1. The Brief
2. Definition of Attributes
3. Proposed Statement of Graduate Generic Attributes and Diagram
4. Executive Summary
5. Discussion Paper: Graduate Generic Attributes

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## Contents

1. The Brief ................................................. 3

2. A working definition of attributes .................. 4

3. Possible statement of graduate generic attributes and diagram .... 5

4. Executive summary .........................................
   4.1: Specifics of the Brief .......................... 7
   4.2: Response to the Brief ......................... 7
   4.3: Positioning the study and discussion paper 8
   4.4: Requirements .................................. 9
   4.5: A possible statement of generic graduate attributes .... 9
   4.6: Tracking ......................................... 14
   4.7: Rollout ........................................... 14
   4.8: Summary conclusion ............................ 16

5. Discussion Paper: scoping study- Graduate Generic Attributes Project 18
   5.1: Introduction ..................................... 18
   5.2: Project aims, scoping study tasks and anticipated outcomes 19
   5.3: Requirements - developing a common approach to graduate attributes .... 20
   5.4: Towards a possible statement of graduate generic attributes – methodology, context, rationale and process 20
   5.5: Tracking - instruments for tracking, evaluation and feedback 31
   5.6: Rollout - implementation ....................... 35
   5.7: Conclusion ....................................... 42

6. Appendices .....................................................
   Appendix 1: Prototype statement of attributes ........ 44
   Appendix 2: Glossary of terms ....................... 45
   Appendix 3: Matrices and templates .................. 46
   Appendix 4: Keywords .................................. 51
   Appendix 5: Scoping study participants and resources .... 52
   Appendix 6: Graduate attributes background paper and bibliography .... 54
1

The Brief

1. To undertake a scoping study to identify the requirements to enable the establishment of a common set of graduate attributes/capabilities that Flinders University students can reasonably be expected to have attained by graduation (the Project).
2. Identify possible graduate attributes/capabilities.
3. Identify the full cost of the project including input from the Library with respect to its proposed project entitled Aligning Student Library Assignment with Generic Skills (VCC Doc 08/02/07).
4. To provide initial support to the Steering Committee which has been established to oversee the above Project.
5. To undertake any related activity consistent with the brief that is required by the Project sponsor.

The Brief was extended to include:

6. Initial investigation of approaches to an on-line university-wide tracking instrument to allow students to record and report their acquisition of attributes.
Attributes are generically defined as follows:
‘qualities ascribed’; ‘objects recognised as appropriate’; ‘characteristic qualities’.
(Macquarie Dictionary, p.106)

A more specific definition reads:
These are the qualities, skills and understandings that 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. (Bowen et al, 2000 cited in Barrie, La Trobe, 2007)

These definitions will guide the scoping study.
A Possible Statement of Graduate Generic Attributes and Diagram

At Flinders University students engage with and are recognised for:

- knowledge acquisition, appreciation and application
- critical, analytical, creative and complex thinking
- advanced literacy, numeracy and information management
- clear and informed communication.

They are encouraged to pursue and demonstrate:

- intellectual and professional integrity in teamwork and leadership
- social and cultural responsibility and
- ethical and equitable practice.

This combination of attributes and capabilities inspires and sustains graduates in their local and global communities, workplaces, professions and personal and civic lives.

Keywords in bold in the attributes section of the following diagram indicate possible links to other academic and policy sites as part of a larger narrative. This prototype statement relies on language used by participants in background discussions to the Project. (See: Generic Attributes Project Background Paper)
Executive Summary

Flinders University seeks to inspire achievement in its undergraduates and postgraduates by contributing to their understanding of the personal and public relevance of a university education. This undertaking can be expressed through graduate generic attributes which connect with other more specific attributes, dispositions, capabilities and skills that flow from particular courses and their specialist or disciplinary orientations as well as expressions of attributes in use in other sectors.

The scoping study takes into account the University’s Strategic Priorities and Future Directions 2006-2010, Mark III goals of ‘leadership’, ‘relevance’ and ‘student-focussed approaches to education’ (p.25). It responds to the AUQA Report (AUQA, 2006) and its recommendation on Graduate Attributes (p.30). The executive summary and discussion paper address what can ‘reasonably be expected’ of a graduate generic attributes undertaking at Flinders University and what can ‘reasonably be expected’ of graduates as approaches to attributes develop and change.

4.1: Specifics of the Brief
This study addresses the following specifics of the Brief:
• requirements to enable the establishment of a common set of graduate attributes;
• identification of possible graduate attributes/capabilities;
• investigation of approaches to introducing a university on-line tracking instrument.

It extends those specifics to propose a:
• rollout timetable for the Project.

4.2: Response to the Brief
To meet the requirements of the Brief this study will arrange its response under four headings.

Requirements
1. Gather a range of views within and beyond the university and from relevant research literature on ways of understanding, identifying and employing graduate attributes.

2. Offer ways of thinking about and defining attributes, based on ‘reasonable expectation’, consistent with:
   • views expressed by a cross-section of Flinders staff and students;
   • views of the Vice Chancellor’s Committee
   • views of the Graduate Attributes Steering Committee;
   • current research;
   • views held beyond the university;
   • other Flinders University policies.

Statement of graduate generic attributes
1. Propose a methodology for identifying possible graduate attributes and construct a possible statement of graduate generic attributes, derived from thinking, research
and language used by Flinders University staff and others as the basis for further refinement and improvement.

**Tracking**
1. Consider approaches to tracking graduate generic attributes and the instruments required.
2. Recognize the interests of the University, students, graduates and other stakeholders, based on approaches to tracking already being taken at Flinders University.
3. Investigate/devise other tracking instruments.

**Rollout**
1. Outline a methodology for a rollout of the Graduate Attributes Project.
2. Consider the role to be played by the Library in the process.
3. Make some preliminary, comparative assessment of the cost of the Project.
4. Offer a staged and layered approach to the rollout of the Graduate Attributes Project.

4.3. **Positioning the study and the discussion paper**
The scoping study seeks to reconcile a range of interests and differing approaches to attributes within and beyond the University. It accepts two givens:
- that a definitive set of attributes will be identified; and
- that a rollout of the Graduate Attributes Project will occur.

It proposes, through its discussion paper, that graduate generic attributes are:
- mutually constituted by the University, staff, students, graduates and communities (broadly defined);
- expressed in a number of ways according to interest, function and context; and
- expressed as both qualities and outcomes.

It also proposes that there should be a connection between:
- University mission and the attributes identified for and by graduates;
- language of mission and graduate attributes;
- attributes and the domains of personal, public, work and educational life.

This approach positions the Project as part of an ongoing process subject to review and revision. It anticipates:
- measurable results within one year of commencement; and
- optimal results in three years, or one undergraduate generation.

A major emphasis of the study in its final stages has been the consideration and initial shaping of a possible common set of attributes. A consultative process, detailed in the discussion paper, has so far produced an indicative rather than definitive version of Flinders attributes (p.5) – and alternative, succinct expressions discussed elsewhere in this paper and a more substantial Generic Attributes Project Background Paper. Drafting has been guided by the view that the Project will be better understood and received by different parts of the university community if they recognise as their own, aspects of the language used in the statement and see ways of adapting the generic whole to their particular needs. It recognises - but does not pursue in depth - non-assessment and systemic assessment approaches to curriculum and therefore to attributes as they relate to curriculum generation and delivery.
4.4: Requirements

4.4.i. Conceptual requirements for a possible set of graduate attributes
In keeping with strategic goals and priorities, a Flinders University approach to attributes should make a significant contribution to teaching and learning in and beyond the university. This cannot be achieved by reliance on a stand-alone statement or a list of characteristics – important as each may be. It should be seen and represented as a process in context and in historical time. The best examples from elsewhere follow this principle. The approach below offers four interconnected ways of identifying and expressing attributes in relation to the University’s current mission and what have been called domains (for the purpose of this exercise). Mission and domains align with the portfolios and administrative divisions of the University: education, work, personal and social life and community/global interaction. Each domain influences the positioning, priority and recognition of generic attributes. Thus mission, domains, and graduate attributes exhibit connective strands of vertical and horizontal integration under one statement of process, intention and aspiration: Inspiring Achievement. This is also recognised in a diagram (p.6).

4.4.ii. Physical and organisational requirements for implementation of a Graduate Attributes Project
These are outlined in 4.7: Rollout (below).

4.5: A Possible Statement of Graduate Generic Attributes

4.5.i. Methodology for identifying a common set of graduate attributes
The methodology employed in identifying a common set of graduate attributes is straightforward: discuss with staff and students; summarise discussion; survey literature and research; discuss with outside interests; look at other examples; prepare prototype possible statement based on reasonable expectation in context; consult on prototype; redraft; connect proposed prototype statement to the broader policy environment of the university; use the language of existing policies where appropriate to confirm policy continuity; contextualise possible statement.

4.5.ii. Methodology for constructing a possible statement of graduate attributes
The methodology employed in constructing a possible statement of graduate generic attributes follows from the larger task:
- synthesize views of staff and students;
- construct a list of keywords;
- position keywords in relation to contextualising introductory and concluding statements;
- accept that the possible statement is generic and foundational, not all-encompassing;
- define the terminology of the statement and clarify the contexts in which the statement is to be read and understood;
- keep the list of attributes brief and the options for interpretation wide;
- represent the statement in a diagram;
- recognise that the statement will appear in variant forms according to particular and specific needs;
• link the statement and diagram to examples of attributes in context and research on attributes approaches at Flinders;
• present the statement according to corporate style;
• position the final statement in relation to other statements in use elsewhere.
The prototype statement based on these criteria can be found at Appendix 1 (p. 43).

4.5.iii. Shaping a possible statement of graduate generic attributes and expressions of attributes

Participants in the study have suggested that more than one way of expressing generic attributes may be necessary to meet the different needs of users. This is an indication of what is likely to happen ‘on the ground’. The study therefore offers a prototype, as well as variations that shift the size and scope or focus of the prototype. Style is important as well as methodology, structure and content. The principal statement should therefore be adaptable, academically sound and accessible as well as marketable.

Discussion and background research suggest three complementary and connected ‘kinds’ of attributes statements. They are described here, respectively, as: **reciprocal**, **confirmative** and **affirmative**. A complete response to an attributes ‘package’ needs to incorporate them all, so that:
- **reciprocity** recognises University and graduate interests;
- **confirmation** endorses undergraduate educational processes and graduate achievements;
- **affirmation** captures the aspirational aspects of graduate outcomes.

The versions below model each of these closely related approaches. Together they employ an extended and associated vocabulary of terms - capabilities, characteristics, competencies, capacities, skills – recognised by different sectors, interest groups, professions and disciplines as connected to attributes. This modelling is designed to suggest points of identification for all interested parties. It attempts to bring together ‘qualities’, ‘skills’ and ‘understandings’ (as defined in Appendix 2, p.45) - in a cycle of interactions – to meet the reciprocal interests of the University, its staff, students, graduates, interconnecting communities and networks.

