-processing, database, email, spreadsheet, and data analysis programs.
- *Design and conduct basic studies to address psychological questions: frame research questions; undertake literature searches; critically analyse theoretical and empirical studies; formulate testable hypotheses; operationalise variables; choose an appropriate methodology; make valid and reliable measurements; analyse data and interpret results; and write research reports.”

Traditionally, research methodology and statistics (RM&S) has had a very strong emphasis in UG education in Australia, and probably is causal to our higher-than-average contribution to knowledge creation. RM&S knowledge is usually delivered in large-lecture format, but at the same time, the bulk of ‘experiential’ and ‘active’ UG teaching and learning strategies involve (a) actively learning

statistical techniques, (b) laboratory exercises demonstrating basic techniques or phenomena in such areas as perception and physiological psychology, and (c) undertaking research projects. These are all examples of ‘application’ of RM&S knowledge. Apart from examination, written research reports have been the main communication outcome in UG education. First year usually involves compulsory experience of research as a participant, and here the challenge is to link this ‘application’ back to the knowledge (see Example 2.1 below). The higher the year, the more likely it is that students will be given a research project assignment, although this does not preclude first year students from having such an experience (see Example 2.2 below). It would be advantageous for students if the full range of research approaches was experienced (i.e., not just laboratory research; not just survey research). The fourth year thesis is the ultimate application of RM&S knowledge. Despite the APAC Standards, there appears to be much variability in practice; surveying and subsequent sharing of the good practices could generally improve outcomes for us all, given the ‘ambassador’ argument above. For example, some programs have conference-style oral presentations of both the proposal and the final product, each of which attract a proportion of the final thesis grade (good practice from formative assessment and capstone experience perspectives; see U. Newcastle, U. Tasmania). Others have two components—a literature review due mid-year, and a journal-style paper due at the end. Although the latter practice may increase the likelihood of publication, issues with two significant assessments (rather than one) can dampen enthusiasm for this model.

Example 2.1: First-year Research Participation

As in most universities, UNSW first year students engage with research as participants, and receive course credit. However, their course credit is contingent not only on electronic recording of the time spent in this activity (through *Experimetrix*), but also on submission of a “Research Participation Record” for each study. Depending on the semester, this record asks the student to answer a number of questions, such as the type of study (descriptive, quasi-experimental, experimental), a brief description of what happened from their perspective, the measures, the independent or grouping variables, ethical considerations, and a brief academic biography of the researcher (who could be an honours student). This exercise is designed to have the student reflect on how their experience in the study relates to aspects of research methodology that they are learning in the lectures. The records receive a brief check for reasonable answers (J.Cranney, S. Morris, B. Newell, UNSW).

Example 2.2: First-year Group Research Participation

In the Bachelor of Psychology specialist first year unit at UNSW, students undertake group research projects in the last half of the first semester. There is some choice as to topic, and some choice in specifics such as the independent or grouping variables. Their proposed research needs to be approved, and each student is required to test at least one participant. The next challenge is making sense of their data, and the instructor usually makes executive decisions as to whether apparent effects are ‘significant’. Finally, students orally present their research in the tutorial, where it is assessed according to predetermined criteria (J.Cranney, UNSW). Variation 1: A similar task has also been run in the large first year unit, although approving research proposals and helping with data sorting is a heavy load for tutors. An alternative is to run an experiment in class which students write up for their report, and then this is followed by a group research proposal of a follow-up study, which they orally present in class (S. Morris & J.Cranney, UNSW).

Example 2.3: Research Placements

At some universities (e.g. RMIT), students can optionally take a research placement unit, whereby they work in an academic’s laboratory for a semester (see Example 6.5 for forms of assessment). Another model for UG hands-on research experience is the UNSW summer research scholarships,

whereby students are paid a small stipend, half from the researcher and half from the Faculty, for an 8-week research assistantship placement (no assessment, no credit).

Example 2.4: Interviewing an Honours Student

At UNSW in a third year perception course, students interview honours students about their experience with their research projects (sometimes including observation of the researcher in action), and report back to the class. Although third year students reportedly gain much from this experience, it requires significant staff investment (e.g., contacting willing Year 4 students), and so does not always run (B. Spehar, UNSW). Variation 1: Groups of students interview a psychology researcher.

Example 2.5: Critical consumers of applied research

In John Reece's RMIT second-year research methods unit, he asks students to find a piece of scientific research that is reported in the popular press, particularly in one of the two Melbourne dailies--the Herald Sun and the Age. In class, students de-construct the article in terms of the conclusions that the author has either reported or implied. In many cases, the issue is inferring causation from correlation. John then asks the students to break the story down into its research components:

- What are the research questions being posed here?
- Present those as a hypothesis or two.
- Come up with a design to test that hypothesis.
- What are the variables under investigation.
- What sort of sampling would you use?
- How would you treat the data?

In some cases, John has been able to track down the actual published research that the newspaper article is based on. He provides the students with copies of the article and asks them to compare what's in the newspaper article with what's in the original source.

Example 2.6: Pre-honours Group Research Projects

The University of Tasmania has a third year unit in which groups of students research the literature in a particular area, find a gap in the literature, design an experiment to investigate this theoretical or empirical gap, present a proposal to the class (also a written one which is marked), set up and run their group experiment, analyse it, and then write it up, individually, as a journal article. This unit is very popular and seen to be useful by the students. It provides an introduction in a group format to the actual research process which they will be involved in in Year 4 (Contact: F. Martin).

Example 2.7: Human Descriptive Statistics

The University of Tasmania introduces first year students in the pracs by using the students as the "numbers", thus demonstrating (with real student movement) principles such as the normal curve and variation. That is, students move around the classroom to demonstrate these principles. This exercise is particularly good for students with little maths background. (Contact: F. Martin)

GA3: Critical Thinking Skills in Psychology

"Respect and use critical and creative thinking, sceptical inquiry, and the scientific approach to solve problems related to behaviour and mental processes.

Suggested learning outcomes:

- *Apply knowledge of the scientific method in thinking about problems related to behaviour and mental processes.
- *Question claims that arise from myth, stereotype, pseudo-science or untested assumptions.
- Demonstrate an attitude of critical thinking that includes persistence, open-mindedness, and intellectual engagement.
- Demonstrate a capacity for higher-order analysis, including the capacity to identify recurrent patterns in human behaviour.
- Evaluate the quality of information, including differentiating empirical evidence from speculation.
- Identify and evaluate the source and context of behaviour.
- *Recognise and defend against the major fallacies of human thinking.

- Evaluate issues and behaviour using different theoretical and methodological approaches.
- Use reasoning and evidence to recognise, develop, defend, and criticise arguments and persuasive appeals.
- Demonstrate creative and pragmatic problem solving.”

Critical thinking should be and usually is an intended GA for all university programs, but in many ways, this is a particularly important one for our ubiquitous psychology major graduate (see also Gray, 2008). Given that (a) most will not go on to undertake any kind of research beyond third or fourth year, let alone professional practice training, (b) this attribute overlaps to some extent with all other attributes, and (c) there is great scope for generalisation of psychology critical thinking skills to a range of contexts relevant to the student’s personal and professional life, this attribute deserves more than just implicit emphasis.

Example 3.1: Cognitive fallacies

Lectures on cognitive fallacies (from the key ‘causation vs correlation’ fallacy to the range of formal fallacies) could be accompanied by students finding examples in the media of such fallacies, and bringing them to class for discussion. This exercise, which could attract minimal formative assessment or be part of a learning portfolio (see Example 6.3), could contribute to the creation of a class resource, from which examples may be taken in a final examination (Several sources; contact J.Cranney, UNSW).

