

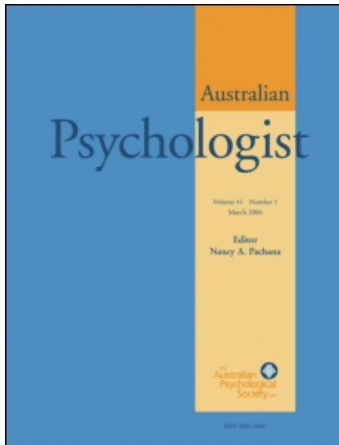
This article was downloaded by: [University of New South Wales]

On: 27 February 2010

Access details: Access Details: [subscription number 907420840]

Publisher Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Australian Psychologist

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713740458>

Graduate attributes of the 4-year Australian undergraduate psychology program

Jacquelyn Cranney ^a; Craig Turnbull ^a; Stephen C. Provost ^b; Frances Martin ^c; Mary Katsikitis ^d; Fiona A. White ^e; Nicholas J. Voudouris ^f; Iain M. Montgomery ^c; Patrick C. L. Heaven ^g; Sue Morris ^a; Kandice J. Varcin ^a

^a School of Psychology, University of New South Wales, ^b Department of Psychology, Southern Cross University, Coffs Harbour ^c School of Psychology, University of Tasmania, Hobart, Tasmania ^d School of Social Sciences, University of the Sunshine Coast, Sippy Downs, Queensland ^e School of Psychology, University of Sydney, Sydney ^f Australian Psychological Society, Melbourne, Victoria, Australia ^g School of Psychology, University of Wollongong, Wollongong, New South Wales

First published on: 10 November 2009

To cite this Article Cranney, Jacquelyn, Turnbull, Craig, Provost, Stephen C., Martin, Frances, Katsikitis, Mary, White, Fiona A., Voudouris, Nicholas J., Montgomery, Iain M., Heaven, Patrick C. L., Morris, Sue and Varcin, Kandice J.(2009) 'Graduate attributes of the 4-year Australian undergraduate psychology program', *Australian Psychologist*, 44: 4, 253 – 262, First published on: 10 November 2009 (iFirst)

To link to this Article: DOI: 10.1080/00050060903037268

URL: <http://dx.doi.org/10.1080/00050060903037268>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Graduate attributes of the 4-year Australian undergraduate psychology program

JACQUELYN CRANNEY¹, CRAIG TURNBULL¹, STEPHEN C. PROVOST²,
FRANCES MARTIN³, MARY KATSIKITIS⁴, FIONA A. WHITE⁵,
NICHOLAS J. VOUDOURIS⁶, IAIN M. MONTGOMERY³, PATRICK C. L. HEAVEN⁷,
SUE MORRIS¹, & KANDICE J. VARCIN¹

¹School of Psychology, University of New South Wales, ⁵School of Psychology, University of Sydney, Sydney, ²Department of Psychology, Southern Cross University, Coffs Harbour, ⁷School of Psychology, University of Wollongong, Wollongong, New South Wales, ³School of Psychology, University of Tasmania, Hobart, Tasmania, ⁴School of Social Sciences, University of the Sunshine Coast, Sippy Downs, Queensland and ⁶Australian Psychological Society, Melbourne, Victoria, Australia

Abstract

This paper outlines the background, process and outcomes for a project that delineated a set of graduate attributes of the 4-year Australian undergraduate psychology program. The nature of the current undergraduate psychology program and its quality assurance system is described, followed by a consideration of current issues in psychology education and training. The processes involved in delineating the six graduate attributes (i.e., knowledge and understanding, research methods, critical thinking, values, communication, and application) are then described. Some issues and suggestions related to their implementation are then outlined. Finally, the authors summarise what has been accomplished in delineating the graduate attributes, and what still needs to be achieved.