The first version offered here is a necessary, reflexive response to attributes that balances University and student interests and agencies. This *reciprocal* expression of a possible statement based on the methodologies identified above, in keeping with the prototype and in response to initial feedback from VCC and the Attributes Steering Committee, reads as follows:

*At Flinders University students engage with and are recognised for:*
- knowledge acquisition, appreciation and application
- critical, analytical, creative and complex thinking
- advanced literacy, numeracy and information management
- clear and informed communication.

*They are encouraged to pursue and demonstrate:*
- intellectual and professional integrity in teamwork and leadership
• social and cultural responsibility and
• ethical and equitable practice.

This combination of attributes and capabilities inspires and sustains graduates in their local and global communities, workplaces, professions and personal and civic lives.

This version brings together capabilities and qualities in context and - in a process of reciprocation – defines them as generic attributes. The University says that graduates should reasonably expect to be recognised in education, community and civic life and at work through: knowledge capacities; thinking capabilities; advanced literacy and numeracy skills; information awareness; communication and teamwork abilities; professional competencies; leadership characteristics; and responsible, ethical practices. Students and graduates expect to be recognised in this way and in turn recognise the broad significance of this set of attributes.

The confirmative relationship between engagement, response, encouragement, pursuit and demonstration lends itself to a more aspirational expression that gives particular meaning and recognition to the enabling aspects of the process of attribution. This version can be represented as follows:

Flinders University graduates are recognised for their advanced abilities to:
• acquire, appreciate and apply knowledge
• think analytically, critically and creatively
• manage information
• communicate clearly

They recognise and demonstrate:
• intellectual and professional integrity in teamwork and leadership
• social and cultural responsibility
• ethical and equitable practice.

This combination of attributes and capabilities inspires and sustains them in their local and global communities, workplaces, professions and personal and civic lives.

It might also be shaped in a more prosaic way:

Flinders University graduates are recognised for a range of qualities, skills, understanding and capacities. They are knowledgeable, thoughtful, highly literate and numerate, informed and communicative in their intellectual, work, social and personal lives and in their community and global awareness. They are able to demonstrate integrity in teamwork and leadership, social and cultural responsibility and engagement in ethical, equitable practice.

The particular qualities identified in the reciprocal version have attached themselves, in confirmative expression, to what might be called (in this context) ‘appropriate objects’ – knowledge, literacy, communication and so on – to allow them to be understood as attributes. Whereas the reciprocal expression accentuates and identifies capabilities and qualities, this one accentuates the skills and capacities to engage, respond, recognise,
pursue and demonstrate. These are indicators of ‘readiness’ recognised, for example, in the labour market.

A third, **affirmative** expression assumes that graduates who understand and exhibit certain approaches to attributes are likely to be recognised and endorsed within and between domains, thus:

*Flinders University graduates exhibit advanced:*

- knowledge capacities;
- thinking capabilities;
- information awareness;
- literacy and numeracy skills;
- communication and teamwork abilities;
- professional, discipline, social and civic competencies;
- leadership characteristics; and
- responsible, ethical practices.

The university and graduates alike should be able to claim that reciprocity, confirmation and affirmation facilitate their dealings in a range of personal, educational, social, cultural and professional domains and contexts. A ‘cycle’ of attributed and acknowledged relationships in each version underpins a complex and responsive socio-cultural approach to attributes and evidence-based outcomes.

### 4.5.iv. Attributes in the Flinders context: finding a language

These versions of a possible statement of graduate generic attributes can, when necessary, be expanded to allow for the following kinds of interpretations and definitions drawn from or based on discussion with Project participants. Different users may respond differently to each of the proposed attributes and their expressions whilst recognising their common or generic value.

**Knowledge acquisition, appreciation and application**: the first priority of university education is access to and familiarity with specialised bodies of knowledge. Flinders University graduates can reasonably be expected to have the abilities and skills to: acquire high order knowledge in their disciplines and discipline-related areas; appreciate the value and significance of this knowledge; and adapt and apply this knowledge to new circumstance, environments, problems, challenges and contexts as they arise.

**Critical, analytical, creative and complex thinking**: Flinders University graduates are called upon to use and combine different kinds of thinking in different contexts. These are not mutually exclusive and all are required to address the complexities of contemporary personal, academic, work and public life. They contribute to innovative and disciplined practice and respond to local as well as global cultural differences.

**Advanced literacy, numeracy and information management**: these capabilities and skills are necessities for the achievement of a reasonable level of graduate independence and success. Achievement and facility translate capabilities into attributes. The emphasis falls on ‘advanced’, ‘higher order’ or ‘adult learning’ skills, capacities and capabilities where
complex comprehension, calculation and independent judgement are required. Information management has necessary corollaries in time management and workload management as well as technological competence.

**Clear and informed communication:** Flinders University graduates should reasonably expect - and be expected - to communicate their knowledge, thinking capacities and information management skills clearly and according to the demands of their work, in community and civic life and in their personal lives. This means talking, writing and performing with the confidence and authority implied and endorsed by graduate status.

**Intellectual and professional integrity in teamwork and leadership:** graduate attributes generate and sustain social and cultural capital. This currency rests squarely on the integrity of communicated knowledge and intellectual prowess. It underpins professional behaviour, facilitates teamwork and sanctions and tests leadership.

**Social and cultural responsibility:** in a multicultural society, in a nation with an Indigenous population, within a global economy with a mobile workforce, in times of mass movement of peoples, Flinders University graduates need to recognise and respond appropriately to the differences in cultural and social expression of attributes and expectations they will inevitably encounter. Experience of university should alert them to the complex interplay of rights and responsibilities.

**Ethical and equitable practice:** civil society requires ethical behaviour. Discipline and professional codes of responsible academic practice require Flinders University graduates to think and deal fairly with intellectual property and to follow endorsed protocols of use, citation and disclosure. This training flows into engagement with civil and social life and their governing policies and standards.

Each of these readings draws attention to other University policies and procedures and should be linked to them via an Attributes site. The approaches taken in framing versions of a possible statement of graduate generic attributes are based on principles of:

- reasonable expectation;
- adaptability and flexibility;
- narrative continuity.

They do not promise more than can reasonably be delivered. They accommodate existing practices. They tell a consistent story using a consistent vocabulary – from masthead statement to tracking rationale.

Generic graduate attributes are linked to more specific professional and disciplinary attributes and skills as outlined in the discussion paper. An Attributes/Skills template and explanation at Appendix 3 (p. 45) indicates the relationship between generic and specific attributes, skills and instruments/exercises. The prototype allows for both general and specific use of terminology and approach.
4.6: Tracking
4.6.i. Instruments for recording attributes and for student feedback and evaluation
The University wishes to verify its success in embedding attributes by tracking responses to them. This involves two different but related activities:
- automatic University tracking of student attributes;
- student response to and recognition of the value of attributes to them and to the University.
Several tracking/recording instruments are therefore proposed to meet the requirements of these processes.
Automatic tracking involves introducing an:
- on-line matrix to identify and locate attributes in topic and course materials;
- on-line matrix to ensure/assure student involvement and to post-student engagement with attributes on FLO.
Student responses will require:
- access to their record of attributes via FLO.
Tracking may also require introducing a(n):
- parallel on-line matrix to register responses to attributes;
- e-portfolio or other accessible site to provide students with the opportunity to reflect on courses, using the language of attributes.
This combination of instruments is intended to offer quality assurance and involve staff and students in a larger educational discourse.

4.7: Rollout
4.7.i. Graduate Generic Attributes Project methodology: a three-stage/multi-layer approach
Best outcomes will be achieved if the Project is rolled out in stages and layers to deliver immediate as well as long-term results. The likely stages and layers are:
1. Scoping/ information gathering, goal setting and identification of attributes: the discussion paper stage.
2. Planning, preparation and implementation:
   i.) working with each cost centre to incorporate a consistent university-wide approach to generic attributes, commensurate with existing structures and operations, into all layers of teaching and learning procedures and practices;
   ii.) working with students and staff to incorporate a consistent university-wide approach to generic attributes into all layers of service delivery and response, building on the existing framework of educational aims and learning outcomes; and
   iii.) devising and adopting university-wide on-line tracking instrument(s) for University, staff and student use.
3. Monitoring and evaluation: ensuring the incorporation of attributes into courses across the University and assessing the effectiveness of this approach to teaching and learning at Flinders; assessing the effectiveness of the tracking instrument(s).
4.7.ii. Broad social and cultural implications
Any university-wide response to attributes must be culturally sensitive and aware at all stages and at all layers of the Project. Acceptable expression of personal, professional and social attributes is culture- as well as time- and context-specific and prescriptive approaches may affect the ways in which students take advantage of self-evaluation instruments and respond to questionnaires after graduation.

4.7.iii. Implications for University, staff, cost centres, students and external stakeholders
The rollout of the Graduate Generic Attributes Project, as conceived in this discussion paper, will have implications for the whole university community. The University will:
• identify generic graduate attributes;
• automatically track generic graduate attributes.
Staff will:
• translate current practice into the language of attributes;
• use that language in generic and specific teaching and learning practices;
• assist tracking by identifying attributes.
Cost centres and administrative staff will:
• support and sustain the translation of attributes language and inclusion of attributes;
• monitor tracking instruments;
• gather and analyse data.
Students will:
• learn the language of attributes;
• apply that language to their perception of courses and university;
• access and use instruments of evaluation;
• use the language and tracking information in pursuit of employment.
External stakeholders (members of other education sectors, alumni, community members and employers) will:
• become familiar with the Flinders attributes approach;
• provide feedback to the University on the effectiveness of its approach to graduate attributes and the usefulness of tracking instrument(s).

4.7.iv. The Library and Graduate Generic Attributes
The Library already demonstrates familiarity with the relationship between attributes, skills, competencies, evidence-based practice and systematic review. This is a sound foundation for co-development of instrument(s) of analysis and reflection required for the successful implementation of a graduate attributes approach to teaching and learning. It should connect with and build on the generic skills exercise (Hay) in use in the Faculty of Social Sciences and elsewhere as well as other exercises related to attributes, such as academic integrity and library skills exercises. There is potential, via this Project, for the Library to become an even more successful service provider and delivery point for IT skills/attributes exercises.
4.7.v. Costs of the Project

The cost of the Project will depend on levels of support and depth of engagement involving:

- strategically located senior academic leadership;
- specialist/dedicated project coordination and project management;
- specialist unit expertise;
- faculty-specific initiative and investment;
- development of a university-wide tracking instrument(s);
- hub-centred skills/attributes exercise delivery;
- adequate cost centre administrative/management support.

4.7.vi. Rollout and timelines – planning implementation and review

In addition to the three-stage, layered approach outlined above (4.7.i.) the rollout should be undertaken in eight steps between end 2007 and the end of 2010. These steps will involve:

- identifying a common set of attributes and a language for their expression in different contexts;
- devising and refining tracking, monitoring and feedback instruments;
- identifying/involving staff who are interested to contribute research to the process;
- setting goals for faculties and cost centres consistent with their relative states of readiness to engage with the Project;
- establishing clear funding and resourcing and monitoring guidelines;
- identifying key points in courses for highlighting and evaluating attributes;
- refining/reviewing the process; and
- incorporating feedback from all stakeholders.