Example 3.2: Stanovich

Keith Stanovich’s book “Thinking Straight about Psychology” has been used “actively” in the UNSW Bachelor of Psychology first year specialist unit in two different ways. First, in each of three lectures (four chapters per lecture), students are required in predetermined groups to collate answers to subsets of previously distributed questions. There is a limited time to do this, as well as to write their answers on overheads for a brief oral presentation. The winning presentation group is awarded bonus course marks. Over the three lecture times, all groups are given an opportunity to present. Although this is a very active way to learn the material and provides practice in oral presentations, by the third lecture they all know who will need to give the final presentations. Therefore a second approach has been tried. During the ‘first’ lecture, a brief overview of four chapters is given, in a question and answer format. The summary notes are made available after this interactive lecture. In the next lecture, a sample of mostly identical questions is given in a formative test (i.e., worth a small percentage of final grade). After the papers have been collected, the instructor goes through each question, calling for the answer. Thus they receive immediate feedback. The same thing happens for the next two sets of four chapters. In the final examination for both of these teaching strategies, knowledge is tested in both a similar ‘regurgitation’ style, *and* as applied to specific examples for interpretation (J.Cranney, UNSW).

Example 3.3: Creative Thinking in Research

In a lecture setting, creative thinking in research is developed in the Bachelor of Psychology first year specialist unit, by asking students in small groups to design a study to answer a question that is usually of social relevance (e.g., the psychological consequences for children in detention centres). They are asked to form a hypothesis, to determine independent and dependent variables and to operationalise these, to briefly describe the procedure, and to also consider ethical and resource issues. Groups are then randomly picked to briefly describe to the class their ideas, which may then be discussed in relation to methodological soundness, feasibility etc. They receive two practices across two lectures, and are then given a similar exercise in the final exam. These exercises give students practice with designing experiments, especially operationalising variables, and also in considering the reality of resources and ethics in research (J.Cranney, UNSW).

Example 3.4: Critical Thinking in Research

A resource exists that gives an overview of RM and then has a number of “bogus” research articles, each of which have various methodological flaws, that are later outlined in detail. In the UNSW specialist Bachelor of Psychology first year unit, students are given examples to read and prepare for the lecture class, where in groups they attempt to find as many flaws as possible. Groups are randomly picked to offer one criticism, and a list of flaws is then created. Finally, students are given the textbook “answer”, but told that the list is not exhaustive. The students are given one bogus article to critique in the final examination (J.Cranney, UNSW). Variation 1: The University of Tasmania has a third year prac exercise in which students write a critical analysis of a real journal article in which they answer specific questions such as:

What are the objectives of the study?

What was the design of the study?

What are the most significant conclusions drawn from the study?

Do you think this study was soundly based on the theory? – explain.

Do you think the discussion section discussed the results accurately – explain.

Were there issues that could not be adequately addressed?

How could you improve on the current study?

(Contact: F.Martin).

GA4: Values in Psychology

“Value empirical evidence; tolerate ambiguity during the search for greater understanding of behaviour and knowledge structures; act ethically and professionally; understand the complexity of sociocultural and international diversity; and reflect other values that are the underpinnings of psychology as a discipline.

Suggested learning outcomes:

- Recognise and respect social, cultural, linguistic, spiritual and gender diversity.
- **Explain how the science and practice of psychology is influenced by social, historical, professional, and cultural contexts.
- Identify and describe the sociocultural and international contexts that influence individual differences in beliefs, values, and behaviour.
- *Use information in an ethical manner (e.g., acknowledge and respect the work and intellectual property rights of others through appropriate citations in oral and written communication).
- Recognise how privilege, power, and oppression may affect prejudice, discrimination, and inequity.
- Explain how prejudicial attitudes and discriminatory behaviours might exist in oneself and in others.
- Recognise the limitations of one’s psychological knowledge and skills, and value life-long learning.
- Display high standards of personal and professional integrity in relationships with others.
- Exhibit a scientific attitude in critically thinking about, and learning about, human behaviour, and in creative and pragmatic problem solving.
- *Evaluate psychologists’ behaviour in psychological research and other professional contexts in relation to the Australian Psychological Society *Code of Ethics* and the complementary *Ethical Guidelines*, as well as the Australian *National Practice Standards for the Mental Health Workforce*.
- Promote evidence-based approaches to understanding and changing human behaviour.”

Some colleagues may protest, “values are not the province of science!”. Although many would counter-argue from an epistemological perspective, it should be enough to remind such colleagues that we, as researchers, educators, and practitioners, are required to operate under codes of ethical conduct. Some of the SLOs appear to be quite diverse and complex, but for these, the underlying value is: if one has a good understanding of why people behave the way they do in particular contexts, then one should use that knowledge in a constructive way (i.e., to the mutual benefit of as many people as possible—not just of oneself). One could view most ethical codes as reflecting agreed-upon principles of behaviour that help people to live together in a community, balancing individual and communal needs, short- and long-term goals.

Example 4.1: Cultural Diversity

In order to gain an appreciation of cultural differences in behaviour (first SLO), first-year students could be given a non-obtrusive observational study assignment regarding some type of human social behaviour (e.g., going to the international airport and looking at differences in behaviour on greeting/departing). They could then summarise the information according to psychological principles, and present the information in tutorials. Ensure that all ethical issues have been covered (L. Zinkiewicz, personal communication, September 25, 2008).

Example 4.2: Ethical Dilemmas

APS has a set of case studies demonstrating a number of different ethical dilemmas. A few of these could be given to small groups to discuss in tutorials, with each giving their ideas of what part of the ethical code is relevant to the dilemma, what the consequences might be, and how the situation may have been avoided.

Example 4.3: The Ethics of Animal Research

As part of the core physiological psychology tutorial material, students can be led through a brief structured debate. They are required to prepare with set readings which cover a number of perspectives. In the tutorial, groups of three are formed. One student is arbitrarily given the judge/time-keeper/chairperson role, one the “for” role, one the “against” role. The question could be “should we be able to use rats in research to model human behavioural disorders?”. The debaters are given five min to prepare their arguments. Then, each is given three min to present their arguments, and the judge keeps a tally of valid points made. They are each then given two min to prepare, and two min to rebut. Again, the judge keeps tally. Finally, the judge determines who has won the debate. The tutor then ascertains how many “for” and how many “against” outcomes there were, and reiterates some of the main arguments on each side. The tutor should then inform the students of the ethical codes, procedures, and laws regarding animal research relevant to either that department/School or a typical School that undertakes such research (J.Cranney, UNSW).

GA5: Communication Skills in Psychology

“Communicate effectively in a variety of formats and in a variety of contexts.

Suggested learning outcomes:

- *Write a standard research report using American Psychological Association (APA) structure and formatting conventions.
- Write effectively in a variety of other formats (e.g., essays, research proposals, reports) and for a variety of purposes (e.g., informing, arguing).
- *Demonstrate effective oral communication skills in various formats (e.g., debate, group discussion, presentation) and for various purposes.
- Demonstrate basic interviewing skills.
- Demonstrate effective interpersonal communication skills including the abilities to: listen accurately and actively; use psychological concepts and theories to understand interactions with others; identify the impact or potential impact of one’s behaviour on others; provide constructive feedback to others; adopt flexible techniques to communicate sensitively and effectively with diverse ethnic and cultural partners, including in the context of team-work.
- Collaborate effectively, demonstrating an ability to: work with groups to complete projects within reasonable timeframes; manage conflicts appropriately and ethically.”

As mentioned above, the primary form of communication in UG education has been the research report. Some survey and anecdotal data suggest that even for the ubiquitous psychology major graduate, this style of writing (no doubt reflecting other skills such as information literacy and critical thinking) translates well into diverse workplaces. We have all developed particular ways of delivering the ‘how to’; perhaps we have been less creative in terms of structuring developmental activities involved in the ‘application’ of written communication knowledge prior to the final

submission of a full report. Moreover, we have rarely ventured beyond the research report and essay in terms of forms of written communication (e.g., writing of ‘briefs’, a key task for many graduates working in interesting and influential organisational positions). In addition, compared to the ubiquitous research report, we have been less advanced in our educational strategies regarding oral communication, despite the value of these skills in diverse work settings. This simply may reflect a perpetuation of the nature of our own training; that is, we may not have experienced structured learning and assessment opportunities ourselves as students. If we do not have the experience, capability or confidence to help students develop oral communication skills, then we need to call upon our colleagues in the university student learning centres to assist us in this task (similar to calling upon library staff to help with information literacy training).