Key words: *Academic learning and achievement, discipline issues, graduate attributes, national development of psychology, psychology as a discipline, student learning outcomes, teaching of psychology.*

The delineation of a set of graduate attributes (GAs) for the Australian undergraduate psychology program was undertaken within a particular socio-political context, aspects of which are outlined here prior to a description of the processes involved. The current nature of the Australian undergraduate program is strongly influenced by the Australian Psychology Accreditation Council (APAC), which sets national standards for undergraduate and postgraduate psychology programs and also accredits the academic institutions that offer them. The standards are based on the scientist–practitioner model of education and training, especially at the postgraduate level. The undergraduate psychology program is seen as providing broad foundational knowledge as well as strong skills in research methods, data analysis and report writing, upon which professional postgraduate training programs build. APAC accredits existing programs on application and advises

institutions on the design of new programs. Aspects of accreditation assessment are contracted to the Australian Psychological Society (APS), which supplies expert reviewing, especially of specialist postgraduate programs. In order to undertake professional postgraduate training in psychology, students need as a minimum requirement to have undertaken an APAC-accredited 4-year undergraduate program. This can be in the form of an integrated 4-year program (e.g., Bachelor of Psychology), or more usually a 3-year sequence followed by a fourth year (usually honours, but an alternative is a postgraduate diploma).

Current pressures on the undergraduate program relate to the needs of students and employers, university policy, and evolving government policy and regulatory systems. First, the nature of the Australian university student has changed since the Dawkins' reforms, which greatly expanded student

intake: many students are now more focused on achieving professional qualifications as quickly and as cost-effectively as possible, given that the average student now has a greater financial burden. As such, the role of universities as credentialing bodies is being more heavily emphasised and in response to this change in emphasis and related changes to policy, universities now have more of a “service to client” agenda than a “learning for discovery” agenda. Second, there is more pressure to produce students who are “employer-ready” (Barrie, 2005). The advantages and disadvantages of such an approach for university education as opposed to Technical and Further Education (TAFE) training is discussed by the Precision Consultancy (2007) Graduate Employability Skills discussion paper as follows:

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’. [p.6]

The academic community generally resists attempts to narrowly train to current employer needs; even in strongly vocational academic units such as engineering departments, the need to produce graduates who are capable of being responsive to future change in the industry, rather than only narrowly trained in currently required competencies, is recognised (Engineers Australia, 2003).

Third, recent changes in higher education policy, whereby implementation is largely driven by funding consequences, has emphasised accountability of university education and training programs, with consequent focus on GAs, student learning outcomes, and their assessment (Barrie, 2005). The most commonly cited definition of GAs in Australian higher education was produced by a project led by John Bowden 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, Hart, Kring, Trigwell, & Watts, 2000].

Lists of GAs are occasionally accompanied by related student learning outcomes (SLOs). SLOs are reasonably specific statements describing what students should know, understand or be able to do as a result of learning (Biggs, 2003). This definition

allows SLOs to be instantiated as higher-order cognitive skills and attitudes (e.g., “demonstrated an attitude of critical thinking”) or as rather specific cognitive tasks (e.g., “write a standard research report”). It could be argued that this definitional range is a weakness, and may need future revision. Nevertheless, it could also be argued that psychology Academic Organisational Units (AOUs) should be particularly well equipped to measure SLOs, given the psychology graduate skills of operationalising, manipulating and measuring cognitive and behavioural variables.

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

It should be noted that schools and departments of psychology have responded in different ways to the aforementioned student, employer, and university demands, particularly in their attempts to integrate SLOs/GAs in their programs. At the University of Queensland, for example, a whole-day workshop was held to identify which of that university’s GAs were being developed in each of their courses (O. Lipp, personal communication, 10 April 2005). At the University of Tasmania, School representatives of the Faculty of Science, Engineering and Technology set GAs for each discipline, and also determined the level at which each GA was to be achieved in each unit (F. Martin, personal communication, 5 October 2007). The University of New South Wales (UNSW) held a staff workshop to collaboratively create their own six psychology-specific GAs with accompanying SLOs, and mapped these across the program (Cranney, Morris & Martire 2005a). Simultaneously, however, course outlines were being shaped by the UNSW Faculty of Science’s set of GAs, leading to confusion and resentment among academics (understandable in the context of increased pressure to produce quality research and teaching outcomes). At Edith Cowan University, GAs are relatively inflexibly integrated and assessed across all courses (L. Cohen, personal communication, 5 October 2007).