4.8: Summary conclusion

Successful, staged implementation of the Graduate Generic Attributes Project will necessitate comprehensive responses to all four parts identified in 4.2 (above):

**Requirements**

- broad understanding of and agreement on the process, rationale and benefit of an attributes-based approach to teaching and learning;
- flexible and serviceable definition of attributes and recognition of their various functions, values and expressions;
- recognition of and continuing response to innovative attributes-related practice at Flinders, in the university sector and in other sectors in Australia and overseas.

**Statement of graduate generic attributes**

- sound methodology, serviceable statement of graduate generic attributes and a clear vocabulary of attributes based on and linked to examples of good practice derived from experience at Flinders University and elsewhere.

**Tracking**

- on-line tracking instruments for the University, staff and students to record and monitor the acquisition/development of attributes;
• progressive introduction of new tracking and evaluative instruments, consistent with the staging and layering of the rollout;
• adaptation of existing instruments of student evaluation of teaching and tracking to accommodate the introduction of graduate generic attributes.

Rollout
• recognition of and response to the range of educational, professional, social and cultural impacts and benefits involved in the Project;
• staged, layered and stepped rollout of the Project based on sound research, pedagogical and administrative methodologies;
• university-wide coordinated and consistent approach to rollout;
• student-centred, culturally aware approaches to conceptualisation and rollout;
• acknowledgement of the importance of an IT hub such as the Library in the development and delivery of the Project (and allied skills projects) and successful management of student feedback;
• monitoring and review of the Project;
• sustained facilitation and development of staff, student and cost centre involvement in the Project;
• sound, integrated and creative Project management.
5
Discussion Paper
Scoping Study: Graduate Generic Attributes Project

5.1. Introduction
This discussion paper brings together the mutual interests of the University and students in its assessment of graduate attributes and their benefit to contemporary education. It considers what can ‘reasonably be expected’ of a Graduate Generic Attributes Project at Flinders University. The University aims to identify and promote the effects and reception of its teaching and learning policies and practices through articulation and tracking of graduate attributes. Students and graduates seek to understand those policies and practices and apply their effects and benefits – expressed as desirable personal, social and professional attributes - to life and work opportunities.

The paper steers a course through incremental, aspirational and transformational approaches to graduate attributes, to outline a flexible, staged and layered process of recognition, implementation and tracking. The Project rollout will commence in 2008. Incremental benefits should be discernible by the end of that year and optimal outcomes achieved with the graduation of the 2008 intake cohort of students in 2010. If the whole Project is to be effective and among the best of its kind, it will need sustained, methodologically consistent, well-researched input at all levels.

The Project, as defined, is the implementation of an approach to graduate attributes. This discussion paper addresses that large objective but also recognises a ‘project within’: the identification of a possible set of common graduate attributes. The smaller project has claimed much of the time and attention of the study to date. The paper therefore offers versions of (and perspectives on) a possible, serviceable expression of attributes – dependent on the relationship between clearly articulated context, definition and use of terminology and consistent with a range of methodological and pedagogical considerations canvassed with and understood by staff and students.

The possible statement of attributes that introduces this document (p. 5) keeps faith with the consultative process of the study. It derives from prototype statements to be found in Appendix 1 (p. 43). The drafting process has been guided by the view that the Project will be better understood and received by different parts of the university community if they recognise the language of the statement as their own and see ways of adapting the generic whole to their respective needs. The underlying assumption is that Flinders University should have a readily identifiable approach to the expression(s) of attributes. It should therefore have confidence in the thinking behind that approach and the capacity to articulate, support and promote that thinking – whatever the form of the principal statement of graduate attributes – at local and specific levels.
5.2: Project aims, scoping study tasks and anticipated outcomes

5.2.i. Project aims
The Project aims to investigate ways of:
- developing graduate outcomes [expressed as attributes] using the University’s mission as a framework;
- developing an attributes methodology and terminology that will be used across the university;
- embedding the attributes process in all layers of teaching and learning policy and practice;
- tracking individual student goals and attributes.

The AUQA Report (AUQA, 2006) acknowledges by way of formal Affirmation: Flinders’ planned development of a cohesive approach to identifying and implementing generic graduate outcomes (attributes) that will assist in preparing graduates for employment and define the characteristics of a Flinders graduate in the labour market (p. 30).

Flinders has yet to formalise its response to the AUQA Report. In commissioning the Graduate Generic Attributes Project, it has nonetheless signalled that it intends to make advances in this matter. The paper recognises the employment and labour market focus of the Affirmation. It also acknowledges the importance of attributes to other domains in which students and graduates operate and the relationships between domains. This is consistent with the University’s mission statement, policies and practices.

5.2.ii. Scoping study tasks
Four headings will help to structure the discussion:

Requirements
- suggesting ways of developing a cohesive methodology and approach to identifying attributes.

Statement of graduate generic attributes
- suggesting a methodology for identifying and employing a statement of attributes;
- identifying possible attributes.

Tracking
- suggesting ways of identifying and tracking the attributes of Flinders graduates whilst recognising different cultural, disciplinary and professional expectations at work in the university and the range of expectations of graduates in society and the labour marketplace.

Rollout
- suggesting timeframes and methodologies for rolling out a university-wide approach to attributes.

These tasks take into particular account the University’s Strategic Priorities and Future Directions 2006-2010, Mark III goals of ‘leadership’, ‘relevance’ and ‘student-focussed approaches to education’ (p. 25). They also respond to the broader context of education policy implementation expressed as: student demand; student progress; student satisfaction; and graduate outcomes. The underlying assumption is of a beneficial ‘cyclic’
relationship between student progress, graduate outcomes, the value of a university education and an ability to identify and articulate the contribution made by the University to all three. The identification of attributes represents that articulation.

5.2.iii. Anticipated outcomes and benefits of the Project
The broad outcomes and benefits of the Project are expected to include:

• improved quality of teaching and learning through sound pedagogical approaches to attributes;
• enhanced graduate endorsement of a Flinders University approach to education;
• improved life-skilling and employment opportunities of graduates through the recognition of attributes;
• confirmed and enhanced respect for Flinders graduates as a result of such recognition.

5.3: Requirements - developing a common approach to graduate attributes
5.3.i. Graduate generic attributes Project and strategic priorities
The Graduate Generic Attributes Project and its scoping study respond to the University’s Strategic Priorities and Future Directions 2006-2010 Mark III in their contribution to the provision of quality programs of relevance to all stakeholders, through:

• ensuring that teaching programs are enriched by a strong research base;
• valuing diversity in the delivery and content of its academic programs;
• adopting a sound but flexible policy framework which establishes minimum standards and shared understandings of requirements to guide its academic operations;
• engaging all staff in discussions about teaching and learning quality issues; and
• developing, valuing, and rewarding outstanding performance by staff and students.

The approach to attributes detailed below responds to these priorities through its emphasis on research, the diversity of intellectual and social responses to attributes, understanding the foundations and provenance of attributes-influenced approaches to teaching and learning, involvement of academic and administrative staff and students in the process and the relationship between attributes and other stated policy outcomes.

5.3.ii. Building on what is already there
Defining and identifying the ‘outcomes and benefits’ of teaching and learning is not new to the University. It is a fundamental teaching and learning principle, policy imperative and academic practice. The attributes approach is intended to build on existing ways and means of understanding and recording the effects of a university education at Flinders on students and graduates. It is intended to be an enabling, edifying, resource gathering and unifying process for the University, students and staff. The objectives are to encourage staff, students and the University to:

• recognise and embed attributes in course and topic design;
• recognise the benefits of tracking attributes;
• review, at strategic points, student responses to the courses they undertake;
• enable students to make a considered estimation of the quality of university education after graduation;
• recognise the individual and social attributes that have been enhanced by involvement of students in specific courses and through broad university education;
• use student recognition of attributes to advantage in employment and other fields;
• respond to undergraduate/graduate performance and achievement in context.

This approach involves a different positioning of Flinders students and the University from that achieved by any of the current evaluations: eg. SET, CEQ, Academic Integrity or Student Satisfaction Surveys.

5.3.iii. A realistic assessment: first priority, common outcomes
The Project assumes that staff, students and graduates will understand the needs and benefits of being able to identify generic attributes associated with completing courses at Flinders and will see the value in a process and in instruments that allow them to record acquisition of these attributes. The Project must therefore seek to test and confirm these assumptions as a matter of priority. Discussion with Project participants indicates that approaches to attributes may differ from site to site in the university and from time to time, according to changes in context and academic culture. However, common outcomes can be achieved using:
• consistent and coordinated expressions of Project objectives throughout courses and the university;
• reliable instruments enabling the University to record and students to recognise and respond to the acquisition of graduate attributes (as defined by this Project) throughout courses;
• reliable instruments of assessment/evaluation and student feedback, employed throughout the university, that allow students to report on/consider their educational experience including the acquisition of graduate attributes;
• through monitoring and reviewing processes.

5.3.iv. Terminology and a possible Statement of Graduate Generic Attributes
The term ‘generic attributes’ is used throughout this paper rather than ‘capabilities’: both terms are widely used by universities. A Flinders Glossary of terms in Appendix 2 (p. 45) to this discussion paper defines and positions attributes in relation to capabilities and allied terms.

5.4: Towards a possible Statement of Generic Graduate Attributes – methodology and context, definition, rationale and process
5.4.i. Methodology
The methodology of the approach taken to identifying a possible set of generic graduate attributes is as follows:
1. Discuss approaches to attributes with university staff, students and other interested stakeholders and summarise responses.
2. Define attributes and prepare a list of possible attributes identified by stakeholders, based on existing practices, for inclusion in a Statement of Graduate Generic Attributes.
3. Position the Project and the process in relation to existing policies and practices.
4. Survey and engage with literature on attributes.
5. Survey and engage with other universities’ approaches to attributes - style and substance.
6. Prepare a prototype statement based on ‘reasonable expectation’ and refine according to responses.
7. Begin to identify ways in which Flinders University might contribute to scholarly discourse on attributes.
8. Connect the language of attributes to other policy expressions at Flinders to achieve conceptual/structural consistency in vertical and horizontal use of terminology.

5.4.ii. Methodology: a possible statement of graduate attributes
The methodology employed in constructing a possible statement of graduate generic attributes flows from the larger task:
1. Synthesize views of staff and students.
2. Construct a list of keywords.
4. Accept that the statement is generic and foundational, not all-encompassing.
5. Define the language of the statement and clarify the contexts in which the statement is to be read and understood.
6. Keep the list of attributes brief and the options for interpretation wide.
7. Represent the statement in a diagram.
8. Recognise that the statement will appear in variant forms according to particular needs.
9. Link the statement and diagram to examples of good practice and research.
10. Present the statement according to corporate style.
11. Position the final statement in relation to other statements in use elsewhere.

