Summary statement:
The development of graduate attributes underpins the entire student experience and as such, requires a ‘whole-of-university’ response. The suggested approach is learner-centred, recognising that the RMIT graduate has an active role in the learning process but also that the university, through its academic programs and supportive organisational environment, fosters the development of graduate attributes.

Purpose

The purpose of this report is to propose to the Academic Board a broad conceptual approach for embedding RMIT’s generic graduate attributes across the university and to make recommendations to support the subsequent implementation of the proposed approach. It addresses the terms of reference set out by Academic Board in its brief to the Graduate Attributes Working Party (see Appendix 1 for terms of reference and membership of the working party). This report acknowledges existing practice around capability-based curricula in HE and competency-based curricula in TAFE. It proposes an approach to embedding graduate attributes that will complement and strengthen the development of quality curricula and student learning outcomes.

It is important to state that this paper does not set out to provide an implementation plan but rather to recommend a conceptual framework which will affirm the graduate attributes within the RMIT community and to its stakeholders as central to the RMIT mission. The recommendations outline practical steps which will both enable and support a follow-up implementation plan. The working party envisages that this implementation plan will constitute the next stage of the process. It will be based on the proposition that a transformational approach to graduate attributes should underpin the entire student experience.

Introduction

Universities are responsible for providing the best opportunities possible for graduates to emerge equipped with the skills, knowledge and qualities which they will need both as individuals and as full contributors to the professional, economic, social and cultural dimensions of society. At RMIT the development of graduate attributes falls within the vision already established - a dual sector university, promoting work-ready skills within a global context. This vision is also presently addressed through graduate capabilities for each program.

The confusion over terminology in this area has been well documented (Barrie, 2006). For the purposes of this report, it is enough to state that RMIT’s generic graduate attributes represent a set of broad outcomes or attributes which students should possess by the end of their university experience, regardless of the formal program in which they have been enrolled:

Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution. These attributes include, but go beyond, the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as agents of social change in an unknown future. (Bowden, Hart, King, Trigwell, & Watts, 2000).
The RMIT Graduate Attributes are:

- work-ready
- active learners
- life-long learners
- global in outlook and competence
- culturally and socially aware
- innovative
- environmentally aware and responsible

These attributes show a high level of alignment and complementarity when mapped against RMIT’s values (Appendix 2). Furthermore, they are distinctive when compared with other universities’ graduate attributes, being more than a list of employability skills, with an additional focus on social and environmental awareness and responsibility. Elkins (2003) states that the identity of the university and the values it defines for itself are closely connected with the identity of its graduates. This observation underlines a valuable two-fold opportunity for RMIT. In using the graduate attributes to add depth to its unique brand, RMIT can offer students a distinctive experience and in so doing support the government’s agenda for university specialisation and differentiation.

At RMIT, the graduate attributes are an over-arching, whole-of-university initiative, incorporating both higher education and VET sectors. They complement and align with the graduate capabilities/competencies, the basis on which the curriculum is developed. Capabilities, adopted in higher education, are skills, knowledge and attributes relevant to a particular discipline or course of study. They are identified by program teams during the program development and renewal process, often with reference to requirements for professional accreditation and are integrated into a program through alignment of learning outcomes, learning activities and assessment. Programs in TAFE are based on competencies identified by industry and contained in training packages or accredited curricula. In the 1990s, key competencies were adopted in the VET sector and according to the Mayer Report (1992), are basic transferable skills considered essential for effective participation in the workforce and social life. Key competencies have been replaced by the Department of Education, Science and Training (DEST) employability skills, (DEST 2002) which represent a set of skills focussed strongly on work readiness. They link closely to the work-ready attribute in RMIT’s graduate attributes.

With respect to RMIT’s strategic context, the graduate attributes align closely with and support the university’s academic direction, as set out in the Academic Plan, which describes actions required to realise values and visions of the Strategic Plan. In relation to learning and teaching, the Academic Plan highlights four defining objectives. These four objectives are integral to the Learning and Teaching Strategy 2007-2010. They may be seen as both underpinning and underpinned by a focus on broad student-focussed graduate attributes, as follows:

- **Work-ready graduates with a hunger for lifelong learning:**
  Two of the graduate attributes specifically address this objective which has at its centre the objective of fostering in students capabilities which will enable them to do well in the world of work (work-ready) and to be life-long learners with the skills and passion to engage with the world;
• **Student satisfaction:**
The acquisition of graduate attributes is built on a positive student experience where opportunities for students to learn by engaging with curricula, staff, peers, a range of learning methodologies, extracurricular initiatives and an enabling organisational environment define the RMIT experience. Students as *active and innovative* learners are empowered to evidence their learning and meet their own life and career aspirations;

• **The Global Passport:**
A further three graduate attributes address the objective of offering students a global passport to learning and work (*global in outlook and competence, culturally and socially aware, environmentally aware and responsible*). They address both cognitive and affective domains which will ensure graduates are able to engage in their professions internationally and contribute as global citizens in a dynamic and challenging world environment;

• **A dual sector advantage:**
A focus on graduate attributes as a whole-of-university approach highlights the importance of ensuring flexibility in access to and progression between awards and portability within and between sectors. The acquisition of generic graduate attributes is a goal of both sectors.