A fourth pressure on psychology education and training comes from the Federal Government, in terms of both perceived workplace shortages with respect to the delivery of health services in general and psychological services in particular (Australian Government Productivity Commission, 2005; Health Workforce Australia, 2008a), and the educational response to the Bologna model (Bishop, 2006). Consequently, there has been a perception that the discipline and profession of psychology should review training models to ensure value for money and international equivalence (Littlefield, Giese, & Katsikitis, 2007). Part of this pressure involves issues of interdisciplinary training in the health sciences (Health Workforce Australia, 2008a).

Other pressures on education and training in psychology include moves to nationalise and integrate registration and accreditation of psychology (Health Workforce Australia, 2008b); the impact of Medicare rebates on professional training programs (Littlefield et al., 2007); the morally responsible demand for evidence-based learning and teaching strategies (Barrie, 2005; McDaniel, Anderson, Derbish, & Morrisette, 2007; Zinkiewicz, Hammond, & Trapp, 2003); the residual effects of a prolonged period of decreased funding for University educational activities (National Tertiary Education Union, 1998), particularly impacting on staffing levels, physical laboratory facilities, and other teaching resources; and, increased emphasis on research productivity associated with the Research Quality Framework and its successor, the Excellence in Research Australia (Carr, 2008), thus necessitating highly efficient approaches to teaching.

Historically, the discipline and profession of psychology in Australia has a strong interest in maintaining high-quality education and professional training, and of maintaining disciplinary integrity (Waring, 2008). In constantly reviewing the accreditation standards, for example, APAC and its subsidiary APS committee (Program Development and Accreditation Committee, PDAC) attempt to objectively respond in a considered way to requests that reflect some of the pressures listed above, without sacrificing quality or the core scientist-practitioner-based philosophy underlying the standards. The primary principle underlying the discipline of psychology (that distinguishes it from many other disciplines) is that it uses the methods of science to create knowledge about a very challenging subject: human behaviour. Consequently, the underlying principle of professional psychology (that distinguishes it from other professions) is that professional practice is built on the scientific knowledge base of psychology and particularly the evidence regarding effective applications. The latter is a large part of the scientist-practitioner model and so drives

the training approach. Although there is much debate about other aspects of the scientist-practitioner model (e.g., O’Gorman, 2001), these are not the focus of the current discussion.

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, including health, educational and developmental, neuropsychology, counselling, forensic, organisational, sports, and community. Thus any pressure to reduce general knowledge and skill training or to engage in interdisciplinary training diminishes not only research training and knowledge creation, but also these other psychology professions. Moreover, it should be noted that any attempt to internationally benchmark professional psychology training quickly shows that the most dominant nation in psychology, the United States, has a more generalist undergraduate degree, and a longer period of professional training, than does Australia.

Building on an initial publication by McConkey, Wilton, Barnier, and Bennett (1994), a recent publication by the Psychology Foundation of Australia (Badcock, Hammond, Gillam, Brewer, & Andrews, 2007) presents cogent arguments regarding the usefulness of psychology in informing significant social and legal problems, such as the understanding and tolerance of psychological diversity, and the use of eyewitness accounts in criminal proceedings. An earlier report by the National Committee for Psychology (1996) also found that the discipline of psychology in Australia makes a disproportionately strong international contribution to psychological knowledge. This latter finding attests to the strength of our research training. The need for public education about the nature of psychology is emphasised in all three of these documents. One might argue that one of the most convenient avenues to undertake such public education is through our large first year psychology classes. We estimate that approximately 15% of all Australian university students take a first year psychology course. This constitutes an under-utilised resource for public education about the nature of the psychology discipline and profession, by the nation’s “cognitive elite” (Hernstein & Murray, 1996): that is, one outcome of first year psychology education should be the creation of ambassadors for psychology in the wider public arena.