The prototype statement and subsequent versions offered here use these criteria.

5.4.iii. Discussion with participants
This paper is based on discussion with:
• approximately 100 members of the university community representing cost centres and relevant specialist units, programs and students, including members of VCC and the Graduate Attributes Project Steering Committee (see Appendix 5, pp. 52-53);
• researchers and education practitioners from outside the university (as above).

It also responds to current literature and approaches to:
• defining attributes and examples of attributes-centred approaches to teaching and learning in Australia and overseas (see Appendix 6, p. 54).

5.4.iv. Defining attributes
Participants sought to define attributes. A simple definition reads:
Attributes are: ‘qualities ascribed’; ‘objects recognised as appropriate’; ‘characteristic qualities’. (Macquarie Dictionary, p. 106)
This definition draws attention to a number of things. The first is that ‘others’ identify and bestow attributes: they are neither intrinsic to individuals nor self-evident. Attribution depends on who is constructed as the educated subject and who the arbiter: student; staff member; discipline; profession; employer; etc. The second is, therefore, that attributes must be made evident and recognisable to others to be recognised by them as ‘appropriate’. The third is that the qualities attributed to people, entities and objects must be characteristic – that is, distinctive even idiosyncratic, intellectually and morally sound and highly reputable. The fourth is that reciprocity confirms and perpetuates the identification-attribution process. A fifth reading can be added: responsible attribution requires a combination of informed judgement and necessary measurement. This means (for example) that the University, as arbiter, has to judge its graduates fairly and carefully and respond to its judges fairly and carefully based on sound evidence. To do this it must develop credible, reliable instruments of internal and external evaluation and assessment and make good use of the data they generate.

A more specific definition of attributes reads as follows:

Graduate Attributes: These are the qualities, skills and understandings that 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. (Bowen et al, 2000 cited in Barrie, La Trobe, 2007)

This second definition hints at the complex debates and issues inherent in the process to which Flinders University is committed. It also demonstrates the slipperiness of language and the need for flexible and robust definition: one agent’s ‘characteristic’ or ‘quality’ is another agent’s ‘attribute’ according to usage, value-system and time.

5.4.v. Positioning approaches: masthead, mission, domains and their relation to attributes

The new Flinders masthead or ‘tag’, Inspiring Achievement, provides direction for an integrated approach to attributes. The current Mission Statement – Think, Learn, Lead, Link – informs the articulation of attributes as well. Masthead and mission point to a set of educational dispositions that can be linked to qualities, valued and recognised by Flinders, such as: creativity; integrity; intellectual curiosity; innovation; equity; and community service. These already-identified qualities should inform and shape graduate attributes and facilitate vertical and horizontal policy integration. Should the tag or mission statement change, the new expression should be thought of as attribute-friendly (to ensure conceptual continuity) so that tag, mission and attributes continue to complement each other. Considered in this way, the tag and mission - translated from aspirations and imperatives to a desirable cluster of dispositions - lead to the expression of generic attributes. Tag, mission, dispositions, generic attributes and specific attributes and skills can then be seen as a succession of necessary translations in a foundational - and potentially transformative - education process: a process able to be monitored by instruments which record and track student progress, provide opportunity for student feedback and offer students a resource in their negotiations with employers and others.
The flow of ideas, below, has been developed here to explain the relationships at work in the possible statement and diagram. It is based on current thinking and modelling of approaches to attributes (including work by Barrie et al) and investigation of vertical and horizontal integration of concepts, policies and language:

Undergraduates acquire and/or display learning dispositions as part of the processes of education – dispositions relate to and are recognised in generic attributes – generic attributes are supported by specific attributes – which are often identified as characteristics, capabilities, qualities and capacities and recognised in the expression of competencies and generic skills. This flow of ideas is influenced by social and cultural contexts. The parts are dynamic and reciprocal. The process can be learned. Graduates should be aware of and responsive to its benefits. (Graduate Attributes Background Paper, Appendix 6, p. 54)

The flow of influences and associations shapes and is shaped by the interaction of substantive domains and shifts/changes in context: scholarly education; formal/informal employment; personal/public involvement; communal/global engagement; and socio-cultural background. Together they affect responses to matters of policy at all levels: integrity and ethics, equity and anti-racist education, research and teaching and learning outcomes, for example.

5.4.vi. Contextual rationale: applying the literature and other approaches to attributes
The versions of a possible statement of graduate generic attributes which follow attempt to respond to the ideas outlined so far, via three systematic and interrelated approaches to attribution at Flinders University:
- strategic;
- structured;
- narrative.

The strategic logic dictates that a statement of attributes promises what Flinders and its students can reasonably be expected to deliver. The structured logic relates to the ability to incorporate university-wide generic graduate attributes into different expressions of academic and professional cultures and open up possibilities for further (linked) attribution, specific to those cultures. The narrative logic connects the layers of language the University uses to represent itself and its various domains as a cohesive entity – teaching and learning, research, community-international. These three logics, when combined, do not claim to explain all graduate accomplishments. They propose a reasonable connection between graduation from university and an acknowledged, informed preparedness and ability to function more effectively in a wider world. They position students and the University to make more extensive and substantial claims if they choose to do so.

This wider world includes external contextualising influences. The South Australian secondary education system, guided by future SACE, will soon express its mission through capabilities. A Flinders approach to attributes and associated capabilities must
allow secondary and university systems and expectations to integrate in the best interests of transitioning students. Employers offer guidelines on their preferred graduate attributes, often expressed as competencies. Competitor universities also have their expressions of graduate attributes: some overseas universities place attributes at the centre of their policy-making practices. Each sector must take note of the other and together inform and enrich the levels of graduate understanding and expectation, strategically, structurally and through comprehensible narrative. The University can provide leadership and direction in this process of enrichment in the way it executes the attributes Project.

In the Flinders case, recognition of differences in terminology will involve identifying and connecting:
- generic attributes for the University as a whole;
- sub-generic attributes and skills, drawing on the generic, relevant to broad fields of teaching and learning in the university;
- specific attributes and skills drawing on the generic and sub-generic required by professions or used in specialist areas/disciplines of teaching and learning in the university.

These layered representations can then be incorporated into university literature and practice as and where appropriate: generic attributes; specific attributes; and generic and specific skills (see the attributes and skills templates/ matrices, Appendix 3, pp. 46-50). They are important to the staging and layering of the rollout because they draw attention to other terminology already used at Flinders and elsewhere that qualifies and specifies attributes in context:
- dispositions;
- competencies;
- capabilities;
- capacities;
- characteristics;
- qualities;
- skills.

Each of these terms brings its baggage. In the Flinders literature on attributes and accompanying the principal statement of attributes, a form of words such as the following would allow readers to know the how and why of Flinders usage:

Flinders University distinguishes between generic attributes, specific attributes, dispositions and skills. Attributes, dispositions and skills may also be expressed, according to context and the usages of particular disciplines or professions as: competencies, capabilities, capacities, or qualities and characteristics. This order of expression and association is connected to aims, objectives, standards and expectations of university disciplines, cultures and professions. Undergraduates should become aware of nuances and applications of terminology as they progress through their courses. They should be able to recognise and use the terms with
ease and accuracy by the time they graduate, and employ them in life and work beyond university.

5.4.vii. Approaches to style and substance
Different universities have different ways and styles of expressing attributes. Some opt for substantial contextualisation and definition followed by a brief statement. Others choose expansive statements with less contextualisation or a substantial number of attributes linked to examples of good practice, in context. Some universities use diagrams to represent their attributes processes others do not. Some prescribe the process year by year and in detail, others eschew prescription. These approaches are driven partly by research and pedagogical principles and partly by what might be called house or corporate style. History and tradition also have their roles.

The approach taken by this scoping study has been to avoid prescription. It emphasises contextualisation and the need for the University to define its own terms. It trusts the language and levels of substantive understanding already in use in the university, allows for flexibility in practice, makes use of diagrammatic representation, and promotes the idea of linking generic attributes to sites of good practice within - according to the ways of the different academic cultures of the university. The ‘look’ of the final statement will inevitably be determined in accordance with corporate policy and house style.

What follows is a series of reductions: from an expansive and inclusive ‘possible’ prototype statement to be found in Appendix 1 (p. 44) to a minimal version that expresses attributes by using common synonyms. The reductive process results from feedback discussions. The objective is to test the style-substance relationship by identifying three different perspectives of attributes:

- reciprocal, in which the mutual interests of the University and students/graduates are represented;
- confirmative, in which the University’s view of its role in promoting attributes is emphasised, and
- affirmative, in which student/graduate achievements are asserted and endorsed.

An effective attributes ‘package’ should assist all three, connected approaches to flourish.

5.4.viii. Shaping a possible proposed statement of graduate generic attributes and expressions of attributes
The three examples of approaches to attributes which follow are described as: reciprocal, confirmative and affirmative. Together they employ the extended and associated vocabulary of terms already identified - capabilities, characteristics, competencies, capacities, skills – that are recognised by different sectors, interest groups, professions and disciplines for their connection to attributes. They also make room for more specific professional and disciplinary attributes and skills. The Attributes/Skills template and explanation (Appendix 3, p. 46) indicates the relationship between generic and quite specific attributes, skills and instruments/exercises.
5.4.ix. A possible proposed statement of graduate generic attributes
The generic approach in each example is designed to provide points of identification and connection for all interested parties and to weigh and connect the respective interests of the University, staff, students and graduates. Together, the examples offer room and opportunity for layers of specificity to continue to thrive.

Reciprocal: the first ‘possible’ statement of graduate generic attributes drawn from the prototype emphasises reciprocity and links to capabilities and qualities. It is the example used to introduce this document and reads as follows:

At Flinders University students engage with and are recognised for:
• knowledge acquisition, appreciation and application
• critical, analytical, creative and complex thinking
• advanced literacy, numeracy and information management
• clear and informed communication.
They are encouraged to pursue and demonstrate:
• intellectual and professional integrity in teamwork and leadership
• social and cultural responsibility and
• ethical and equitable practice.
This combination of attributes and capabilities inspires and sustains graduates in their local and global communities, workplaces, professions and personal and civic lives.

It accentuates the idea that attributes result from the interrelation of qualities and educational practices, through ‘engagement’ and ‘recognition’, ‘encouragement’, ‘pursuit’ and ‘demonstration’. It also accentuates the respective agencies of University and graduates. Responsiveness is a key to relationship in this instance. Attributes are presented here as neither intrinsic nor exclusive to individuals or institutions. They are ‘qualities ascribed’ and ‘recognised’ and result from interactions between individuals and institutions in context.

There is an inherent tension between self and collective interests in statements of graduate attributes. This manifests in a university’s aspirations for its students and its need to promote and protect its position and reputation on the one hand (‘what we do for and expect of you’), and student and graduate understanding of the outcomes of a particular university education on the other (‘what we understand about ourselves and the wide-ranging effectiveness of your courses through what we have done with you’).

This reciprocal approach to a possible Flinders graduate generic attributes statement recognises the tension and supports logic based on reciprocity and contextualisation.