Example 5.1: Formative Development of Research Report Writing Skills

We all have our particular ways of teaching report writing, and there are many handbooks and websites (e.g., http://writingworkshop.edtec.unsw.edu.au/psyc_report/overview.htm) to support these strategies. At UNSW some ‘formative’ strategies are utilised. In the Bachelor of Psychology first year specialist unit, students are taken through a number of structured exercises, and the first assessable task is a group write-up of the Introduction and Method. Then each student writes the whole report by themselves, drawing upon the feedback they received for the group effort. Similar but less intense strategies are employed in the larger general first year course, where structured group literature search exercises lead up to the individual writing of the Introduction and Method sections in the first semester. In the second semester, a whole report is written, although they receive some formative feedback on the method and results prior to final report submission (J.Cranney, S. Morris, G.Huon & B.Spehar, UNSW). Variation 1: See the paper by Martin and Adam (2008).

Example 5.2: Interviewing Skill Training

In a first year organizational psychology unit at UNSW, interviewing skills training follows a brief lecture on the underlying theory and research. Students break up into groups of 4, one interviews another, the other two take notes on the process. The experienced lecturer monitors and comments on the interviewing technique. Different forms of interviewing are taught. This format is also used in teamwork skills exercises. This style could be adapted to third year, although it should be clear that the “monitor” needs to be experienced in the field. Some other universities appear to teach some forms of interviewing skills at 3rd or 4th year level.

Example 5.3: Summarising psychology research in lay terms

University of Tasmania students are required to write a letter to a teacher/company director/other non-psychologist, outlining the psychological principles involved in a particular area and the evidence for and against. The instructors usually set it up as a request for information from some outside body/person. For example, a parent approaches you and asks whether she/he should be allowing their child to continue to speak their native language in the home, as they suspect that doing this will compromise the child’s ability to become fluent in English. (Contact: F. Martin)

GA6: Learning and the Application of Psychology

“Understand and apply psychological principles to personal, social, and organisational issues.

Suggested learning outcomes:

- *Describe major areas of applied psychology (e.g., clinical, counseling, organisational, forensic, health).
- *Apply knowledge of legislative frameworks (including privacy, human rights).
- *Apply knowledge of consumer and carer participation in psychological care.
- *Apply knowledge of psychology, society and the workplace/influencing systems.
- Apply psychological concepts, theories, and research findings to solve problems in everyday life and in society.

- Reflect on one's experiences and learn from them in order to identify and articulate one's personal, sociocultural, and professional values; demonstrate insightful awareness of one's feelings, motives, and attitudes based on psychological principles.
- Apply psychological principles to promote personal development through self-regulation in setting and achieving career and personal goals; self-assess performance accurately; incorporate feedback for improved performance; purposefully evaluate the quality of one's thinking (metacognition).
- *Demonstrate a capacity for independent learning to sustain personal and professional development in the changing world of the science and practice of psychology."

At first glance one might think this the most relevant 'applied' GA, but as the previous few pages should have demonstrated, this depends on how you define 'applied'. In many ways we academics educated in the traditional manner are least comfortable with this attribute, except for the first SLO, which often translates to specific units taught in 3rd or 4th year, usually by those who teach in the PG professional programs. The following three SLOs ("Apply...") have sometimes puzzled HODSPA members as they complete their APAC accreditation application, and we urgently need more concrete examples of how these SLOs could be achieved. The remaining SLOs overlap a little with some in GA4, while again the final SLO is likely to puzzle some HODSPA members as the APAC cycle swings toward them.

Example 6.1: Applying Psychological Principles to Self-understanding

It could be argued that one outcome of first year psychology should be increased understanding of oneself, including aspects of personality and capability (see Gray, 2009). One early strategy would be to complete the "VIA Signature Strengths Questionnaire" on Seligman's 'Authentic Happiness' website, <http://www.authentichappiness.sas.upenn.edu/Default.aspx>, and bring the output into tutorials for a discussion about personality and individual differences. The outcome could become part of a personal learning portfolio (see Example 6.3). The scales themselves should be examined for reliability and validity characteristics. A further exercise could be writing a newspaper article where each student interviews themselves with some focused common questions relevant to psychological concepts (L.Zinkiewicz, personal communication, September 25, 2008). Some Schools have a careers counseling service as part of their Master of Organisational Psychology training strategy, and first year psychology students could be encouraged to attend the service and reflect on the results in their journal.

Example 6.2: Career Development from First Year

In the Bachelor of Psychology first year specialist unit at UNSW, students are given a career development exercise that has three stages. First, they submit an "expression of interest" (similar to a cover letter) and a CV for a bogus professional psychology internship position (different settings across different years). Second, they receive lectures, and participate in tutorial activities, regarding graduate attributes, how to write CVs and cover letters, and other optimal career development strategies. Finally, they again submit their expression of interest and CV, which are then fully assessed, as well as a partial GA portfolio (E.Chan, M. Kofod, J.Cranney, UNSW).

Example 6.3: Graduate Attribute Portfolios and Reflective Journals

Portfolios and reflective journals do not have to be work-intensive for assessors. For GA example, although the student may need to address all graduate attributes and/or make weekly journal entries (however take care not to overload students), they may be required to (a) indicate one particular entry that they think displays high-quality reflection, and (b) write a 250-word summary of what they learnt during the unit. In addition, the marker randomly chooses one other entry. To prevent last-minute journal creation, students may be required to submit weekly entries electronically. Although many universities now have electronic portfolios, for psychology students, this is not essential. See

Cranney et al., (2005; <http://www.portfolios.unsw.edu.au/default.cfm?ss=0>) for a description of this application.

Example 6.4: Interviewing Professional Psychologists

Interviewing professional psychologists to gain insight into the nature of that work. Assessment: Presenting summaries in tutorials, creating a class resource, entries in reflective journals. Variation 1: Health psychology — arrange a visit to a hospital; show how health psychologists can work alongside other medical professionals. Assessment: students write a brief report on what they learnt about different health psychology applications.

Example 6.3: Research Methods and Field Studies

Swinburne is introducing a research methods/measurement unit that is undertaken in an applied setting (see also *Appendix D3*).

Example 6.5: Work-integrated Learning

RMIT (and Flinders) have a stand-alone, one session placement unit during third year, where students organise the setting that interests them (e.g., a school, a counseling service), and contract with the supervisor and unit coordinator to develop certain capacities during the 40 days of work in that setting. Assessment is based on a reflective essay, and the supervisor's evaluation. Variation 1: Because of the shortage of placements for clinical Masters students, it may be necessary to avoid those kinds of work settings. Thus, in this variation, the student finds a placement in any workplace (could be an NGO, a McDonalds', an engineering company) where there is significant interaction with other workers and/or clients. The student either analyses the work situation from applied social psychology perspectives, and/or uses their psychology knowledge and skills to come up with a proposal that will assist the organisation in some way (thus, 'giving back' to the organisation). One example could be that one set of students (may need to be Year 4 or 5) could undertake a needs analysis and design a program, the Year 3 students could subsequently implement the program, and the next set of students could evaluate it. These kinds of arrangements could involve ongoing and mutually beneficial partnerships with just a few key organisations. The cost of these kinds of placements is at least a part-time placement coordinator. Alternatively this kind of student experience could be part of a School's fund-raising activities (i.e., form a Company to support work-integrated learning).