A recent Carrick-funded project (Lipp et al., 2007) provided a thorough overview of the undergraduate programs offered by AOU in Australia, and identified a number of areas in need of further attention. One was the lack of attention paid to “terminal” third year (psychology majors) and fourth year (honours) graduates in psychology (i.e., those

who do not undertake professional psychology training), both in terms of awareness of these students' major employers or career destinations, and also in preparing students for those careers. The report also identified the lack of delineation of learning outcomes from the undergraduate program. One of the outcomes of the Carrick funded project was the establishment of the Australian Psychology Educators Network (APEN). Discussions among APEN members led to the funding of a Carrick/Australian Learning and Teaching Council (ALTC) Associate Fellowship and a Psychology Discipline Initiative (PDI), whereby one of the primary objectives was to delineate a set of national GAs for undergraduate psychology. The remainder of this paper outlines the process undertaken to achieve that objective, and then discusses the nature of the outcomes as well as what still needs to be done.

Process of graduate attribute delineation

The delineation process as reflected in the resulting *Graduate Attributes of the Four-Year Australian Undergraduate Psychology Program* document (Graduate Attributes; Cranney & Turnbull, 2008) was developed through a variety of research and consultative strategies. Internet and literature searches were conducted to identify national and international investigations or statements regarding GAs. During this initial phase, six documents were identified as particularly useful: the APAC (2007) *Standards for Accreditation of Australian Psychology Programs*, the final report of the project *Learning Outcomes and Curriculum Development in Psychology* (Lipp et al., 2007), the American Psychological Association ([APA] 2006) *Guidelines for the Undergraduate Psychology Major*, the *EuroPsyT* (Lunt et al., 2001), the Cranney et al. (2005a) *UNSW Psychology Graduate Attributes*, and the Hayes (1997) delineation of what a student gains during an undergraduate degree in psychology.

Initial stakeholder involvement was instigated through workshops run over 2 days in March 2007 on "The Research-Teaching Nexus" and "The Future of Psychology Training in Australia". The workshops were attended by the current and incoming Chairs of the Heads of Departments and Schools of Psychology Association (HODSPA), the APS Manager of Science, Academia and Research, the Director of the ALTC Discipline Initiatives Program and various academics and students from a number of universities (New South Wales, Melbourne, Queensland, Southern Cross, Sydney, Tasmania, Western Sydney, and Wollongong). Surveys were distributed over the 2 days in which individuals reported what they maintained to be the core attributes of a 4-year psychology graduate. Of 13

respondents, the primary core attributes reported were as follows: critical thinking ($n=12$), communication (written and oral) ($n=10$), discipline knowledge ($n=9$), research methods, including data analysis ($n=9$), lifelong learning ($n=6$), information literacy ($n=5$), awareness of diversity ($n=4$), teamwork ($n=4$), and the application of skills and knowledge ($n=3$).

Further stakeholder discussion regarding GAs was generated at a HODSPA meeting in May 2007. HODPSA members were invited, during a panel discussion, to provide comment on the core attributes of a fourth year graduate. Consultation with this key group was maintained through interviews with members, involvement of the Chair of HODPSA in project activities, and presentation of a draft *Graduate Attributes* to HODSPA members at a meeting held during the APS annual convention in September 2007, with invitation for feedback.

The current form of the *Graduate Attributes* was first drafted in June 2007 following consultation with relevant stakeholders, and guidance from existing literature. The APAC (2007) *Standards for Accreditation of Australian Psychology Programs* was important in ensuring the appropriate integration into the *Graduate Attributes* of core topics and competencies including emphases on the science and application of psychology, research methods, and report writing. This first draft *Graduate Attributes* was strongly based on the 10 goals and suggested learning outcomes of the APA (2006) *Guidelines for the Undergraduate Psychology Major*, which was the result of extensive research and consultation from 2000 to 2006. Some attributes were maintained as almost precise duplicates of the APA guidelines (e.g., GA 3 relating to the identification of the context of behaviour, is from Learning Outcome 3.1 of the APA guidelines); but where appropriate, others were adapted or newly created (e.g., GA 4 relating to using information in an ethical manner).