Confirmative: a second version with the same provenance presents a different perspective. Flinders graduates should reasonably expect to be recognised in education, community and civic life and at work through:
• knowledge capacities;
• thinking capabilities;
• information awareness;
• advanced literacy and numeracy skills;
• communication and teamwork abilities;
• professional competencies;
• leadership characteristics; and
• responsible, ethical practices.

The relationship between engagement and response, encouragement and pursuit expressed in the first version remains but lends itself to a confirmative expression that gives particular meaning to the reception and the enabling aspects of the ongoing process of attribution and recognition. Both are likely to be useful according to the strategy and objective of their application. This confirmative version reads as follows:

*Flinders University graduates are recognised for their advanced abilities to:*
  * acquire, appreciate and apply knowledge*
  * think analytically, critically and creatively*
  * manage information*
  * communicate clearly*

*They recognise and demonstrate:*
  * intellectual and professional integrity in teamwork and leadership*
  * social and cultural responsibility*
  * ethical and equitable practice.*

*This combination of attributes and capabilities inspires and sustains them in their local and global communities, workplaces, professions and personal and civic lives.*

If needed, confirmation can be presented more prosaically:

*Flinders University graduates are recognised for their advanced qualities, skills, understanding and capacities. They are knowledgeable, thoughtful, highly literate and numerate, informed and communicative in their intellectual, work, social and personal lives and in their community and global awareness. They are able to demonstrate integrity in teamwork and leadership, social and cultural responsibility and engage in ethical, equitable practice.*

The particular capabilities and qualities identified in this version have attached themselves, according to definition, to what serve as ‘appropriate objects’ – knowledge, literacy, communication and so on – to transform them into attributes in their own right. This version still accentuates the capacities to engage, respond, recognise, pursue and demonstrate. These are the marks of ‘readiness’. They do not guarantee that all graduates will be recognised in this way, however. That would be misleading and untrue. Response is likely to be influenced by choice and opportunity as well as relative ability. They do reinforce the claim that graduates of Flinders University should reasonably be expected to value and be valued for these enhanced capacities within and beyond their studies, because of their studies. Attributes and agents, in combination, are germane to whole-of-university teaching and learning practices and to the encompassing act of ‘graduation from university’.
**Affirmative:** a reasonable and responsible approach to attributes should have reciprocal and confirmative expressions to accommodate different usages but the success of the approach should also be affirmed. The University, as well as its graduates who understand and exhibit these attributes, need to establish that they are acknowledged and endorsed within and between domains. This affirmation might be expressed in the following brief statement:

*Flinders University graduates exhibit advanced:*
- knowledge capacities;
- thinking capabilities;
- information awareness;
- literacy and numeracy skills
- communication and teamwork abilities;
- professional, discipline, social and civic competencies;
- leadership characteristics; and
- responsible, ethical practices.

The University and graduates alike should be reassured that reciprocity, confirmation and affirmation facilitate their dealings in a range of personal, educational, social, cultural and professional domains and contexts. They should be mutually aware that a ‘cycle’ of relationships underpins a complex and responsive socio-cultural approach to attributes and evidence-based graduate outcomes.

### 5.4.x. Underpinning attributes in the Flinders context

Different users may respond differently to each of the proposed approaches to attributes and their expressions, in context. They may wish to elaborate on different meanings and emphases. The commentaries below give a sense of the ways in which contributors to the scoping study spoke of and think about the formulation and operationalisation of attributes. Contributors’ comments can be found, in summary, in the Background Paper to this study.

**Knowledge acquisition, appreciation and application:** the first priority of university education is access to and familiarity with bodies of knowledge. Flinders University graduates can be reasonably expected to have the abilities and skills to: acquire high order knowledge in their disciplines and discipline-related areas; appreciate the value and significance of this knowledge; and adapt and apply this knowledge to new circumstance, environments, problems, challenges and contexts as they arise.

**Critical, analytical, creative and complex thinking:** Flinders University graduates are called upon to use and combine different kinds of thinking in different contexts. These kinds of thinking are not mutually exclusive and all are required to address the complexities of contemporary personal, academic, work and public life. They contribute to innovative and disciplined practice and respond to local as well as global cultural differences.
**Advanced literacy, numeracy and information management:** these capabilities are necessities for the achievement of a reasonable level of graduate success. Achievement helps to translate capabilities into attributes. At university, emphasis falls on ‘advanced’, ‘higher order’ or ‘adult learning’ skills, capacities and capabilities where complex comprehension, calculation and independent judgement are required. Information management has necessary corollaries in time management, workload management and people management - as well as technological competence.

**Clear and informed communication:** Flinders University graduates should reasonably expect - and be expected - to communicate their knowledge, thinking capacities and information management skills clearly and according to the demands of their work, in community and civic life and in their personal lives. This means talking, writing and performing with the confidence and authority implied and endorsed by graduate status.

**Intellectual and professional integrity in teamwork and leadership:** graduate attributes generate and sustain social and cultural capital and networks. This currency rests squarely on the integrity of communicated knowledge and intellectual prowess. It underpins professional behaviour, facilitates teamwork and sanctions and tests leadership.

**Social and cultural responsibility:** in a multicultural society, in a nation with an Indigenous population, within a global economy with a mobile workforce, in times of mass movement of people, Flinders University graduates need to recognise the differences in cultural and social expression of attributes and expectations they will inevitably encounter. University experience should alert them to the complex interplay of rights and responsibilities.

**Ethical and equitable practice:** civil society requires ethical behaviour. Discipline and professional codes of responsible academic practice require Flinders University graduates to think and deal fairly with intellectual property and to follow endorsed protocols of use, citation and disclosure. This training flows into engagement with civil and social life and their governing policies and standards.

Each of these readings draws on and links attributes to other University policies and procedures.

**5.4.xi. Diagram**

The diagram (p. 6) brings together several major components of university conceptual and policy architecture. It connects marquee statement to mission and identifies domains of operation and interaction; places graduates at the centre of the attributes process in accordance with the stated aims of teaching and learning policy; and (in this instance) employs the reciprocal expression of attributes. This configuration recognises the strategic, structured, and narrative logics identified earlier. If a diagram is used as part of the promotion of attributes, keywords (for example, knowledge, thinking, information, communication, academic integrity, teamwork, leadership, equitable and ethical practice) should be highlighted and linked to other university/faculty/discipline sites, as indicated here, to exemplify ongoing practice and research in the university.
5.5: Tracking - Instruments for tracking, evaluation, and feedback

5.5.i. Interrelated levels
As part of the process of identifying and monitoring attributes, the University will need to devise a new on-line tracking instrument to allow students to record and report their acquisition of attributes as they proceed through their courses for their own uses. This is separate from the need to have mechanisms by which students provide feedback and evaluation of the courses and university support services (including the new attributes approach). Tracking will not only increase the awareness among students of the capabilities and skills that they are acquiring as part of their university education, but will give them a comprehensive written record that can be used in job applications.

This paper therefore recognises the need for and/or potential of four interrelated and layered levels of tracking and feedback:

1. course- and topic-based identification and tracking of attributes;
2. university-wide automatic tracking of attributes embedded in courses and topics; accessible on FLO;

and

3. student-managed and rated response to attributes in courses and topics;
4. student-managed, e-portfolio reflection/feedback on attributes and their value to graduates.

These levels of tracking are compatible with the proposed layers of rollout. The relationship between the approach to attributes adopted by the University and the kind of instruments proposed to measure the success of that approach must be made clear to staff and students in successive rollout stages.

Some faculties recognise these issues of quality and undertake such exercises. Some students therefore already engage with their mechanisms and routines. In keeping with the position taken in this paper - that a Flinders approach to attributes should respond to and build on existing, successful Flinders initiatives wherever possible - discussions are under way to identify and employ instruments that will best suit the layered needs of the University, staff and students (see, for example, references to research on non-assessment and systemic assessment models in the Graduate Attributes Project Background Paper, pp24-25, Appendix 6).

5.5.ii. Likely outcomes of tracking, evaluation and feedback
After the initial rollout of the Project, it is expected that:

- identification and review of attributes at course and topic level will form part of the normal practice of Course and Topic Evaluation. Monitoring and Review (Policies and Procedures, October 2007) and therefore will not involve academic and administrative staff in more work or another layer of compliance;
- tracking of attributes will be automatic and will not involve academic staff in another layer of work or compliance but will increase the load on Student Systems;
students may be required/will be enabled to respond to the attributes approach and this may involve compliance, consistent with the cultures and practices of different courses, cost centres and faculties;

students may be offered the opportunity to respond to their courses and their progress via an evaluation of attributes and this may involve further engagement with feedback instruments by choice and according to the cultures and practices of different courses, cost centres and faculties.

Features of these anticipated or potential outcomes will be discussed in more detail below.

5.5.iii. Gathering responses to attributes and tracking instruments

In gathering information on identifying and tracking attributes for this discussion paper and with the need to recognize existing initiatives in mind, five questions were asked of participant staff and students:

1. Does the University need to measure student responses to the progress and success of its approach to attributes?
2. Can the University rely on the existing range of instruments to measure the progress and success of its planned approach to identification of attributes or does it need an additional instrument?
3. Should there be only one university-wide preferred instrument of student evaluation and feedback?
4. Is it possible to combine a preferred instrument with existing faculty- or discipline-specific instruments?
5. Should use of a preferred instrument be made compulsory?

In response to these questions, discussions conducted as part of the scoping study indicate that:

- measurement of student responses to attributes and their relation to courses is generally seen as useful;
- the current range of instruments in use is insufficient to meet the requirements of the university-wide task identified in the Brief;
- some courses and faculties have instruments that are capable of meeting their own requirements but not all of the proposed university objectives;
- a preferred-instrument approach would have other data-gathering benefits for the University;
- such an instrument would benefit from incorporating (some of) the features of existing successful instruments in use in the university;
- some courses might combine use of their current instruments with a preferred instrument, where the needs of those courses exceed the scope and capacities of a single, university-wide instrument;
- there is preference for voluntary rather than compulsory use by students of a university-wide tracking/feedback instrument;
- there is recognition of the need for coordinating ways of evaluating student responses to courses, using an attributes approach and allied feedback instrument(s);
• there is recognition of potential benefits of auto-tracking of attributes as a measure of student progress and of allowing students access to their personal record of attributes and achievement;
• there is an understanding of the value of informal as well as formal means of coordinating and gathering of data on attributes;
• there is work to be done on the way(s) students’ success in achieving attributes might be assessed (other than by self-assessment) and given formal recognition and value.

A more extensive summary of these issues and each cost centre’s response can be found in the Graduate Attributes Background Paper (see Appendix 6, p. 54). These responses give rise to the view that the kinds of instruments of measurement identified in 5.5.i, need to be introduced in stages or layers, consistent with the rollout of the Project as a whole.