Conclusion

In theory, the implementation of these kinds of 'applied' psychology learning and teaching strategies should lead to more efficient, more long-lasting, and greater generalisability of psychology knowledge, skills and attitudes. Indeed, it could be argued that this approach is already implemented in PG professional training programs. At the very least, students should have gained a better understanding of their own strengths and weaknesses, and as a result be more effective in their personal and professional lives—and potentially be more effective ambassadors for psychology. From the perspective of models of education and training, if we all were to adopt the Newcastle model, then Year 4 graduates should be better prepared for professional psychology training, and we should then be able to achieve higher level outcomes for those professional graduates.

Finally, although the ideas in this paper will hopefully seem reasonable to most stakeholders, the fact remains that there is a huge gap in our knowledge base regarding the effectiveness of different learning and teaching strategies. In 'valuing empirical evidence', we should be reviewing our current educational practices periodically in light of the evidence base, rather than just relying on current/past practice (for reviews see Halpern & Hakel, 2003; Pashler et al., 2007; Worrell et al., in

press; Zinkiewicz, 2003). Although there are many psychological principles from cognition, social and motivational psychology that should be applied to tertiary educational settings (across all programs), we have been reticent in taking on this kind of applied research, while at the same time deriding the approaches of other disciplines in this arena. It is time we moved beyond this kind of thinking, for the direct benefit of our students, and for the indirect benefit of the discipline and profession of psychology in Australia.

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Appendix D1

Excerpts from Course Outlines at the University of Newcastle

PSYC1200 (First Year Course) 10cp

Students commencing study in a Psychology program will have had little formal opportunity to be informed about the nature of Psychological Practice, and what opportunities exist in different areas of the discipline for study and future employment. This course will utilise practicing psychologists to help raise student awareness of opportunities and limitations within their chosen discipline. It is important for students to be committed to Psychology throughout their degree program, and for them to have a realistic expectation about their chosen career path. This course provides both information and opportunity for discussion between students, staff, and practitioners.

Course Objectives. Inform students about the range of areas in which Psychologists work

- * Give students a realistic set of expectations concerning employment possibilities following completion of their degree
- * Ensure that all students understand the relationships between professional organisations, such as the Australian Psychological Society and the Registration Boards, and the discipline and to clarify issues of membership and accreditation.
- * Develop students own goals and expectations within the study and practice of Psychology
- * Develop a sound knowledge and awareness of ethical conduct as a practicing psychologist.
- * Develop an appreciation of note taking, record keeping and administration duties that practicing psychologists must perform.

Guest lectures will provide a primary point of contact for the students with practicing psychologists.

Video material will be used where appropriate to demonstrate skills and provide an accurate picture

of the range of areas within psychology. Problem-based workshops will allow students to further explore their understanding of what Psychological practice entails.

PSYC2200 (Second Year course) 10cp

This a compulsory component of the Bachelor of Psychology program.

'Intervention' to change human behaviour underpins much of the professional application of psychology. Psychologists employ a wide variety of strategies to facilitate behaviour change, and implement these intervention strategies across a range of levels. This course 'defines' intervention and introduces students to principles and common intervention approaches appropriate for client groups such as individuals, couples and families/groups.

This course builds upon the knowledge gained in PSYC 1200. Students completing the Bachelor of Psychology program of pre-professional training in Psychology will be expected to be capable of functioning at a basic level with respect to the provision of a range of psychological practices. At the second year level, the focus is on approaches and strategies applicable to different 'levels' of intervention

Introduce students to concepts and principles involved in designing and delivering intervention strategies at a number of different levels, including individual, couple and family/group.

Introduce students to concepts and principles involved in using some common counseling approaches.

Illustrate the application of intervention strategies through presentation and discussion of 'case study' material.

Content areas are: intervention strategies (individual, couple, family/group); and counseling approaches in therapeutic interactions. The content will be covered through lectures, guest lectures and tutorials. Supervision and evaluation will be provided by staff in the School of Behavioural Sciences and tutoring staff.

PSYC3200 Third Year course) 10cp

This course builds upon the knowledge gained in PSYC 1200 and PSYC2200. Students completing the Bachelor of Psychology program of pre-professional training in Psychology will be expected to be capable of functioning at a basic level with respect to the provision of a range of psychological practices, at the third year level the focus is on the development of applied psychometric testing skills. These skills require practice and feedback, and this subject provides an opportunity for this development to take place.

Applied psychometric assessment, including an introduction to general ability and other tests of cognitive function with specific reference to memory tests; the assessment of personality in normal range and abnormal range populations; and, the role of formal assessment in the measurement of special aptitudes such as school-based achievement.

The content will be covered through lectures and tutorials that involve practical group experience, supervised practice of skills and constructive feedback. Mentoring, supervision and evaluation will be provided by staff in the School of Behavioural Sciences and tutoring staff.

PSYC4200 (Fourth Year Course) 10cp

This course provides the fourth and final component of the professional strand of the Bachelor of Psychology degree. It addresses more advanced issues and approaches to psychological care provision in preparing the student as a professional psychologist.

At the conclusion of this course, students should have an applied understanding of the following aspects of psychological service/care provision, across a range of settings:

- * the importance of history and context, and how to take a comprehensive history,
- * how to undertake a comprehensive yet purposeful assessment / needs analysis,
- * factors enhancing and factors detracting from the development of rapport / productive working relationship. Considerations in the development of an evidence-based treatment / intervention plan, and the importance of monitoring and modifying intervention as necessary. The importance of multidisciplinary interaction and family/carer involvement to quality service / care provision, and key considerations in ensuring that such interaction is professional and ethical. Important considerations in ending treatment / intervention and assessing its outcomes for clients, report writing and record keeping.

Appendix D2

Brief Commentary on Educational and Psychological Concepts Relevant to ‘Applied’ Psychology in the Classroom

The following is a limited perspective from a biological psychologist; no doubt cognitive and educational psychology colleagues would have much to contribute.

From a more theoretical perspective, the operationalisation of ‘applied’ psychology could be framed in terms of educational and/or psychological concepts of learning and memory processes. A concept that may be relevant is ‘active learning’, in contrast to the passive reception of information that is common in traditional lectures (see <http://www.cat.ilstu.edu/additional/tips/newActive.php> for descriptions). Students actively learning either individually or in groups “engage in such higher-order thinking tasks as analysis, synthesis, and evaluation. Within this context, it is proposed that strategies promoting active learning be defined as instructional activities involving students in doing things and thinking about what they are doing” (<http://www.ntlf.com/html/lib/bib/91-9dig.htm>). Nevertheless, it is likely that active learning strategies are effective in some situations and not others, as Sweller and Cooper (1985) and Mayer (2004) have argued. Another educational concept is experiential learning. Kolb’s experiential learning cycle is widely known, although not universally accepted, in educational settings (see eg <http://reviewing.co.uk/research/experiential.learning.htm>). It has four components leading from one to the next, with the last leading to the first: concrete experience, observation and reflection, forming abstract concepts, and testing in new situations. If we needed to learn everything through concrete experience, then our civilization would not exist. In contrast, we would probably be uneasy if our pilot learnt everything he knew from books and lectures, and had not yet had the actual experience of flying any airplane, let alone the one we were on. Clearly, the value of experiential learning depends on a number of factors, including the type of learning/knowledge. See Stavenga de Jong et al. (2006) for an intelligent approach to this issue.

Perhaps an alternative cycle comprises: (1) acquisition of knowledge about a topic, (2) practice, application or testing of that knowledge, (3) assessment/feedback regarding that practice/application/testing, and (4) reflection on what one knows about that topic and what else one needs to know. The second stage usually involves effortful retrieval of the information in new temporal, physical and social settings or contexts. Indeed, the more settings in which one attempts to

retrieve and/or apply the knowledge/principle, the greater the understanding one is likely to have of the topic (i.e., the more elaborate the memory schema). Now, we are encroaching on cognitive psychology territory. Social and motivational contexts of learning, retrieval, and application of knowledge also potentially provide conceptual frameworks for understanding how students may better learn in a tertiary context. We need much more systematic application of knowledge/principles derived from laboratory based research to the classroom setting. For example, it is known that effortfully testing one's knowledge between the initial learning episode and the final examination improves exam performance. We know from our professional training models that skill practice is essential. We also need to construct active and developmental practice of whatever skills (e.g., literature searches) we think our UG students should acquire. Given the importance of metacognitive skills in effective study strategies, it could be argued that structured exercises in active application and practice, along with reflection on learning, is likely to improve the level of learning outcomes attained by students.