The first draft of the *Graduate Attributes* was presented at an APEN satellite to the International Society for the Scholarship of Learning and Teaching (ISSoTL) Conference in July 2007, which was attended by 33 national and international leaders in psychology learning and teaching, including the APS Manager of Science, Academia and Research, the PDAC Chair, the Director of the UK Psychology Network, the Executive Director of Division 2 of APA, and various Heads of School, academics, and students. During this session participants compared the draft with parallel national and international documents. On the basis of the feedback from this session as well as participant-instigated consultation with their schools, significant revisions were made, such as the reduction of the original 10 attributes to a

more manageable six, strongly shaped by Australian cultural contexts.

Extensive consultation with the APS was maintained during the development of the attributes. The APS Executive Director and the Manager of Science, Academia and Research expressed support for the process of developing and refining the *Graduate Attributes* in a meeting in July 2007. Further, the 2006 Manager of Science, Academia, and Research was an applicant for the PDI, and remained a member of the PDI team, along with the current Manager. A significant role of the Manager is to co-manage, along with the Chair, the work of PDAC, whose input to the *Graduate Attributes* became critical at a later stage.

A refined version of the *Graduate Attributes* was presented to members (including the Head of School and the Chair of the Undergraduate Education Committee) of the UNSW (Psychology) Learning and Teaching Advisory Group (ULTAG) in August 2007, as a further means of obtaining feedback and guidance on refining, disseminating and implementing the *Graduate Attributes*. The document was later utilised heavily in the formation of a new major in psychology in the Faculty of Arts and Social Sciences at UNSW. Further feedback, suggestions, and refinement of GAs occurred in consultation with ULTAG and the Carrick PDI team members over a series of meetings from August 2007 to January 2008.

Critical stakeholders in the process of developing the *Graduate Attributes* were the committees concerned with the psychology program accreditation process, the APS PDAC and, subsequently, APAC. Submissions to explicitly include aspects of the *Graduate Attributes* in the APAC Standards document were first made in October 2007. Various revisions and suggestions were made by the Committee, until APAC approved the 22 February 2008 version of the Standards. That, and the current version, includes explicit reference to the *Graduate Attributes* and some of the SLOs in Section 3.1 “Three year Courses”, and Section 3.2 “Fourth Year Courses”. The Standards and a copy of the *Graduate Attributes* are accessible from the APAC website (<http://www.apac.psychology.org.au>). Resources to support AOU with integration of these GAs into programs and courses are currently being constructed for release with the ALTC Exchange website in 2009.

Graduate attributes

The *Graduate Attributes* is a comprehensive list of the capacities or attributes that undergraduate students of psychology can develop during their 4 years at university (and to a lesser extent, during a 3-year

program). The attributes consist of 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 GAs, and provide academics with focal points for measuring student performance. Other than those now included in the APAC Standards, the GAs 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. Different levels of development of these *Graduate Attributes* and learning outcomes would be expected across the 4 years of the program. Student learning outcomes that are currently considered to be central to the 3-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).

Suggested learning outcomes

- *Display basic knowledge and understanding of the following core topics (see Table 1).
- **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.

Table 1. Core topics

● abnormal psychology	● lifespan developmental psychology
● biological bases of behaviour	● motivation and emotion
● cognition, information processing and language	● perception
● health and wellbeing	● social psychology
● individual differences in capacity and behaviour, testing and assessment, personality	● history and philosophy of psychology
● learning	● intercultural diversity and indigenous psychology

- 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.

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 *APS 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 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; and adopt flexible techniques to communicate sensitively and effectively with diverse ethnic and cultural partners, including in the context of teamwork.
- Collaborate effectively, demonstrating an ability to work with groups to complete projects within reasonable timeframes, and 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; and 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.

Utilisation of graduate attributes

The *Graduate Attributes* document is based on an understanding that learning in higher education is a complex phenomenon (Barnett, 2000a,b; Knight, 2001), and so a number of points need to be made regarding its utilisation. First, although six distinct GAs are delineated, this does not imply that they are mutually exclusive. Rather, in practice there should be overlap and integration of the GAs, 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). Second, it should be noted that the provision of learning outcomes does not preclude the attainment of unintended or additional outcomes from learning in psychology.