5.5.iv. Instruments for recording attributes and student feedback and evaluation
The success of an attributes approach will rely, in part, on student feedback as well as automatic recording of progress. Students will therefore need to have the means to communicate their understanding of relevance of their courses while they are studying, as well as after they have graduated – as in CEQ surveys for example. This will require access to feedback instruments as well as tracking instruments and possible changes to the current student evaluation of teaching instrument (SET). The proposed interrelation of tracking and feedback layers will not only provide quality assurance, it will involve staff and students in a larger educational discourse. The process at each stage should help to integrate formal and informal approaches to gathering teaching and learning data. The beneficial outcomes for students will include a greater knowledge of the relationship between the courses they undertake and the enhancement of attributes seen as desirable by the University, employers and other communities. The University will benefit from the provision of data that will add value to cross checking of SET, KAMs, CEQ and Employer evaluations of the effectiveness and desirability of Flinders courses and graduates.

5.5.v. Formal approaches to gathering feedback on courses
Some courses already use various formal instruments of attribute-like acquisition and measurement, such as capstone topics, generic matrices and web-based feedback sites, as part of their teaching and learning practices, and build attributes-related criteria into SAMs. The Graduate Generic Attributes Project should endeavour to accommodate and learn from these instruments in its process. Even when university-wide instruments are adopted to track, support and assist students, there will be circumstances in which other discipline- or profession- specific instruments are also likely to be needed to assess students’ responses to specific aspects of courses.

5.5.vi. Informal approaches to gathering feedback on courses
The proposed process requires an effective combination of informal and formal practices. Informal communication is part of the day-to-day commerce of the academy. Academic, support, development and management staff will be encouraged to use the language of
attributes in their teaching and in consulting with students and will encourage students to communicate with them in that language. Staff development programs may be required.

5.5.vii. Models
There are several kinds of models of tracking instruments already in use in the university and in other universities, e.g.: tick-the-box matrices; chat spaces and email networks; hard-copy surveys; add-ons to existing evaluation instruments such as SET; whole of course tests; e-portfolios; capstone topics. For example and in brief: the Faculty of Science and Engineering has a successful prototype matrix using CEQ and science-specific criteria; the Faculties of Social Sciences and Education, Humanities, Law and Theology use capstone topics in some courses; and the Faculty of Health Sciences will soon be conducting an e-portfolio trial for some of its students. The School of Medicine is looking to respond to an attributes-friendly framework, in the graduate work/employment domain, designed by the Confederation of Postgraduate Medical Education Councils (Australian Curriculum Framework for Junior Doctors, Version 2.1, November, 2006). Research indicates that an electronic instrument such as eValuate, devised and employed by Curtin University, might be further investigated to examine its potential for use in or relevance to this Project. The University of New South Wales has a multi-environment approach to tracking systems. Wollongong University has addressed a single environment approach discussed by Hoban et al, in the Journal of University Teaching and Learning Practice, Vol III, 2004. Reports to the Queensland Studies Authority and DECs, on approaches to attributes and capabilities, have been undertaken by Lawson, Askell-Williams, Murray Harvey (2005) and Curtis, Askell-Williams and Murray-Harvey (2006). These kinds of approaches to tracking student progress have informed and helped to position this study.

5.5.viii. Preliminary thoughts on instrument design
The Faculty of Science and Engineering has developed a matrix to rate the presence of generic skills in topics in niche degrees, majors and extended majors. This model, in particular, has provided stimulus and a template for the thinking in this section of the paper. The examples to be found in Appendix 3 (p. 45) are based directly on this model, which offers a layered combination of categories:

- CEQ-derived;
- discipline/discourse-specific;
- professional.

Their straightforward design already meets some of the requirements for tracking and self-assessment identified by the scoping study. The proposed instruments, using the same format and accessible at the same site, respond to the layered approach to rollout identified earlier in this paper. They evaluate presence and recognition of content and approach and present opportunities for cross-referencing of other data sets, e.g.: Student Evaluation of Teaching.

5.5.ix. Examples
Here are three (early-stage, indicatively titled) examples of what on-line matrices, templates and portfolios might do. They build on descriptions of instruments, above.
1. *Auto-Record Tracking and Student Success: Weighting and Identification of Graduate Generic Attributes in Courses and Topics (ARTSS: 1).* Addresses the presence and weighting of attributes using a common scale routinely identified, determined and reviewed by coordinating staff of courses and topics.

2. *Student Self-managed/Rated Record: Engagement with Graduate Attributes (SSRR: 1).* Addresses student recognition and rating of attributes in topics and courses on a common scale.

3. *Automatic Student Self-Managed Record of Engagement with (i) Generic and (ii) Professional Skills Exercises and (iii) E-Portfolio (A/SRE – 1; SRE- 2; Se-P).*

   (i) *A/SRE – 1:* automatically records compulsory or voluntary completion of generic and professional/specific skills exercises undertaken by students throughout their university courses and records them on FLO.

   (ii) *SRE – 2:* addresses student opportunities to reflect on courses for personal and professional purposes, by choice or at pre-designated times during a course and include outcomes in an e-portfolio,

   (iii) *Se-P,* an e-portfolio, possibly linked to FLO.

*Examples 1 and 2* will automatically build on data-gathering and monitoring practices routinely undertaken by the University and cost centres, using the resources of Student Systems and Planning Services, after staff members have identified/reviewed their approaches to attributes. *Example 3 (i, ii and iii)* offers on-line data-managing opportunity for students, to be undertaken as a routine part of reflection on the contribution of each topic to a major and/or course. It also offers students the opportunity to automatically record and register successful completion of such exercises as: the current Library skills exercise; academic integrity exercise; revised and developed Library or Social Sciences/Science and Engineering generic skills exercises; and a possible generic attributes course overview exercise. The information gathered for (i) *A/SRE – 1* and (ii) *SRE* could form the basis of an e-Portfolio, (iii) *Se-P* for students to use, voluntarily, in their discussions and interviews with prospective employers.

Templates should be linked to statement and diagram.

The ‘common scales’ mentioned above are, again, only indicative of the kind of measurements that might be employed. Each suggestion needs evaluation and improvement but they begin to explore the field of possibilities.

5.6: Rollout - implementation

5.6.i. Rollout methodology

The methodology for the layered and staged rollout proposed below will have university-wide applications:

1. Locate the Graduate Generic Attributes Project in a tried and tested educational framework and process.
2. Recognise and contribute to attributes pedagogy and research.
3. Pursue respected qualitative learning feedback, assessment and analysis strategies.
4. Apply quantitative analysis where necessary.
5. Triangulate qualitative and quantitative findings.
6. Contextualise data statistically, culturally and pedagogically.
7. Review data regularly.
8. Recognise mutually constitutive relationships between stakeholders.

5.6.ii. A three-stage approach and rollout
The progression from the possible Statement of Graduate Generic Attributes to measurable graduate attribute outcomes should involve a three-stage/multi-layer, university-wide rollout (stages: 1-3; layers: 1, 2, i-iii, 3). The rollout should be effective within one year and incremental improvements in student awareness of attributes might reasonably be expected to occur thereafter, with optimal results when the 2008 student intake begins to graduate from the end of 2010. The proposed stages and layers are:

1. Scoping/ information gathering and goal setting: the discussion paper stage.
2. Planning, preparation and implementation: i) working with each cost centre to incorporate a consistent university-wide approach to generic attributes, commensurate with existing structures and operations, into all layers of teaching and learning procedures and practices; ii) working with students and staff to incorporate into all layers of delivery and response, a consistent university-wide approach to generic attributes, building on the existing framework of educational aims and learning outcomes; and iii) devising and adopting a university-wide on-line tracking instrument as well as recording and feedback instruments for student use.
3. Monitoring and evaluation: ensuring the incorporation of attributes into courses across the university and assessing the effectiveness of this approach to teaching and learning and graduate outcomes at Flinders; assessing the effectiveness of the tracking instrument(s).

5.6.iii. Broad social and cultural implications
Any university-wide response to attributes must be culturally sensitive and responsive to cultural difference. Acceptable expression of personal, professional and social attributes is culture, time and context specific and prescriptive approaches may affect the ways in which staff and students take advantage of self-evaluation instruments and respond to questionnaires, before as well as after graduation.

5.6.iv. Implications for cost centres – academic, management, support
The implementation of a generic attributes approach to teaching, learning, recruiting and marketing will have different impacts and expressions according to cost centre context and use. All courses are already required to identify aims, and expected learning outcomes. These will need to be expressed in ways that connect to attributes. The exercise therefore will first require a review of current course aims and expected learning outcomes to ensure that they connect to and are compatible with the final statement of generic attributes. This may lead to some reformulation of aims and outcomes and the incorporation of the revised versions in all relevant course documentation and guides to enable formal and informal connections to be made by all staff and students. These changes need, in turn, to be reproduced in policy documents; topic descriptors; assessment methods; consultations; marketing, support, counselling and training/development documents; and related tracking, student self-management and feedback instruments and exercises. This will affect staff in all cost centres.
There will be different implications according to approaches taken to teaching, learning and management tasks in different courses. Generic courses such as the BA will present one set of challenges. Professional, externally moderated or prescribed courses will present others. Marketing all university courses will generate still others. The generic skills exercise used by some staff in the Faculty of Social Sciences and elsewhere, for instance, will benefit from incorporation into/connection with the Graduate Attributes Project, as will the academic integrity exercise and the Library skills/information retrieval exercise. Correlations between SET and the Attributes Project – via use of common questions - may also be made in the future. Implementation will require backup and support for coordinating and administrative staff. This may come in the form of briefings, training, dedicated positions, peer mentoring, or time release – all of which are part of the routine practice of institutional renewal and change.

5.6.v. Implications for academic staff
Minimum-level implications for staff will involve the addition of attributes terminology and approaches to their usual academic vocabulary as well as conceptual engagement with an attributes-aware approach to teaching, learning, support, development, management and marketing. For some staff this will be relatively easy. Their approach to aims and outcomes in topic construction, assessment and in-class/on-line teaching techniques will already employ or be receptive to the expression of attributes. There is a substantial body of literature on the subject in circulation and they may already have contributed to it, or have accessed it out of interest and professional necessity. For other staff, the concept of attributes as a driver of educational practice and a measure of outcomes will be less familiar. Different responses will have to be dealt with at a local level. Cost centres and AOU’s will need to provide initial backup and support as outlined above. Academic IT specialists will need to be involved in devising and testing the necessary university-wide/local and specific instruments of measurement and feedback and the correlation of data sets. This approach will also have substantial implications for Planning Services and Student Systems and Services.

5.6.vi. Implications for students
The attributes approach to teaching and learning proposed here is student-centred. The diagram of graduate attributes puts graduates at the centre of the process. The implications for students are intended to be entirely positive and beneficial. The extent of these benefits will depend on the:
- persuasiveness of the overall attributes approach;
- abilities of staff in all relevant areas to incorporate the approach into specific teaching and learning environments;
- ‘friendliness’ and usefulness of tracking, measuring and feedback instruments used by the University, staff and students;
- usefulness of engaging with the process; and
- feedback from employers, community and other stakeholders.