Appendix D3

Scenario based on faculty experiences (McGovern et al., in press)

“Each semester, Dr. Cantrell teaches research methodology, analyzing and resolving a problem identified by a community partner. She models how to engage in active strategies for addressing problems encountered daily among the poor, probing their assumptions and biases about rural versus urban populations, the differing experiences of racial and ethnic groups, and how new-to-America immigrant families add yet another dimension to their developing sensitivities.

After meeting with the principal of the local elementary school, Dr. Cantrell discovered that very few students were making appointments with the new guidance counselor. The principal was considering terminating the guidance counselor so that monies could be better spent on other staff.

Dr. Cantrell posed this problem to her class: Why weren't the school children meeting with the guidance counselor? She guided her class to generate hypotheses about the problem and its causes and to seek out empirical studies that addressed related issues. They designed a survey instrument and collected their data, discovering that the children had little understanding of the role of a guidance counselor. They learned that no school-counselor programming was undertaken by either the principal or the counselor.

Dr. Cantrell took an extra step so that her students fully understood the scientific and practical implications of this field research experience. They reflected on what knowledge and skills they had gained as a result of the project. They examined how they used theories and methods from their psychology units and unitwork in other disciplines. They evaluated whether their efforts were worthwhile and if they would be confident to undertake such a project by themselves in the future.

Dr. Cantrell asked her students what other educational inputs they needed to increase their confidence. The students summarized their reflections in their capstone portfolios.”

Appendix E Essay

Psychological Literacy for Global Wellbeing: Disciplinary Identity, Paradigm Shifts and the Case for Compulsory First Year Psychology

Jacquelyn Cranney

Associate Professor and Carrick Fellow, Psychology, UNSW

Abstract

The thesis of this essay is that psychology as a discipline and profession has ‘come of age’, and we as psychological scientists and practitioners must have the maturity, courage and foresight to lead the world toward sustainable well-being. The rationale behind this vision is discussed in the context of just one proposed strategy for achieving that vision: making first year (introductory) psychology compulsory for all university students. Two concepts, ‘psychological literacy’ and ‘psychologically literate citizens’ (McGovern et al., in press) provide key metaphors in the thesis. I discuss possible barriers to enacting implementing the suggested strategy, and finally suggest elaborations of the vision and further strategies.

Introduction

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)

This essay reflects on the current state of the discipline and profession of psychology, discusses the kind of education required to meet global human needs, and proposes one strategy that could constitute a building block in the construction of solutions to meet those needs.

What does psychology mean to those in the discipline and profession, and to the rest of the world?

Psychology is fundamentally both a science and a profession, and its primary subject matter – human thought and behaviour – is challenging and exciting (Badcock et al., 2007). The discipline of psychology involves the creation of knowledge using the scientific method in both laboratory and ‘real-world’ settings. The profession of psychology is concerned with the application of that knowledge in a variety of contexts, ranging from individually based assessments and therapies (e.g., aspects of clinical and forensic psychology) to nation-wide social engineering (e.g., aspects of organizational and health psychology). That is, psychological science is fundamental to human self-understanding; moreover, the application of psychological knowledge is pervasive. This assertion is supported by the finding, based on bibliometric analyses, that psychology is one of seven “hub” sciences, along with mathematics, physics, chemistry, medicine, social sciences and earth sciences (including biological, plant, and animal) (Boyack, Klavans, & Börner, 2005). A hub science is that which other sciences are organized around, and research within that discipline is cited by scientists in other fields (Cacioppo, 2007). One might also construe this finding within the framework of network

theory (Newman, Barabasi, & Watts, 2006), whereby the psychological knowledge base is a key interconnecting node within the universe of human knowledge.

Although we as psychologists gleefully celebrate Boyack et al.'s (2005) finding of psychology as a "hub" science, one nevertheless might ask: (a) why does psychology continue to be a highly misunderstood discipline and profession, and (b) why is psychological knowledge and practice often "claimed" by other disciplines and professions with no acknowledgement of source, and sometimes with poor translation? My argument is that we as psychological scientists and practitioners have, until now, been too unsure of our own identity to either boldly assert ourselves as a strong and critically important discipline and profession, or insist that others acknowledge the bits that they borrow (Ewing et al., in press). Indeed our developmental history is characterized by a tendency to look toward high-status 'father figures' such as psychiatry, a partnership which has resulted in a prolonged disciplinary adolescence. Our recent infatuation with neuroscience has not been much healthier from a developmental perspective (see Coltheart, 2006, for theoretically based criticisms of this particular partnership).

The thesis of this essay is that psychology as a discipline and profession has 'come of age', and we as psychological scientists and practitioners must have the adult maturity, courage and foresight to put aside our childish squabbling, and instead create a united front that reaches out to and leads the world toward sustainable well-being. We are capable of meeting this challenge, if we have the commitment. I start by describing one strategy---making first year psychology (also called introductory or general psychology) compulsory for all university students---that should make a difference to how psychology is understood by the general public, and how psychology may better contribute to sustainable wellbeing. In the process of arguing this case, the rationale for the thesis should become more apparent. Thus, even if this particular strategy is flawed or not universally accepted, the reader may be motivated to think of other strategies whose implementation will eventually lead to the actualization of this vision for psychology.

Why should first year psychology be compulsory?

I am proposing this strategy as one mechanism by which we, as psychological scientists and practitioners, can contribute to sustainable wellbeing. As will be made explicit in the section on outcomes, the realisation of this vision will yield benefits to multiple stakeholders. Keeping in mind that the introductory psychology course is the second (behind Basic English Composition) most frequently taken course by college graduates in the USA (National Center for Education Statistics, 2008), there are at least three reasons for considering this strategy.

First, psychology is at the intersection of the sciences and the humanities, using the scientific method to investigate the human condition. Indeed it is because of this unique position that there is such variance in the placement of psychology within university disciplinary groupings—most commonly in science, health, social sciences, or the arts (Lipp et al., 2007; Littlefield et al., 2007). Although this can be quite confusing to university executives and the general public, it also highlights that psychology can and should be a key ingredient of an education in 'liberal arts and sciences', the higher education paradigm much valued in Western societies (AAC&U, 2007; Armstrong, 2008; McGovern, Furumoto, Halpern, Kimble, & McKeachie, 1991). A university education in a democratic society should entail much more than acquiring new knowledge and learning specialist vocationally oriented skills (see Precision Consultancy, 2007, for a discussion of this issue).

One fundamental outcome of university education should be the ability to challenge one's own and others' beliefs with publically verifiable knowledge derived through rigorous methodology, such as the scientific method (Stanovich, 2007). Thus, it is particularly critical that all university

students take a quality introductory psychology course, because one of the main outcomes of such a course is that the student understands that many aspects of their personal, implicit ‘theories’ of human behaviour are flawed. By creating opportunities through structured learning activities to experience challenges to their beliefs and attitudes, students become more critical and questioning about other aspects of their thinking, and are more likely to search out sound evidence to test claims regarding human behaviour. It should be noted that the process of unlearning these false beliefs about human behaviour is difficult, and requires courage and effort on behalf of both the learner and the educator (McGovern et al., in press). This kind of hard thinking, however, is surely what a university education should be about (see Armstrong, 2008; Bjork & Linn, 2006). Although most educators aspire to teaching students such critical thinking skills, because of the nature of the discipline, psychology educators should be more effective than most in this domain, and there is some evidence to support this view (Lehman, Lempert, & Nisbitt, 1988; see also Pascarella & Terenzini, 2005). Thus, by insisting that all university students take introductory psychology, we ensure that all graduates have the opportunity to acquire important liberal education outcomes. As McGovern et al. (in press) state, undergraduate psychology offers the very best potential of liberal learning.