Third, each attribute can be addressed in school/department curriculum designs and assessment plans but, 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 GAs 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, the *Graduate Attributes* 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.

Fourth, the document is based on an assumption that the GAs 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. The *Graduate Attributes* 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, Englehart, Furst, Hill, & Krathwohl, 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.

Outcomes and future needs

Overall, what has been achieved through the processes used in this initiative is the specification of what is important about undergraduate education from an outcomes perspective. In many respects the *Graduate Attributes* document defines the nature of undergraduate education in psychology, thus serving as an information source about psychology for the general public, governments and university executives. Although some of the student learning outcomes are relatively specific and could thus be conceptualised as competencies (e.g., laboratory skills), many reflect broader, higher level capacities (e.g., independent learning to sustain personal and professional development; see Precision Consultancy, 2007 regarding this distinction; and Barrie, 2005). The integration of some of the SLOs into the accreditation standards will help to ensure that there is a focus on outcomes, and the continual review process undertaken by APAC will also enable revision and updating of the SLOs. Indeed, given the evolving nature of the discipline and of higher education generally, it is recommended that the peak disciplinary bodies in Australian psychology (including APS and HODSPA) reassess these GAs and in addition any postgraduate professional capabilities at

least once every 5 years (Cranney et al., 2008; Mrowinski & Voudouris, 2009). Issues such as the relevance of each GA and the specificity of SLOs, as well as resources to support their development (e.g., on the ALTC Exchange), should then be reviewed. As AOUs become more aware of the *Graduate Attributes*, integration into the design of courses/units (as reflected in unit outlines) will increase, and AOUs can utilise mapping tools to facilitate curriculum review and preparation for accreditation reviews. This process has already started at several universities, including the Universities of Tasmania, Sydney and NSW. Moreover, the integration of the SLOs into program design and review processes, particularly with parallel support strategies such as continuous GA portfolio assessments (e.g., Cranney et al., 2005b), should assist the terminal third and fourth year students to take charge of their career development in the many diverse areas (e.g., education, neuroscience, business) where psychology GAs complement and often enhance learning in those areas.

There is, however, still much to be accomplished, including (a) the creation of guidelines for the progression of SLO development across the undergraduate years, particularly at first year level, where there are the most students, and at third year level, where there is a significant exodus of students from psychology, (b) the creation of resources to assist academics and undergraduate education committees to integrate and map GAs, (c) the creation of teaching strategies to facilitate learning in some areas where academics have not traditionally ventured (e.g., GA 4 and GA 6, with the focus on facilitating students' self-knowledge), (d) the creation of authentic and valid assessment strategies (e.g., use of GA portfolios, and bench-marking examinations), (e) the creation of guidelines for the developmental progression from undergraduate attributes to professional competencies, (f) evaluation of the GAs by academics, students and employers, and (g) the explicit structuring of programs that combine majors in psychology with other disciplines/professions (e.g., human resources, medical science, policy/planning) to create desirable and transparent inter-professional career pathways. It should also be noted that successful postgraduate 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.

In conclusion, the *Graduate Attributes* complement the *Rules for Accreditation and Accreditation Standards for Psychology Courses* (revised document formerly known as *Standards for Accreditation of Australian Psychology Programs*) (APAC, 2008), 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 GAs 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 GAs are also aimed at supporting the education of students who will take vocational pathways other than professional psychology (estimated across three major universities as being 60% of third year psychology major students, and 44% of fourth year students). As such, the *Graduate Attributes* 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, what McGovern et al. (in press) have termed “psychological literacy”. We expect these derived GAs will sit comfortably alongside, and complement, existing university attributes.