A further core framework for RMIT’s academic activities is found in the Academic Standards 2008 (http://www.rmit.edu.au/browse.ID=vvzcqzp60ux)

In these standards which apply to all core academic activities, acquisition of the graduate attributes is identified as an outcome of processes which prioritise student engagement and ensure continuous improvement of student experience in the broadest sense that is, socially engaging and culturally enriching as well as vocationally rewarding.

**Background/Context**

It is now well established that employers, governments and university leaders believe that when graduates leave university, they should possess attributes which prepare them for employment and life-long learning (de la Harpe & Radloff, 2008). At least three main factors appear to have influenced the development of graduate attributes both in Australia and internationally. They include an increased focus on the value of learning as a life-long process rather than simply the process of acquiring a credential, increased emphasis on education linked to vocational outcomes and the development of the quality movement (Precision Consultancy, 2007). Since 1998, Australian universities have been required to specify generic graduate attributes as part of funding and reporting arrangements with the Department of Education, Science and Training. In the early stages, graduate attributes were viewed as largely rhetorical statements which reflected an institution’s aspirational goals and values. Australian universities, however, have now moved into another developmental stage. They are currently working towards embedding graduate attributes into curricula and broader university life and are developing ways to engender as well as to measure them. Evidence of the importance of such processes is provided in the *Framework for Standards, Evidence and Outcomes* adopted by the Australian Universities Quality Agency (AUQA). This framework explicitly refers to the integration of graduate attributes in assessment tasks, mapping and embedding graduate attributes into courses, and measurement of graduate attributes through the Course Experience Questionnaire.

Predating the development of the recent graduate attributes at RMIT, seven generic qualities which were to characterise RMIT graduates were identified in the early 1990s. Described as graduate attributes, they reflected an aspirational goal that RMIT graduates would acquire these qualities through their program of study. However, there was no systematic process for embedding or assessing these attributes and implementation was variable.
By the mid 1990s, a set of teaching and learning principles described what RMIT valued in terms of the learning experiences students should be offered. These principles were incorporated in the RMIT Teaching and Learning Strategies in the mid to late 1990s.

From the mid 1990s, a series of initiatives to establish graduate capabilities at RMIT was led by Professor John Bowden. He initially headed an ATN team which completed a Commonwealth-funded project that pioneered work on graduate capabilities. He made recommendations for the adoption of graduate capabilities at RMIT and after discussion across the university, it was decided to focus on a program-based capability agenda. The capability approach allowed all programs to identify capabilities relevant to the particular discipline or field of study and to embed them in the curriculum through learning outcomes, learning and teaching strategies and assessment. A program renewal process which emphasised industry consultation and involved existing students supported this process,

The Program Quality Assurance (PQA) Policy in its initial form (2001) stated that the educational design of programs should be such that ‘appropriate graduate capabilities are specified to prepare graduates for full and equitable social and professional participation into the future’. The PQA policy was modified in 2006. The seven PQA criteria approved in 2001 were consolidated into three, of which the first is relevant to capability/competency-based curricula. It seeks to ensure program quality through program design and management practices that develop and measure capability and competency development by means of learning outcomes, learning activities and assessment practice.

In September 2007, the Learning and Teaching Plan 2007-2010 embraced both a commitment to a capability-based curriculum that expresses learning outcomes from a discipline, industry and professional base and a set of over-arching attributes which should characterise RMIT graduates.