Second, it needs to be acknowledged that most of the problems we face in the 21st Century are a result of previous and ongoing human behaviour. Examples include climate change, obesity, depression, poverty, the global financial crisis, and inter-group conflict (see Marsella, 2007). Together with other disciplines and professions, psychology can make a strong contribution to finding solutions. Students and graduates who have taken quality first year psychology courses should be able to recognise the potential for psychology to contribute in this way, and even when they have embarked on non-psychology career paths, they will be more open to such a contribution. In this way, students and graduates will contribute to more fruitful interdisciplinary and interprofessional collaborations, a trend increasingly valued in the workforce (e.g., Health Workforce Australia, 2008).

Third, it is becoming increasingly clear that neither narrow collectivist thinking nor the individualist attitudes of capitalist societies deliver the values that drive the thinking and behaviour necessary for the adaptation of *homo sapiens* to the rapidly changing global habitat. From a humanities perspective, Armstrong (2008) recently argued:

To flourish individually and collectively, we need economic liberty; but economic liberty on its own is not sufficient and can be disastrous. Freedom is good only when it is accompanied by maturity and wisdom. The deep sources of wisdom and maturity lie in the humanities. These sources have all but dried up. Wisdom and maturity have not been flowing into the wider fields of society; that is why economic freedom has turned toxic. It is of the greatest significance for our cultural and economic future—for the future of our civilisation—that we understand what has gone wrong and put in place the conditions of our renaissance. (p.22).

Whether or not one agrees with this argument, it is clear that there are deep roots of discontent in Western societies, despite continuing improvements in standards of living, health, and longevity. Positive psychology, which is the study of positive emotion, positive character, and positive institutions, may provide us with the foundation for developing a set of strategies that may stem this tide of discontent, enabling human thriving, and thus a healthier, if less affluent, global society (Csikszentmihalyi, 1999; Peterson & Seligman, 2004; Seligman & Csikszentmihalyi, 2000). One possible strategy is to provide the “cognitive elite” of society (Hernstein & Murray, 1996)—that is, our university students—with the values, knowledge and tools to problem solve in local and global contexts. Indeed, others have acknowledged that “the policies developed by most universities also recognise an end use... that goes beyond employment. Most contain attributes related to ‘ethical

practices' and 'social responsibility' (Precision Consulting, 2007, p.6). Thus, by making first year psychology compulsory, we could facilitate this process of contributing toward the development of Armstrong's 'wisdom and maturity' (note that 'wisdom' is one of Peterson & Seligman's 'character virtues').

What constitutes a quality educational experience in first year psychology (and beyond), and what should be the outcomes?

Currently, the average first year psychology unit involves a "smorgasborg" approach to psychology, usually delivered in a large-lecture format, and presenting students with an introduction to the history, methods, and major content areas of psychology. There are usually weekly practical classes (ranging from tutorial to laboratory style, depending on resources and orientation), whereby small groups of students are guided to engage with the subject matter (e.g., British Psychological Society, 2008; Ewing et al., in press; Hall & Altmaier, 2008; Lipp et al., 2007). Traditionally, the primary aim of first year psychology has been to provide a foundation for further undergraduate (UG) study in psychology, and/or to provide some introductory knowledge for those in professionally oriented degree programs where this knowledge is deemed useful (e.g., nursing, human resources). Little attention has been paid to the needs of students who take the course out of curiosity alone, and even less attention has been paid to their satisfaction with the outcomes, and the consequences for psychology as a discipline and profession (cf. Lipp et al., 2007).

Should this change, and if so, how? The answer to this question should be determined by the desired outcomes of the educational experience. Thus we consider outcomes first. I am strongly arguing that we should view students who have taken first year psychology as ambassadors for the discipline and profession of psychology in the wider public arena (see also Landrum et al., in press). Given their 'cognitive elite' status in society (Hernstein & Murray, 1996), it could be argued that students' and graduates' articulate and accurate communication to others about the nature of psychology, and their leadership behaviour in terms of encouraging engagement with psychology, could be key in making progress in dealing with the two issues raised earlier: the public misperception of psychology, and the 'plagiarizing' of psychological knowledge and practice by other disciplines and professions. Thus, these graduates themselves become informal psychology educators, and 'open the door' to professional psychology practitioners making a greater contribution in a wider variety of contexts. As such, the discipline and profession of psychology benefits. Moreover, consider this: if government administrators and politicians have a more accurate and thus positive view of psychology, then it is more likely that psychology education, training and practice will be better supported.

But what's in it for students? Any student having taken first year psychology should have acquired a general understanding of the nature of psychology, and an awareness of the potential of the application of psychological science to assist individuals, groups and societies, including an awareness of the different professional careers in psychology (especially beyond clinical and forensic psychology). Knowledge of the principles of psychology is made more meaningful if students are given opportunities to apply those principles to gain a better understanding of themselves, and to gain knowledge and skills that are transferable to other domains (i.e., academic skills such as critical thinking skills, oral and written communication, interpersonal skills). Thus, the learning, teaching and assessment activities in first year psychology should focus on optimizing the acquisition of these specific student learning outcomes.

Key content areas and applications in first year psychology could include: (a) developmental, personality and individual differences, with specific activities that give students opportunities to apply the knowledge directly to understanding themselves, and indirectly to others; (b) learning,

cognition and motivation, with specific activities that emphasize the application of principles to successful study techniques and development of other academic and problem solving capacities; (c) social and cultural psychology, with specific activities that help students understand how their own and others' behaviour is shaped by culture, preferably including some initial training in group work; and (d) health and wellbeing, with an emphasis on the biopsychosocial model of health, and with activities that allow students to explore the "trainability" of character strengths, cognitions and emotions from a positive psychology perspective (Seligman, Steen, Park, & Peterson, 2005). Students should also participate actively in a research activity, preferably including key components such as literature search, data gathering, and communication of findings. The objective of this experience is to give students a taste of undertaking research--an important first step in the scientist-practitioner approach to education and training in psychology (Benjamin & Baker, 2000). Once the students have been engaged by these topics and activities (that are highly relevant to their self-understanding as they make their transition into university; Erikson, 1968), other core topics such as biological psychology and psychopathology could be more fully introduced.

Students who go on to complete a psychology major should have acquired a high level of what recently has been termed 'psychological literacy' (McGovern et al., in press). Psychological literacy can be conceptualized in terms of the general graduate attributes and specific student learning outcomes of an undergraduate program in psychology. Graduate attributes are the "qualities, skills and understandings a university community agrees its students should develop during their time with the institution and consequently shape the contribution they are able to make to their profession and society... They are qualities that also prepare graduates as agents of social good in an unknown future" (Bowden, Hart, Kring, Trigwell, & Watts, 2000). Student learning outcomes (SLOs) are reasonably specific statements describing what students should know, understand or be able to do as a result of learning (Biggs, 2003). SLOs can be conceptualised as the general behavioural indices of the graduate attributes.

Graduate attributes specify what is important about UG education from an outcomes perspective, and as such, define the nature of UG education in psychology, thus serving as an information source for the general public, governments and university executives (Cranney et al., 2008b). McGovern et al. (in press) noted the similarity in UG psychology outcome statements across the U.S.A. (APA, 2007), Australia (Cranney & Turnbull, 2008), Europe (EuroPsyT, 2001), and Britain (Quality Assurance Agency, Psychology, 2007), and named this constellation of knowledge, skills and values 'psychological literacy'. Specifically, McGovern et al. (in press) defined psychological literacy as (a) having a well-defined vocabulary and basic knowledge of the critical subject matter of psychology; (b) valuing the intellectual challenges required to use scientific thinking and the disciplined analysis of information to evaluate alternative courses of action; (c) engaging problems as creative and amiable skeptics; (d) applying psychological principles to personal, social, and organizational issues in work, relationships, and the broader community; (e) acting ethically; (f) being competent in using and evaluating information and technology; (g) communicating effectively in different modes and with many different audiences; (h) recognizing, understanding, and fostering respect for diversity; and (i) being insightful and reflective about one's own and others' behavior and mental processes.