Students will be differently affected depending on the ways in which courses incorporate attributes approaches and will therefore need to consider (and be assisted in) ways of
making best use of the proposed new instruments for recording and responding to attributes. They will need to manage the effects and benefits of attributes feedback and self-monitoring instruments offered by the University/cost centres. Successful self-management of these resources will itself be a measure of one of the possible generic attributes. The University will need to consider ‘feedback fatigue/benefit’ implications in the way that it handles this process.

5.6.vii. Implications for planning, development, management, administrative and technical staff
In such a comprehensive exercise, senior cost centre administrative and management staff will be involved with the processes of rollout and review at crucial stages in:

- assisting with the preparation and consistent communication of information on approaches to attributes;
- ensuring that all relevant documents carry the appropriate information;
- advising staff and students on the implications of attribution;
- assisting in the tracking and evaluation of data gathered as part of the monitoring of attributes during and after undergraduate study;
- maintaining and sustaining tracking and feedback loops;
- coordinating a consistent university-wide approach to the roll out; and
- employing data to enhance university-wide understanding of graduate outcomes.
Other administrative staff members are likely to be involved in some or all of these activities from time to time.

5.6.viii. Implications for graduates and external stakeholders
The implications of an attributes-aware approach to university education for graduates and external stakeholders are likely to be that:

- intending undergraduates will have a clearer idea of the expected outcomes of Flinders’ courses;
- graduates will have a clearer, more considered overview of their university experience and of Flinders’ contribution to higher education and its value;
- graduates will be better able to communicate the benefits of their university experience (when required to do so and as they choose) to their communities and in their workplaces;
- graduates will be better able to negotiate with and meet the expectations of employers;
- employers will be able to measure their expectations of graduates against the University’s stated intentions for its graduates: this will provide further opportunity for networking and negotiation between University and employers;
- others in the education sectors will know how Flinders positions itself in the expression of and approach to attributes-aware education.

5.6.ix. The Library and the Graduate Generic Attributes Project
The scoping study is required to:

Identify the full cost of the project including input from the Library with respect to its proposed project entitled Aligning Student Library Assignment with Generic Skills (VCC Doc 08/02/07)
Before discussion of the full cost of the Project occurs, the place of the Library sub-project ‘Aligning Student Library Assignment with Generic Skills’ needs to be established. The rationale to the possible statement (above) suggests a necessary differentiation between generic attributes and the skills that contribute to and sustain them. If this separation and relationship is accepted, a Library skills project may be used to inform and support the larger generic attributes exercise.

The Library and its proposed skills assignment may, nevertheless, have an important part to play in shaping and focussing the rollout of the Graduate Generic Attributes Project. The key resides in the title of its application for 2007 Learning and Teaching Fund Money – particularly in relation to ‘alignment’. In its service to the whole of the university it has developed ways of conceptualising, creating and delivering compatible on-line aids (library assignment, academic integrity assignment and now generic skills). The location, focus and management of these exercises suggests that:

- the Library is already equipped to deal with university-wide, on-line surveys and exercises;
- students are used to looking for such services and instruments at the Library site;
- academic staff are increasingly willing to direct students to the services and the site;
- the Library has a whole-of-university responsibility to deliver creative and critical responses to advanced information literacy, numeracy and management.

This combination of usages, familiarities and benefits indicates that:

- the Library is an effective knowledge resource/information hub for the university;
- a whole-of-university graduate generic attributes exercise might be added to existing exercises to form a suite of self-administered aids and evaluations which could be packaged and used to great advantage by the university community.

The Library’s application for support to the Learning and Teaching Fund demonstrates familiarity with the relationship between attributes, skills, competencies, evidence-based practice and systematic review. It emphasises research-based enhancement, encompassing assignments, tested pathways and hands-on approaches to capability (definition, analysis, evidence, searching ability, interactivity, on-line assistance, flexible access, reliable and consistent instruments) that ought to be familiar to all staff and students. It also offers an adaptable methodology: establish questions; identify layers of evidence; guide resource gathering; test processes; exemplify best practice. This is a sound foundation for thinking about instruments of analysis and reflection required for the successful implementation of an overall graduate attributes approach to teaching and learning. It also provides an opportunity to connect with and build on the generic skills exercise in use in the Faculty of Social Sciences and elsewhere.

5.6.x. Overall cost of the Project

The cost of the Project is somewhat difficult to calculate at this stage. Costing has several quite distinct but related components:

- identifying the language of attributes and related pedagogies;
- devising tracking and feedback instruments, making students aware of them and encouraging students to use versions of them;
• developing staff awareness of approaches to attributes and making the necessary changes to current courses and topics and related documentation;
• creating the context for further consideration of all aspects of teaching and learning;
• maintaining the system.
Cost also relates to the final decision on depth and reach of the Project. The specifications below assume more than a bureaucratic response. Each component has its overlapping costs: initial implementation; support; review and revision; and maintenance. However, by combining the estimated personnel for the proposed Library skills exercise with (for instance) the staff used by Sydney University to sustain its Graduate Attributes project the following staff and resources estimate can begin to be made for one year:
• 1 specialist project coordinator for 1 day per week;
• 1 senior faculty leadership person per faculty/cost centre for 1 day per month;
• 1 project designer for 1.5 days per week;
• 1 web designer for 2.5 days per week;
• 1 consultant to the project for 1 day per week;
• 1 administrative officer for 2 days per week – overall project;
• 1 administrative officer for 1 day per week per faculty/cost centre;
• a sum of money for testing the instruments;
• a sum of money subject to competitive bids from the faculties to generate initiatives, research projects and specific implementation strategies.

These models in combination give some indication of ways to approach costing the rollout. They also reinforce the view that rollout is most likely to be effective with:
• across-the-board support;
• strategically located senior academic leadership;
• specialist/dedicated project coordination;
• specialist unit expertise;
• faculty-specific initiative and investment;
• a university-wide tracking instrument as well as other instruments;
• hub-centred delivery;
• adequate administrative/management support.

The time-dollar ratios in Flinders Library and Sydney University approaches seem consistent and roughly commensurate.

5.6.xi. Rollout and timelines: layers and steps
The stages and layers of the Project rollout can be expressed in eight more detailed steps, as follows:

1. Scoping stage/information and goal setting: 2007
Step one: test the foundations and find common ground within the university; ensure and assure cultural relevance and awareness of the process [continuing].
Step two: find a common language, from masthead to topic objectives and learning outcomes and assessment rationales; decide on a set of overarching attributes with sufficient specificity to distinguish a Flinders University approach to education; and
adopt these attributes, ensuring sufficient flexibility to allow differences of expression and pathways within the overall approach. Identify or devise a university-wide tracking instrument. \[This step is currently being taken. The discussion paper and preliminary designs for matrices/templates form part of the process.\]

2. Planning and preparation: 2007

*Step three:* identify university staff with a special and abiding academic/research interest in the subject and encourage those staff to contribute their findings and scholarship to the Project \[in process\]; site-test an on-line tracking instrument and/or instruments \[in process\]; accommodate existing instruments \[in process\]; consider changes that may need to be made to the Student Evaluation of Teaching instruments currently in use to accommodate the new attributes approach \[parallel project in process\]; keep abreast of good practice in other institutions, nationally and globally \[ongoing\]; and establish information networks throughout Stages 1, 2 and 3 \[in process\].

*Step four:* establish the need for vertical and horizontal integration of a research-justified rollout \[in process\]; monitor impacts at all levels; set goals for each cost centre against overall objectives; identify and source management, administrative and support/development systems; establish clear funding/resourcing arrangements.


*Step five:* check the teaching and learning processes of implementation and articulation - from transition to postgraduate graduation - to identify the most suitable and effective points and trigger experiences for embedding/highlighting the language, practice and evaluation of attribution; align the graduate attributes process with other monitoring and checking processes already in operation (SET, CEQ, academic integrity exercise, student satisfaction surveys, employer surveys, etc.); align the attributes process with \textit{future} SACE and other developments in the education and employment sectors in SA, nationally and internationally; establish or enhance staff/student development programs.

*Step six:* refine language and encourage exchanges of practices, instruments and processes within and between the cost centres, given that the objective is to equip students with an incremental understanding of the value of the course or courses that they are undertaking, in context.

*Step seven:* adopt on-line tracking and feedback instruments for University, staff and student use to record/report the acquisition of attributes throughout courses; recognise and begin to track student pathways within and beyond disciplinary and faculty boundaries using attributes instruments; feed information back to cost centres.

4. Monitoring, evaluation and review: 2008 - 2010

*Step eight:* review staff, student, community and employer responses in relation to processes identified in stages 1-3; test and review instruments of evaluation, opportunities for staff development, research findings, feedback loops; assess immediate and incremental benefits to the University, staff, students, communities and employers from the end of 2008; assess optimal and continuing results for all stakeholders from the end of 2010; make ongoing improvements as required.
5.7: Conclusion
This paper has outlined a strategy for:

- establishment of a common set of graduate attributes/capabilities that Flinders University students can reasonably be expected to have attained by graduation (the Project).

It has identified an approach to and methodology for constructing a possible statement of:

- graduate attributes/capabilities.

It has investigated:

- approaches to on-line university-wide tracking instruments to allow the University and students to record, report and reflect on acquisition of attributes.

The implementation of the overall strategy and incremental approaches outlined in the discussion paper is likely to involve the following outcomes:

Requirements
- understanding of and agreement on the process, rationale and benefit of an attributes-based approach to teaching and learning (broadly defined);
- flexible and serviceable definition of attributes and recognition of their various values, functions and expressions;
- recognition of and response to innovative attributes-related practice at Flinders University, in the university sector and in other sectors in Australia and overseas.

Statement of graduate generics of attributes
- sound methodology and serviceable statement(s) of graduate generic attributes and a clear vocabulary of attributes based on and linked to examples of good practice derived from experience at Flinders University and elsewhere.

Tracking
- on-line tracking instruments for the University, staff and students to record and monitor the acquisition/development of attributes;
- progressive introduction of new tracking and evaluative instruments, consistent with the staging and layering of the rollout;
- adaptation of existing instruments of student evaluation of teaching and tracking to accommodate the introduction of graduate generic attributes.

Rollout
- recognition of and response to the range of educational, professional and employment, social and cultural interests, implications and benefits involved in the Project;
- staged, layered and stepped rollout of the Project based on sound research, pedagogical and administrative methodologies;
- university-wide coordinated and consistent cost centre approaches to rollout;
- student-centred, culturally aware approaches to conceptualisation and rollout;
- acknowledgement of the importance of an IT hub such as the Library in the development and delivery of the Project (and allied skills projects) and successful management of student feedback;
- monitoring and reviewing of the Project;
- sustained facilitation and development of staff, student and cost centre involvement in the Project;
• sound, integrated and creative Project management.