In the complex and evolving debate that characterises graduate attributes, it is clear that whilst issues can be addressed in part at the level of programs and curricula, institutions need to address the central question: what is the role of a university? Some tensions are evident, for instance, that between a focus on purely vocational outcomes and the values inherent in a general education, a matter addressed successfully at RMIT through the student electives policy. There is also the need to balance broad transferable skills and the specialised, discipline-level skills needed to ensure that important professional accreditation requirements are met. Similarly, a tension may develop between an instrumental or compliance-driven approach that focuses on measurement of graduate attributes and an approach that relies solely upon fostering an environment that provides opportunities for students to develop graduate attributes. In the proposal contained in this report, the working party’s recommendations are directed towards a transformational bridging approach which takes into account both perspectives. This approach affirms RMIT’s unique environment and leverages it to students’ advantage. Not all RMIT students have an ‘on campus’ learning experience and many are working full- or part-time while others begin at RMIT with recognised prior learning. Recognition of these existing student attributes is achieved through such a bridging approach. Our students have differing opportunities and a wide range of aspirations. Given the diversity of student characteristics, the report adopts a meta-level approach that capitalises on the best features of both a ‘fostering’ and an ‘evidencing’ approach. It is directed towards a whole-of–university response, designed to develop graduate attributes across a diverse student body.

Theoretical Rationale

The select literature survey which follows provides a rationale for adopting a transformational, learner-centred and whole-of-university approach to embedding and cultivating graduate attributes and highlights challenges for the implementation stage.

The framing and embedding of graduate attributes requires the factoring in of the knowledge connections between discipline expertise, critical skills such as literacy, numeracy and problem solving, the graduate’s awareness of diversity and capacity for service, and the expectations of
employers. (Bowden et al., 2000). No one sector of the university can develop all of these in the graduate. Literature on graduate attributes from a transformational perspective accepts the need to embed their development within the discipline context but suggests also cultivating them in the wider university organisation and culture (Barrie, 2007). The following section of this report briefly conceptualises ways of bridging both instrumental and transformational requirements for embedding graduate attributes.

Mezirow (1975) explored how changes in perception can be transforming, developing a theory of transformative learning based on his research into adult development. When adults begin to question their previously held views about themselves and the world around them, there is potential for deep changes in personal perspective. This transformation occurs when beliefs, attitudes and emotional reactions to situations undergo profound shifts, and the individual is empowered for action (Mezirow & Wiessner, 2001, p. 330). To produce critically reflective and fulfilled graduates, the university needs to design and provide opportunities within and beyond programs for learners to be personally challenged and empowered, using approaches such as Cranton’s ten stage model (2006).

Barrie (2007) finds that learner-centred approaches to the development of graduate attributes consistently result in ‘higher-level transformative graduate attribute outcomes’ (p. 456). This finding resonates with earlier research into the links between learner-centred approaches to teaching and high-quality learning outcomes (Prosser & Trigwell, 1999).

Further evidence for a transformational approach to graduate attributes is found in the ATN Report (Bowden et al., 2000). Firstly, it has long been considered that one of the roles of a university in society is to foster citizens who operate not only as stewards of their professions but as agents of social good in the community. Secondly, citing Bowden and Marton (1998), the report argues that tertiary institutions need to adopt generic capabilities because graduates are being prepared for a future that is largely unknown and because they are likely to gain future employment in activities beyond their disciplinary expertise. Thirdly, employers believe that disciplinary expertise is only one of multiple factors that have an impact on whether an individual will operate successfully in the workplace. These statements align well with a transformational approach.

However, Barrie, (2007, citing Bowden et al., 2000), notes that adopting graduate attributes should not be at the expense of the disciplines; that disciplinary content and generic attributes are inextricably linked and should both be made explicit. This raises the challenge of negotiating the tension between making attributes discipline specific through embedding them in curricula and cultivating opportunities for their enhancement across the wider organisation.

If universities are serious about fostering high-quality, transformative learning outcomes for graduate attributes, approaches that embrace the more complex conceptions of graduate attributes need to be adopted. One approach would be for the institution as a whole to conceive of itself as a life-long learner, ensuring that the strategies applied to staff professional development are founded on the principles of life-long learning and other applicable attributes. Johnston and Watson (2004) highlight that an ideal organisation is one ‘where individuals are encouraged to learn and develop to their full potential, and the organisation is conceived as being in a continuous process of organisational transformation to enable it to be more competitive’ (p. 55).

Clarke and Hollingsworth (2002) discuss the complexity of implementing change and argue that external information and support, teaching knowledge and beliefs, professional experimentations and outcomes all impact on the change process.
When considering change management, time, resource allocation and buy-in implications, it might seem an easier strategy to attempt to embed graduate attributes in the curriculum alone. However, the literature surveyed for this report justifies framing future action in terms of the whole-of-university and transformational approaches rather than viewing graduate attributes as an addendum to existing program capabilities and learning activities. This would empower the student and the university in meaningful and sustainable ways (Elkins, 2003).