Acknowledgements

The “Graduate Attributes of the Four-Year Australian Undergraduate Psychology Program” is an output of the Carrick Associate Fellowship Initiative, “Sustainable and evidence-based learning and teaching approaches to the undergraduate psychology curriculum”, and “Designing a diverse and future-oriented vision for undergraduate psychology in Australia”, a Discipline Initiative funded by the Carrick Institute for Learning and Teaching in Higher Education (now renamed the Australian Learning and Teaching Council; ALTC), and supported by the Australian Psychological Society, and the University of New South Wales (UNSW; School of Psychology; Learning and Teaching at UNSW). We are extremely grateful for that support, and would particularly like to thank Denise Chalmers, Jan Orrell, Henry Jackson, Michele Scoufis, Lyn Littlefield, Peter Lovibond, Branka Spehar, Lynne Cohen, Nigel Bond, Ottmar Lipp, Leigh Mellish, Diana Matovic, and Shirley Zhang. The views expressed in this report do not necessarily reflect the views of ALTC, APS or UNSW.

References

- American Psychological Association (APA) (2006). *APA guidelines for the undergraduate psychology major*. Washington, DC: Author.
- Australian Government Productivity Commission (2005). *Australia's health workforce: Research report*. Retrieved 4 March 2008, from <http://www.pc.gov.au/study/healthworkforce/docs/finalreport>.

- Australian Psychology Accreditation Council (APAC) (2007). *Standards for accreditation of Australian psychology programs*. Melbourne: Author.
- Australian Psychology Accreditation Council (APAC) (2008). *Rules for accreditation and accreditation standards for psychology courses*. Melbourne: Author.
- Badcock, D., Hammond, G., Gillam, B., Brewer, N., & Andrews, S. (2007). *Psychology: The science of mind, brain, and behaviour*. (Federation of Australian Scientific and Technological Societies Occasional Paper Series No.6, September 2007.) Canberra: FASTS.
- Barnett, R. (2000a). *Realizing the university in an age of super-complexity*. Philadelphia: Society for Research into Higher Education and Open University Press.
- Barnett, R. (2000b). Supercomplexity and the curriculum. *Studies in Higher Education*, 25, 255–265.
- Barrie, S. (2005, April). Rethinking generic graduate attributes. *HERSDA News*, 27, 3–6.
- Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education*, 32, 347–364.
- Biggs, J. (2003). *Teaching for quality at university*. Buckingham: Society for Research into Higher Education and Open University Press.
- Bishop, J. (2006). *Bologna process: Australian national seminar*. Retrieved 16 October 2008, from <http://www.dest.gov.au/Ministers/Media/Bishop/2006/09/B002070906.asp>
- Bloom, B. S., Englehart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: The cognitive domain*. New York: David McKay.
- Bowden, J., Hart, G., King, B., Trigwell, K., & Watts, O. (2000). *Generic capabilities of ATN university graduates*. Retrieved 26 August 2007, from <http://www.clt.uts.edu.au/ATN.Grad.cap.project.index.html>
- Carr, K. (2008). *New ERA for research quality: Announcement of Excellence in Research for Australia initiative*. Retrieved 16 October 2008, from http://www.arc.gov.au/media/releases/media_26Feb08.htm
- Cranney, J., Morris, S., & Martire, K. (2005a). *School of Psychology UNSW Graduate Attributes*. Unpublished School Document, Sydney: School of Psychology, University of New South Wales.
- Cranney, J., Kofod, M., Huon, G., Jensen, L., Levin, K., McAlpine, I., Scoufis, M., & Whitaker, N. (2005b). Portfolio tools: Learning and teaching strategies to facilitate development of graduate attributes. In *Proceedings of the Blended Learning in Science Teaching and Learning Symposium, September 30, 2005, University of Sydney* (pp. 25–30). Sydney: UniServe Science.
- Cranney, J., Provost, S., Katsititis, M., Martin, F., White, F., & Cohen, L. (2008). *Designing a diverse, future-oriented vision for undergraduate psychology in Australia*. Retrieved 22 February 2009, from <http://www.altc.edu.au/carrick/go/home/pid/343>
- Cranney, J., & Turnbull, C. (2008). *Graduate attributes of the four-year Australian undergraduate psychology program*. Retrieved 22 February 2009, from <http://www2.psy.unsw.edu.au/Users/JCranney/learning.htm>
- Engineers Australia. (2003, November). *Australian engineering competency standards: General introduction and stage 2 competency standards for professional engineers, engineering technologists and engineering associates*. Retrieved 16 October 2008, from http://www.engineersaustralia.org.au/shadomx/apps/fms/fmsdownload.cfm?file_uid=04462719-D886-A69A-97D4-294A320FAF20&siteName=ieaust
- Hayes, N. (1997). The distinctive skills of a psychology graduate. *Monitor on Psychology*, 28, 33–35.
- Health Workforce Australia (2008a). *Education and training in National Health Workforce work program*. Retrieved 16 October 2008, from www.nhwt.gov.au/training.asp