Through the planned integration of SLOs into the core units of an UG program, and by making these explicit to the student through strategies such as comprehensive course syllabi (Grunert, 1997), whole-program student learning portfolios (Cranney et al, 2005), and career development education (Cranney et al., 2005; Landrum et al., in press), students are more likely to explicitly acquire the unique combination of knowledge, skills and values characteristic of an UG psychology education, that is, psychological literacy (Biggs, 1996, 2003; Hayes, 1997; Landrum et

al., in press). This in turn should lead to more successful graduate careers. In the senior UG years, there should be structured opportunities to develop leadership skills by, for example, participating in peer mentoring and community outreach programs. This increases the capacity of these graduates to become psychologically literate leaders in their work and home communities. As such, these graduates have become what McGovern et al. (in press) term ‘psychologically literate citizens’, a notion similar to the popular university educational aspiration of the ‘global citizen’ (e.g., Henry, 2008). A psychologically literate citizen is someone who responds to the call for ethical commitment and social responsibility as a hallmark of their lifelong liberal learning. McGovern et al. (in press) argue that an important outcome of psychology programs should be about graduating psychologically literate citizens for a global 21st century, starting from the very first course in undergraduate psychology.

Peterson and Seligman (2004), in their classification of character strengths and virtues, identify justice as a virtue, and define it as ‘civic strengths that underlie healthy community life’. Citizenship is a characteristic woven into the fabric of healthy community life and celebrated in historical, multicultural, sacred and secular texts (Dahlsgaard, Peterson, & Seligman, 2005). Importantly, this positive psychology approach asserts that character strengths can be modified through specific training strategies (Seligman, et al., 2005). Should educators aim to enable such modification, as part of the development of psychologically literate citizens (see also Chickering, 1976)?

What are the likely barriers to achieving the vision?

A number of barriers can be identified in implementing the suggested strategy, and some may be understood from a developmental perspective. A key milestone in development is ‘perspective taking’, “the ability to understand other people’s viewpoints or perspectives”, and a prerequisite to perspective-taking is ‘theory of mind’, “an implicit set of ideas about the existence of mental states, such as ideas and feelings, in oneself and others” (Burton, Westen, & Kowalski, 2009, p.514). A further important developmental concept is ‘metacognition’, which involves “cognition that reflects upon, monitors and regulates an individual’s thinking... to solve problems, people often need to understand how their mind works—how they perform tasks such as remembering, learning and solving problems” (Burton et al., 2009, p. 481; see also Worrell et al., in press). Unfortunately psychological scientists and practitioners can display occupationally specific deficits in these areas, and engage in short-sighted tribalism (a lack of perspective), which creates intergroup conflict and intolerance of other branches of psychology. For example, laboratory-based psychological scientists often consider that their research is superior to that of researchers working in the field, and choose not to acknowledge the extreme challenges of such applied work, and its theoretical and practical value. In the professional arena, the ‘medical model’ treatment approach of western clinical psychology is the dominant form of practice, to the detriment of the potentially more economical prevention approaches of health and community psychology.

One side-effect of this immature tribalism has been a limited perception of the nature and purpose of undergraduate education (see Ratcliff, 1997, regarding the nature of a discipline). In particular, the undergraduate psychology programs in many countries are constructed as a prelude to and a selection mechanism for professional psychology training (Dunn et al., in press), and often do not take into consideration the current interests of undergraduate students, or the potential impact on society of students who do not go on to become psychological scientists and practitioners. Thus, it may be very difficult for educators to see beyond the aims of their current paradigms and to reconsider the purpose of undergraduate education.

A second potential barrier to the proposed new orientation in undergraduate psychology is a reaction against the positive psychology emphasis. Paradigms in psychology have been dominated by the deficit model, exemplified by the strong emphasis on ‘abnormal psychology’ or ‘psychopathology’--that is, human psychological disorders or weaknesses. Although health psychology is now a well accepted field in psychology, the related positive psychology field has not yet gained sufficient empirical credibility to be embraced by traditional educators (cf. Seligman et al., 2005; Seligman, Rashid, Parks, 2006). More rapid dissemination of empirical findings in this field is required. In the meantime, educators could take a scholarly approach (see Chew et al., in press) and systematically test new positive psychology strategies in the classroom, in an attempt to assist students in achieving learning outcomes that are likely to lead to sustained wellbeing in themselves and others.

A third potential barrier is the motivation and ability of individual educators. The proposed new approach to first year psychology (and subsequently, the psychology major) requires not only quality input from individual educators but also a commitment from the psychology department in supporting such a program. Most departments/schools of psychology are subject to a variety of demands, including knowledge creation, fundamental UG education, graduate professional training in a range of specialisations, and the diverse areas of service teaching (Littlefield et al., 2007). For example, in some countries there has been a recent increased emphasis on research productivity (e.g., Carr, 2008), which in many instances has undermined progress made on improving student learning outcomes. Thus, departmental culture and politics will influence the actions of individual educators through allocation of duties and resources (Dunn et al., in press) opportunities for ongoing professional development (Bernstein et al., in press; Ewing et al., in press), and adequate reward through promotion opportunities, awards, and other forms of recognition (Lipp et al., 2007). Improved motivation and capacity of individual educators is more likely to occur if both higher educational institutions and professional societies demonstrate strong valuing of quality contributions to education and training in psychology (Lipp et al., 2007).

A fourth potential barrier is resistance from powerful sectors in society who stand to lose if psychology asserts itself as a mature discipline and profession. For example, other professions often claim psychological knowledge as their own, and this would be more difficult if the public were better educated about the nature of psychology. Moreover, the business of pseudoscientists would suffer from a better educated and thus less gullible public (Stanovich, 2007). Stanovich (2007) has strongly argued that psychological scientists and practitioners need to engage more with the public to facilitate better understanding of psychology. However, an additional strategy is to ensure that graduates with first year psychology or a psychology major are educated in such a way that they are willing and able to take on this role as well (or, better).

It should be acknowledged that ‘making first year psychology compulsory’ (a) will never occur in many universities, given a philosophical stand against institutional coercion, and (b) could lead to disgruntled and thus learning-resistant students. The obvious alternative is to offer such a high quality introductory psychology unit that all students will demand that they have the opportunity to take it.

In summary, there are likely to be many barriers to enacting this vision for psychology education, either through the strategy proposed here, or through other strategies. Nevertheless, I hope the case has been made that we, as psychological scientists and practitioners, should apply the values, knowledge and skills we may have acquired through our education, to achieve this vision.

Blue Sky and Beyond

As we work toward removing these barriers to achieving this vision of psychologically literate citizens contributing to global wellbeing, what else might we aspire to, and what other strategies could we implement to that end?

The focus in this essay has been on shifting our conceptions of the fundamental aims of *undergraduate* psychology—potentially, to enact a paradigm shift. However, perhaps we should consider acting at an earlier developmental stage. High-school psychology is now a dominant feature of the curriculum in many countries, including the USA, Britain, Australia and China (Ewing et al., in press). Shifting our focus to secondary education would require different goals for the program, given the different developmental challenges (Chickering, 1976; Erikson, 1968). These are issues worth exploring more systematically. As Ewing et al. (in press) stated, it is positively stimulating to contemplate middle-school students being conversant with general principles of psychology.