### Proposed Approach to Embedding RMIT Graduate Attributes

The final section of the report provides a conceptual framework for embedding RMIT graduate attributes, beginning with the following proposition: the development of graduate attributes underpins the entire student experience and as such, requires a whole-of-university response. The approach is learner-centred, recognising the RMIT graduate has an active role in the learning process, but that the university, through its academic programs and supportive organisational environment, fosters the development of graduate attributes.

Within a transformational view of change, the embedding of graduate attributes requires management of the tension mentioned earlier between a compliance exercise focusing on measurement and a developmental approach that allows for local contextualisation and intersection with other components of the student experience beyond the formal curriculum. The conceptual framework underpinning the proposed approach in this report and presented diagrammatically in Figure 1 (see end of report) takes into account both perspectives, asserting that each component of university life has a critical role to play in both the attainment and evidencing of graduate attributes. It is also predicated on a commitment to a distributed model of educational leadership (Marshall, 2006), and joint enquiry across units and groups to identify and formalise opportunities for the development of graduate attributes. A description of each component of the proposed conceptual approach follows.

### RMIT Graduate

The attainment of desired attributes and capabilities happens over time and to varying degrees. The aim is that students are able to apply their skills and knowledge in both familiar and novel situations, with increasing complexity and sophistication. Students enter university with differing experiences and expectations. A declining school leaver market and expected growth in the number of students already employed, who are seeking a career change and/or needing to upskill, will mean that many students enter university with a wealth of experience and prior learning. They may already be able to demonstrate that they are active and life-long learners. Whilst they need to develop discipline-specific capabilities/competencies, they perhaps have many of the other attributes RMIT values. A key challenge presented by embedding graduate attributes, is how to create value for the student and the role they have to play in developing what Bowden et al. (2000) describe as a Profile of Student Attainment. Curriculum, teaching and assessment practices have a critical role in helping students to structure and develop a graduate profile. However, the recommended conceptual approach to embedding graduate attributes at RMIT is highly learner-focused, encouraging personal reflection and independence in the learning process. This responsibility is articulated in the RMIT Student Charter: ‘students are fully committed to their own learning, the decisions they take in relation to it and the challenges involved’. The implementation plan to follow on from this report will explore in greater detail how, in a supportive program and organisational environment, students might take up this responsibility to realise what it could mean to ‘write their own story’ and to demonstrate their attainment and evidencing of the RMIT graduate attributes.
**RMIT Programs**

Desirable attributes are most usefully formulated at both the university and program level, where program teams ‘re-interpret’ generic university attributes within the context of their discipline (Bowden et al. 2000). RMIT programs through their curricula and teaching practices, define the disciplinary and interdisciplinary knowledge and skills required of graduates by industry for successful professional practice. Deliberate and thoughtful action can be taken to embed appropriate and relevant graduate attributes across the program.

At RMIT, this means that:

- The expression of learning outcomes addresses graduate attributes in an integrated and coherent way;
- Learning situations are created that integrate the development of related graduate attributes based on real-life (WIL) examples;
- Feedback strategies are provided that inform students about their attainment of relevant graduate attributes;
- Opportunities are provided for students to reflect critically on their own attainment of graduate attributes, and to foster independence and personal responsibility in learning and improvement;
- Curriculum development is a team-based activity that provides a connected and coherent learning map for students across the program; and
- Pathways and credit arrangements are established between programs that recognise what a student already knows and can do and to promote and enable access to life-long learning.

Making explicit within the conceptual framework the role of RMIT programs in embedding graduate attributes provides a timely opportunity to align a range of curriculum initiatives in the Academic Plan, including the development of industry-relevant capability-based curricula with the inclusion of international perspectives. The implementation plan to follow this report will address the consolidation of related learning and teaching initiatives to avoid duplication of thought and effort and to respond to RMIT’s strategic priorities in ways that move beyond compliance and resist use of ‘bolt on’ strategies.

**RMIT Organisational Environment**

Adopting a ‘whole-of-university’ approach means we have to look beyond the formal curriculum to realise the development of graduate attributes. The organisational environment including its mission and values, policies and procedures, code of ethics, culture and extracurricular and support services, provide rich opportunities to articulate and foster the embedding of graduate attributes across the student life cycle. In recognising that we have a diverse student body, with different needs for modes of study and varying levels of participation and access to RMIT services and extracurricular activities, the university offers diversity in learning beyond the formal curriculum. Examples include mentoring and volunteering programs, study abroad options, alumni networks, clubs and societies, careers and other student services, with many of these opportunities providing academic credit. A distributed model of leadership, utilising current RMIT work on a multi-level leadership approach, and shared accountability in the embedding of graduate attributes, will require a thorough mapping of the full suite of services and learning opportunities available to students which could be utilised in supporting the development of generic attributes and which the implementation plan to follow this report will address.