- Health Workforce Australia (2008b). *National registration and accreditation scheme*. Retrieved 16 October 2008, from <http://www.nhwt.gov.au/natreg.asp>
- Hernstein, R. J., & Murray, C. (1996). *The bell curve: Intelligence and class structure in American life*. New York: Free Press.
- Knight, P. (2001). Complexity and curriculum: A process approach to curriculum-making. *Teaching in Higher Education*, 6, 369–381.
- Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory into Practice*, 41, 212–218.
- Lipp, O., Terry, D., Chalmers, D., Bath, D., Hannan, G., Martin, F., et al. (2007). *Learning outcomes and curriculum development in psychology*. Sydney: Carrick Institute for Learning and Teaching in Higher Education.
- Littlefield, L., Giese, J., & Katsikitis, M. (2007). Professional psychology training under review. *InPsych*, 29(2), 6–13.
- Lunt, I., Bartram, D., Döpping, J., Georgas, J., Jern, S., Job, R., et al. (2001). *EuroPsyT: A framework for education and training for psychologists in Europe. Report by Project EuroPsyT, funded by the Leonardo da Vinci programme*. Retrieved 22 February 2007, from www.europsych.org
- McConkey, K., Wilton, H., Barnier, A. J., & Bennett, A. (Eds.) (1994). *Australian psychology: Selected applications and initiatives*. Melbourne: Australian Psychological Society.
- McDaniel, M. A., Anderson, J. L., Derbish, M. H., & Morrisette, N. (2007). Testing the testing effect in the classroom. *European Journal of Cognitive Psychology*, 19, 494–513.
- McGovern, T. V., Corey, L. A., Cranney, J., Dixon, W. E. Jr., Holmes, J. D., Kuebli, J. E., Ritchey, K., Smith, R. A., & Walker, S. (in press). Psychologically literate citizens. In D. Halpern (Ed.), *Undergraduate education in psychology: A blueprint for the future of the discipline*. Washington, DC: American Psychological Association.
- Mrowinski, V., & Voudouris, N. (2009). Review of Australian higher education calls for sweeping changes. *InPsych*, 31(1), 22–23.
- National Committee for Psychology, Australian Academy of Science (1996). *Psychological science in Australia*. Canberra: Australian Government Publishing Service.
- National Tertiary Education Union. (1998). *NTEU federal budget submission attacks the black hole in university funding*. Retrieved 16 October 2008, from <http://www.nteu.org.au/news/1998/1998/1216>
- O'Gorman, J. G. (2001). The scientist-practitioner model and its critics. *Australian Psychologist*, 36, 164–169.
- Precision Consultancy (2007). *Graduate employability skills: Discussion paper*. Retrieved 21 March 2008, from <http://precisionconsultancy.com.au/documents/GradEmployabilitySkills.pdf>
- Waring, T. (2008). The regulation of psychology in Australia. In J. E. Hall, & E. M. Altmaier (Eds.), *Global promise: Quality assurance and accountability in professional psychology* (pp. 164–185). New York, NY: Oxford University Press.
- Zinkiewicz, L., Hammond, N., & Trapp, A. (2003). *Applying psychology disciplinary knowledge to psychology teaching and learning. Report and Evaluation Series No.2*. York, UK: LTSN Psychology.