Conversations with developmental psychology colleagues (e.g., J. Kuebli & K. Ritchey, personal communication, 27 June 2008) suggest another strategy that could help to deliver the vision: placement of an appropriately trained psychologist in every primary, middle and high-school classroom. This would be a huge financial commitment—but think of the wide-spread implications if, for example, positive psychology developmental strategies were implemented systematically in every school. A variant on this strategy is to train teachers in positive psychology approaches and techniques (Ryan, 2008).

A further strategy would involve psychology departments intentionally fostering educational collaborations by facilitating interdisciplinary and interprofessional training. This would *not* lead to the detriment of professional psychology, as some fear. Rather, by offering co-majors or parallel streaming in cognate disciplines (e.g., philosophy, neuroscience, education) and professions (e.g., human resources, nursing), the many psychology majors who do not go on to graduate professional training in psychology will, given a quality psychology UG education, graduate to become our premier ambassadors and our future colleagues in local and global problem-solving.

It has also been argued that successful graduate professional training of psychologists is possibly best achieved with those students who have gained a clear knowledge of their own strengths and weaknesses specifically, and of the processes involved in human cognition and the causes of behaviour generally, from a sound outcomes-based undergraduate education (Cranney et al., 2008b). Moreover, a further strategy toward achieving the vision espoused in this essay is the integrated development of SLOs that go beyond the specific and traditional competencies for professional psychology training. Given the current health workforce shortage (e.g., Health Workforce Australia, 2008), with predictions of a global health crisis in the near future—even in western countries—such graduates need to be capable of realising the limits of their own capabilities, and collaborating productively with other psychology and non-psychology professionals in tackling issues in health and wellbeing. By balancing their scientific and practitioner strengths, globally responsible professional psychologists are capable of leading others to solve these increasingly global problems, however large or small their actions may be (McGovern et al., in press).

Let me indulge in a final reflection on the nature of human thinking, behaviour and evolution. The internationally renowned psychologist and neuroanatomist, George Paxinos (1992) has persistently stated that the human brain is the ‘wrong size’. The human brain is big enough to have invented ways in which, for example, human beings can be transported to the moon, and ailing hearts can be replaced, thus allowing some of us to live more exciting or longer lives. However, so far the human brain has been too small to prevent the ongoing destruction (through global warming) of one of the natural wonders of the world, The Great Barrier Reef (Gray, 2008), or to prevent further global

terrorism. Perhaps the mission of psychology is to accelerate evolution, not by changing the genetics of survival but by ‘sprucing up the software’—that is, by facilitating the development of metacognitive capacity and ethical attitudes and behaviour in our ‘cognitive elite’, who can then lead those who are less fortunate toward sustainable wellbeing.

Conclusion

It has been argued that psychology is the best provider of scientific knowledge, education, training and practice for understanding and changing human behaviour (Cranney et al., 2008a). Unfortunately this is not currently recognized by the general public and by governments (Badcock et al., 2007; Stanovich, 2007). The vision presented in this essay is that psychology as a discipline and profession has ‘come of age’, and that we as psychological scientists and practitioners must have the maturity, courage and foresight to lead the world toward sustainable well-being. One strategy, compulsory first year psychology, is discussed in this paper; however, to bring this vision to fruition, we need a range of strategies, and in particular strategic and inclusive leadership by psychologists, at multiple levels and in various contexts. Each one of us, as psychological scientists and practitioners, can play a leadership role in forging new directions for the discipline and profession of psychology, and its contribution to human health and wellbeing.

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Appendix F

Final Report Review

Australian Learning and Teaching Council Associate Fellowship

Sustainable and Evidence-based Learning and Teaching Approaches to the Undergraduate Psychology Curriculum

Annie Trapp, Higher Education Academy Psychology Network
June 2008

Introduction

The Carrick Fellowship Scheme aims to advance learning and teaching in higher education by supporting leading educators to explore and address a significant educational issue. The fellowships are intended to include collaborative activities and the building of national and international partnerships. The Associate Fellowship awarded to Jacquelyn Cranney set out to build on previous work around learning outcomes and curriculum development within psychology education in Australia (Lipp et al.,2007).

Aims

The involvement of key stakeholders, including all psychology departments and lead professional bodies in Australia, from an early stage in the project shaped and prioritised the original objectives to maximise the credibility and validity of the outcomes within the community.

The agreed objectives included the development of graduate attributes and student learning outcomes for Australian undergraduate psychology programmes together with the promotion of research into university student learning and performance. Establishing a process for selecting and sharing learning and teaching materials was also seen as a desirable outcome.

Process

The chronological summary of activities (*Appendix A*) provides evidence for an active programme of work undertaken in tandem with the Carrick Psychology discipline-based initiative. These activities formed part of an iterative process enabling a set of graduate attributes to be delineated and specific learning objectives to be developed.

The activities enabled opportunities for building a community of practice around an evidence-based approach to the teaching and learning of psychology. It will be important for stakeholders such as HODSPA and the APS to foster and encourage the APEN network.

The Fellowship also sought to establish a process for the selection and sharing of learning and teaching materials that are explicitly associated with the student learning outcomes. The Fellowship holder acknowledges that this work did not progress as far as originally anticipated. However, the decision not to move ahead on this before the graduate attributes and student learning outcomes were broadly accepted by the stakeholders was sensible. Although some consideration has been given to where the resources will be hosted, careful consideration of how resources are garnered and

evaluated will be required in future work. It is intended that introducing an element of peer-review will provide credibility and encourage contributions.

Outcomes

We understand that a set of graduate attributes and student learning outcomes have been adopted into APAC standards. This is a significant achievement particularly in light of the contested nature of university education. In future, programmes in departments and schools of psychology seeking accreditation from APAC will need to be explicit about how their programmes address the new graduate attributes and specific learning outcomes. The benefits of this approach are that students will be able to make more informed choices about where they study, departments retain the flexibility to offer specialized programmes of study and, arguably, more clearly stated outcomes will result in a better alignment between learning outcomes and course assessment.

Whilst it is outside the remit of this evaluation report to comment on the chosen graduate attributes and student learning outcomes, I am surprised to see the term ‘abnormal psychology’ to describe one of the core topics. Whilst this term is still in common use there is an increasing widely held view that it reflects a medical rather than a psychological approach to mental health (the latter recognizing psychological distress as well as psychological well-being) and can be regarded as an offensive term by mental health service users.

A temporary web-space has been created to host existing materials and further funding is being sought both to transfer existing resources to the Carrick Exchange and to populate the Carrick Exchange with sustainable resources.

As mentioned earlier, the involvement of so many key stakeholders should be regarded as a considerable success. In addition the Fellowship has strengthened a network of psychology educators (APEN) and developed an infrastructure (a set of graduate attributes and learning outcomes) which should make the process of evaluating and sharing existing resources as well as resource development more effective. However, experiences from similar work in the UK (cf. the Higher Education Academy Psychology Network) suggest that implementing such a process requires funding, support from host institutions and careful management.

The activities instigated by this project include have allowed the promotion and dissemination of materials to encourage lecturers to adopt a more evidence-based approach to teaching and learning. In attending the ISSOTL and APEN network meeting in July 2007 I witnessed some excellent presentations to interested and well-informed audiences. However, redressing the balance between research and teaching priorities requires a degree of institutional commitment, reward and cultural change which would be impossible to achieve within the short period of this Fellowship.

Dissemination

It is clear that the work of this Fellowship will impact on undergraduate psychology and perhaps lead the way for similar developments at postgraduate level.

The scholarly approach taken by the Fellowship holder to the development of the graduate attributes and student learning outcomes for Australian undergraduate psychology has high relevance for other countries, for example many European universities are currently redesigning their psychology programmes of study to fit with the aims of the Bologna Process.

Conclusion

In essence this Fellowship has undertaken a scholarly and comprehensive consideration of the purpose of undergraduate psychology education in Australia. It has created a set of attributes that psychology graduates should find valuable in their personal lives and in the workplace. Future work should support mechanisms that will enable psychology educators to evidence ways of enabling their students to acquire these attributes.