This approach is bold in its aspiration, requiring a shared and sustained commitment to implement a transformational change initiative of this size. Approaches taken by other Australian universities to embed graduate attributes strongly advocate the need for a structured and phased implementation. The entire university community will need to consider a range of dimensions if it chooses to ‘sign up’ to the proposed approach, including work to:

- foster ‘buy in’ at all levels and in all contexts and allow for local variation in response,
• identify enablers and resources, including ‘in context’ professional development and alignment of other key curriculum initiatives, and
• establish an evaluation and dissemination framework.

RMIT University should adopt a whole-of-university approach to embedding the graduate attributes. This will enable a coherent and sustainable integration of the university’s values, organisational arrangements and strategic priorities with curriculum initiatives and graduate outcomes. The learner-centred questions which will drive the next stage of implementation are: how can the graduates who emerge from RMIT University better reflect its values and goals? In seeking this goal, how can RMIT University empower its students to achieve successful and fulfilling lives beyond graduation?

Recommendations:

That the Academic Board

1. Receive the report of the Working Party on Embedding Graduate Attributes at RMIT;
2. Approve in principle the adoption of a whole-of-university approach to embedding the graduate attributes at RMIT;
3. Approve the establishment of a task force with membership reflective of the university community, to guide implementation;
4. Request development by the task force by July 1 2009 of a detailed implementation plan, addressing the following dimensions:

   a) timeframe, identifying implementation phases;
   b) consultation strategy, involving students, staff, industry representatives and other stakeholders;
   c) communications plan;
   d) strategies for embedding the graduate attributes within RMIT programs and fostering them beyond the formal curriculum;
   e) identification, development and testing of resources and professional development initiatives to support implementation, including key performance indicators;
   f) review and evaluation plan.

References


RMIT Academic Standards, 2008-10-31 http://www.rmit.edu.au/browse;ID=vzwcrqzp60ux

Appendix 1

Terms of Reference of Working Party on Embedding Graduate Attributes

1. Consider policy and procedural issues relating to graduate attributes and their implementation, including relevant matters relating to graduate capabilities;

2. Initiate any necessary background research related to graduate attributes and graduate capabilities;

3. Develop a strategy for embedding generic graduate attributes in programs;

4. Make recommendations for action to Academic Board.
Membership of Working Party

Margaret Blackburn (chair), Learning and Teaching Unit
Dr Andrea Chester, representative of College of Science Engineering and Technology
Angela Clarke, representative of College of Design and Social Context
Deirdre Gillespie, nominee of Director, University Library
Dr Annette Gough, College of Design and Social Context, nominee of Academic Board
Assoc. Prof. Barbara de la Harpe, Dean Academic Development, College of Design and Social Context
Friederika Kaider, representative of College of Business
Mark Mossuto, nominee of Director TAFE, College of Business
Dr Paul Myers, representative of College of Business
Lisa Thompson-Gordon, College of Design and Social Context/ Learning and Teaching Unit, nominee of Academic Board
Stuart Whitman, representative of College of Science Engineering and Technology

Assisted by Rosemary Casamento, Educational Media Group

The Working Party acknowledges the valuable assistance and feedback of the following persons: Dr Garry Allan, Jenny Beckman-Wong, Meaghan Botterill, Sally Brooks, Sara Eagle, Professor Joyce Kirk, John Milton, Peter Muir, Associate Professor Kate Patrick, Christine Robertson, Professor Mark Shortis, TAFE Executive, Fiona Wahr.

Appendix 2

Table showing Graduate Attributes mapped against RMIT Values

<table>
<thead>
<tr>
<th>RMIT Values</th>
<th>RMIT Graduate Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected</td>
<td>Global in outlook and competence</td>
</tr>
<tr>
<td></td>
<td>Lifelong learner</td>
</tr>
<tr>
<td>Fair</td>
<td>Culturally and socially aware</td>
</tr>
<tr>
<td></td>
<td>Environmentally aware and responsible</td>
</tr>
<tr>
<td>Useful</td>
<td>Work ready</td>
</tr>
<tr>
<td></td>
<td>Lifelong learner</td>
</tr>
<tr>
<td>Passionate</td>
<td>Culturally and socially aware</td>
</tr>
<tr>
<td></td>
<td>Environmentally aware and responsible</td>
</tr>
<tr>
<td></td>
<td>Active and innovative learner</td>
</tr>
<tr>
<td>Creative</td>
<td>Active and innovative learner</td>
</tr>
</tbody>
</table>