Further detail and material on the thinking behind this discussion paper can be found in the Graduate Attributes Project Background Paper held by Anthony Hails in Policy and Secretariat (see Appendix 6, p.54).
APPENDIX 1

PROTOTYPE STATEMENT OF ATTRIBUTES

Ideas and concepts, arising from discussion with Project participants and existing policies at Flinders University produced this extended possible prototype statement of graduate generic attributes. The prototype accentuates the connections between attributes and context. The words in bold form a narrative consistent with University mission and strategic priorities.

*Flinders University seeks to inspire achievement* in its undergraduates and postgraduates by contributing to their understanding of the *personal and public relevance of a university education.* It wants them to *think, learn, lead and link.* In its pursuit and *demonstration of excellence* in teaching, learning and research, the university *encourages* graduates to *engage* with diverse communities and *contribute* to *effective workplaces.* *It enables* them to *recognise* the *value* of:

- **knowledge** acquisition, appreciation and application
- **critical, analytical, creative and complex thinking**
- **information** and technology literacy and numeracy
- **clear communication** and effective **teamwork** and **pursue**:
  - intellectual and professional **integrity and leadership**
  - social and cultural **responsibility** and
  - **ethical, equitable practice.**

*These high-order, generic attributes* connect with other more *specific attributes, dispositions, capabilities* and skills that flow from particular *courses* and their specialist or disciplinary orientations. They *contribute* to *a life of learning* and *enrich the relationship between education, personal fulfilment, social and cultural engagement* and *meaningful employment.*

This prototype was successively trimmed and reworked during the course of the study to produce a minimal version (Mk IV) included in the Background Paper as well as the examples used in the Discussion Paper. (Both papers should be linked to the diagram on an Attributes website)
APPENDIX 2

GLOSSARY OF TERMS

The discussion paper and diagram use the following terms as defined in Macquarie Dictionary, etc:

**Attributes**: qualities ascribed; objects recognised as appropriate; characteristic qualities. A more specific definition reads as follows: ‘These are the qualities, skills and understandings that 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.’ (Bowen *et al*, 2000 cited in Barrie, La Trobe, 2007.)

**Competency**: reflects professional adequacy and due qualification; a sufficient level of achievement in quality and quantity.

**Capability**: a quality or ability that can be developed and used.

**Capacity**: the power, ability or possibility of doing something.

**Characteristic**: refers to a distinguishing feature or quality; something distinctive.

**Disposition**: refers to a turn of mind; mental inclination; willingness.

**Domain**: a field of action, thought; the scope or range of any sphere of [personal] knowledge.

**Quality**: a distinguishing feature or an expression of excellence and accomplishment.

**Skill**: the ability that comes from knowledge, practice and aptitude; expertness and excellence in performance.

**Specific attributes**: refer to profession- or discipline-specific qualities ascribed; objects recognised as appropriate; characteristic qualities.

**Understanding**: mutual comprehension of […][meaning].

These general terms take on more specific meanings when applied to the particular ways and requirements of a discipline, department, profession or institution. (Should link to diagram on an Attributes website)
Example 1: Attributes/Skills template

Graduate generic attributes

- knowledge capacities
- thinking capabilities
- information awareness
- communication and teamwork abilities
- professional competencies
- leadership characteristics
- responsible, ethical practices.

Professional/Disciplinary attributes expressed as: capabilities, competencies, capacities; characteristics

- •
- •
- •

Generic skills:
  - advanced literacy/numeracy
  - Information management
- •

Generic skills exercises:
  - Academic integrity
  - Library Assignment, etc.

Professional/disciplinary skills:

Professional/disciplinary skills exercises:
Examples 2 and 3 are based on matrices in use in the Faculty of Science and Engineering.

**Example 2: Automatic Record of Tracking and Student Success (ARTSS:1)**

<table>
<thead>
<tr>
<th>Generic Graduate Attributes</th>
<th>Topic 1</th>
<th>Topic 2</th>
<th>Topic 3</th>
<th>Topic 4</th>
<th>Topic 5</th>
<th>etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.Attribute #1</td>
<td>***</td>
<td>***</td>
<td></td>
<td>**</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>G.Attribute #2</td>
<td></td>
<td>***</td>
<td>***</td>
<td></td>
<td>**</td>
<td></td>
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<tr>
<td>G.Attribute #3</td>
<td></td>
<td></td>
<td>***</td>
<td>***</td>
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<tr>
<td>G.Attribute #4</td>
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<tr>
<td>G.Attribute #5</td>
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<tr>
<td>G.Attribute #6</td>
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<td>*</td>
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<tr>
<td>G.Attribute #7</td>
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<td></td>
<td></td>
<td></td>
<td>etc</td>
</tr>
</tbody>
</table>

#This matrix will be completed by staff as part of routine annual and five-yearly topic and course proposal/review procedures. It will be a standard component of all new and revised topic proposals.

#The starred weighting system indicates the emphasis placed on generic attributes in each topic/course identified by topic or course convenors.

#The [zero-***] star range matches the numerical assessment of coverage undertaken by students in their use of Student Self-managed and Rated Record: Engagement with Graduate Attributes (SSRR: 1).

#Staff will weight attributes on a [zero-***] scale: - = not covered; * = little coverage; ** = some coverage; *** = substantial focus

#Students who pass topics identified on the ARTSS: 1 Matrix will have their Record of Generic Attributes registered automatically on FLO.
**Example 3: Student Self-managed and Rated Record: Engagement with Graduate Attributes (SSRR: I)**

1. **Generic Graduate Attributes**

<table>
<thead>
<tr>
<th>G.Attribute #</th>
<th>Topic 1</th>
<th>Topic 2</th>
<th>Topic 3</th>
<th>Topic 4</th>
<th>Topic 5</th>
<th>etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>3</td>
<td>etc</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>2</td>
<td>3</td>
<td>-</td>
<td>2</td>
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<td>3</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>6</td>
<td>1</td>
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<tr>
<td>7</td>
<td>etc</td>
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</tr>
</tbody>
</table>

2. **Specific/Prof Attributes**

<table>
<thead>
<tr>
<th>S.Attribute #</th>
<th>Topic 1</th>
<th>Topic 2</th>
<th>Topic 3</th>
<th>Topic 4</th>
<th>Topic 5</th>
<th>etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
<td>etc</td>
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<td>2</td>
<td>3</td>
<td>3</td>
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<td>0</td>
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<td>etc</td>
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<td>4</td>
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</tbody>
</table>

# Students will rate topic success in meeting stated attributes on a 0-3 scale
0 = not covered; 1 = little coverage; 2 = some coverage; 3 = substantial focus
# This matrix cross-matches with the staff-generated ARTSS : I
**Example 4: Template and E-Portfolio 1- Auto/Student Self-managed Record of Engagement with Generic Skills Exercises: (A/SRE - 1)**

Graduate Attributes Exercise | ✓ | • Students who successfully complete any or the entire suite of generic attributes/skills exercises will have their completions automatically registered on an accessible database (FLO).

Academic Integrity Exercise | ✓ | • Students may use this record of generic attributes/skills achievement as part of a voluntary, self-managed e-portfolio (Se-P)

Generic Skills Exercise | | •

Library Exercise | ✓ | •

**Example 5: Template and E-Portfolio 2- Student Self-managed Record of Engagement with Professional/Disciplinary Skills Exercises: (SRE - 2)**

Prof/Disc Attributes Exercise 1 | ✓ | • Students who successfully complete any or all of the suite of professional/discipline attributes/skills exercises may register their completion on a self-managed e-portfolio site (Se-P)

Prof/Disc Attributes Exercise 2 | ✓ | •

Prof/Disc Attributes Exercise 3 | | •

Prof/Disc Attributes Exercise 4 | ✓ | •
**Example 6: Template and E-Portfolio 3: Self-Managed e-Portfolio (Se-P)**

The University will investigate the practicabilities of providing students with the opportunity to develop an e-Portfolio in line with suggestions in the discussion paper:

…the University will need to devise a new on-line tracking instrument that will allow students to record and report their acquisition of attributes as they proceed through their courses for their own uses. […] Tracking will not only increase the awareness among students of the capabilities and skills that they are acquiring as part of their university education, but will give them a comprehensive written record that can be used in job applications. (p. 31)

The viability of e-portfolios and the form they might take is under discussion.

(All 6 templates/matrices should link to diagram on an Attributes website.)
APPENDIX 4

KEYWORDS

Discussions undertaken for the Project indicate that Flinders graduates should recognise in themselves and their education the need to be:

- knowledgeable
- creative
- constructive
- productive
- self- and other-aware
- socially and culturally responsible
- professionally credible
- intellectually disciplined, assured and adaptable
- self-motivated
- work ready
- team or group responsive
- open to local-global needs and possibilities
- anti-racist
- community sensitive
- equity conscious
- literate and numerate
- information technology competent
- research capable
- risk conscious
- innovative and edgy
- ethical.

The contextualised statements used in this discussion paper attempt to respond to as many of these keywords or their implications as possible. (Should link to diagram on an Attributes website.)
APPENDIX 5

SCOPING STUDY PARTICIPANTS AND OTHER SOURCES OF ADVICE AND INFORMATION

Professor Anne Edwards, Vice-Chancellor
Professor Andrew Parkin, DVC (Academic)
Professor Chris Marlin, DVC (Research)
Professor Dean Forbes, DVC (Community/International)
EMAG
Graduate Attributes Steering Committee
Vice-Chancellor’s Committee
Health Sciences working group
EHLT working group
School of Education working group
Social Sciences Teaching and Learning Committee
Science and Engineering working group
Yunggorendi Staff
Library working group
Student focus group: Mr Takeshi Matsumoto, Ms Amanda Muller, Ms Wendy Abigail, and Mr Sam Taylor
Mr David Green: SDTU
A/Prof Heather Smigiel: STDU
Ms Mandy Price: STDU, SET Project
Mr Peter Torjul: Admissions, Careers, Examinations and Graduation
Dr Salah Kutieleh: Student Learning Centre
Dr Leonie Hardcastle: Deputy Faculty Manager, Social Sciences
Ms Colleen Bregantic: Deputy Faculty Manager, EHLT
Ms Pam Smith: Quality Assurance Coordinator, Science and Engineering
Ms Jackie Wurm: Policy and Secretariat
Prof Iain Hay: Social Sciences
Ms Deanne Gannaway: EHLT/DASH Carrick BA Project
Dr Ian Ravenscroft: EHLT
A/Prof Ann Kupa: School of Medicine
A/Prof Tim Neild: School of Medicine
Dr Helen Askell-Williams, School of Education
A/Prof Jan Orrell: (formerly) Carrick Institute
Dr Jane Robbins, Social Sciences
Dr Simon Barrie: Institute for Teaching and Learning, Sydney University
Higher and Further Education Focus Group: Future SACE Attributes
Learning to Work and Working to Learn Symposium: ACEN

Other, informal discussions were also conducted with staff.
APPENDIX 6

For a full bibliography of works relating to attributes, courtesy Dr Simon Barrie, Institute for Teaching and Learning, Sydney University, see Graduate Attributes Background Paper available from anthony.hails@flinders.edu.au. (Policy and Secretariat).
(Bibliography should eventually be linked to diagram on an Attributes website.)