The alignment of curricula with desired generic higher education learning outcomes, widely referred to as graduate attributes, has been on the agenda for some time. To be implemented widely, graduate attribute initiatives must accommodate variations in curricular landscape between and within institutions, disciplines and programs. QUT Faculty of Business is a partner (along with University of Sydney, University of Technology, Sydney, and University of Queensland) in the ongoing Australian Learning and Teaching Council funded project Facilitating Staff and Student Engagement Graduate Attribute Development, Assessment and Standards in Business Faculties. Each project partner is implementing and evaluating strategies and tools, and the extent to which students and staff can be engaged with a focus on higher level attributes, into the assessment procedures of units in their faculties. This paper describes the progress of this project and the use of the ReView software tool within the QUT Faculty of Business, where three distinctly different units have participated. These units include 1) a high enrolment undergraduate first year core unit, 2) a capstone unit for students in a particular major, and 3) a graduate unit with a high percentage of international students. The adaptation of high level strategies to accommodate institutional, student and operational diversities is elaborated and discussed. A significant reflection of project staff participants has been their increased appreciation of the differences between the ways curricula is structured, documented and administered in Business faculties of partner institutions, and how that impacts upon applying graduate attribute engagement strategies and tools. Also, technological tools, such as the ReView software application, which is being utilised across the project, must cope with varying local requirements. The differences between the three QUT units include such characteristics as numbers and profiles of students, curricular purpose, the integration of Learning Management Systems and other technologies, and size of teaching teams.

Introduction
This paper presents activities undertaken and insights gained since 2007 through the authors’ and their faculty’s participation in a multi-university project aimed at engaging staff and students with Graduate Attributes (GAs). Graduate Attributes (also known as graduate capabilities/key competences/transferrable skills/key skills/graduateness/employment skills or other similar terms) have loomed large on the curricular horizon across Australian higher education for over a decade (Barrie, 2006). The identification and documentation of attributes which graduates should exhibit as an outcome of their course of university studies has been
and continues to be an agenda supported by governments, professions, and employers (Withers, 2008).

Accordingly, the GA agenda has been broadly accepted by university leadership, as evidenced by the prominent positioning with which graduate attributes appear in strategic planning documentation concerned with teaching and learning (Barrie, 2006). Concurrent with another agenda focused on curriculum alignment (Biggs, 1999) over approximately the same period, graduate attributes have been mapped into most curriculum documents as higher level learning goals. This has led to widespread, often superficial attempts at alignment of GAs with particular units of study. However, when it comes to the operationalisation of graduate attribute outcomes as a focus for activity and performance measurement within curricula as taught (Bath, Smith, Stein & Swann, 2004), the extent of implementation and the modes used to integrate graduate attributes is variable, and generally more indicative of an immature state (Barrie, 2006). With regard to curricular implementation to date, if the strategic importance of graduate attributes is going to be leveraged more widely, there needs to be greater engagement with GAs on the part of both academic teaching staff and higher education learners. A project to achieve this was formulated and resourced, based on the premise that the key curricular leverage for such engagement is through assessment (Taylor et al., 2007; Thompson, 2006).

**Background: The ALTC project**

The project entitled ‘Facilitating Staff and Student Engagement with Graduate Attribute Development, Assessment and Standards in Business Faculties,’ was proposed by Teaching and Learning leaders from Business Faculties at the University of Technology Sydney, The University of Sydney, Queensland University of Technology, and the University of Queensland. The project’s outcomes as proposed and funded by the Carrick Institute (since changed name to Australian Learning and Teaching Council) were to be:

1. Increased staff capability in aligning graduate attributes with teaching activities and assessment;
2. Improvement of student learning through a well designed assessment process for graduate attributes;
3. Improvement of student awareness of their level of attribute development; and
4. Evidence informed practice and the capacity for benchmarking across institutions. (Taylor et al., 2007, p. 2)

The proposed methodology for the project was to:

…develop a Business oriented graduate attribute integration process using a pre-existing online assessment system. The initial use of ReView by twenty academics in four Australian Universities delivering Business education (The Partner Institutions) will provide the basis for collecting practice-based evidence which can then be used by further Cascade Partners in their assessment of graduate attributes (Taylor et al., 2007, p. 2).

ReView is a software application, developed by UTS Sydney, that provides an assessment interface between lecturer and student. ReView allows lecturers to provide feedback relative to the key assessment criteria in an instant and online environment. Students can access this feedback and see its relation to the graduate attributes embedded in the assessment criteria. ReView details achievement of graduate attributes against each criterion, each assessment piece, each subject, and potentially throughout their university engagement. For further information on ReView see Thompson, Treleaven, Kamvounias, Beem, & Hill (2008).
Utilising the ReView application within the assessment process provides bases for engaging staff and students by promoting dialogue and reflections about how required assessment task criteria contribute to the development of espoused graduate attributes. Assessment tasks are central to the teaching and learning operation. And, although they are central to the workloads of both parties, assessments engage staff and students in different ways.

Efforts to promulgate GAs into the curriculum as taught by academic staff have often been superficial. A ‘top-down’ approach can be problematic in suggesting that the whole curriculum must be re-engineered. Such a proposition is more alienating than engaging to most time-poor academic staff. However, if, as had been shown with ReView criteria-mapping (Thompson et al. 2008) there is available an alternative where focus is placed not on restructuring the curriculum and re-establishing the assessment tasks for a unit of study, but rather on an ‘appreciative’ approach (Cooperrider & Srivastva, 1987) to refining existing assessment regimes. In most cases existing assessment items already contain, even if only implicitly, the learning outcomes which are valued by teachers as the intended results of the enacted curriculum. Focusing on existing assessment tasks and their value, and facilitating more explicit statements around what is valued in the learning and performance evidence, academic teaching staff have been much more easily engaged in considering and identifying the relationships between GAs and the assessments they expect students to perform (D. Thompson, personal communication, April 16, 2008). Student engagement is different, in that students are focused on assessment in a strategic way (Gibbs, 2003). They home in on assessment requirements documentation and teaching staff with the aim of finding information which identifies, as directly as possible, characteristics of assessment artefacts which they should produce to achieve their intended level of performance most efficiently.

**Differences between institutional environments**

As mentioned above, there is variability between institutions concerning the extent of implementation and the modes used to integrate graduate attributes within taught units. Even at institutions where the focus has been sustained, such as at the partner institutions of this project, the implementations are quite different. Some institutions have established a set of GAs institution-wide, while others concede that disciplinary differences mean that GAs must be set within faculties. And although the verbiage adopted for expression of GAs contains a consistency of themes (e.g. communications skills, disciplinary knowledge, ethical understanding, etc.), the exact wordings and combinations used seem infinitely variable. Lastly, there is variation between institutions in terms of where they are at in adoption of curricular philosophies and procedures. A major example of this is the diversity of approaches and attempts to implement criterion referenced assessment (Sadler, 2005). The following figure illustrates the differences in how the partner institutions were positioned in relation to curricular reform, (QUT being Institution D).

![Figure 1. Positioning of different institutions along continuum of curricular implementations.](Image)
An external driver of curricular reform, shared in common when programmes are accredited by an external body such as the Association to Advance Collegiate Schools of Business (AACSB), is the requirement for assurance of learning (AOL) to support espoused learning outcomes, including GAs (AACSB, 2007).

Technology configurations, including flexibility and support for introducing a new server-based technology such as ReView, also vary. This means that implementation lead times, resource requirements, and user experiences (both students and staff) may also be impacted variably between institutional sites.

**Curricular Policy: Graduate Attributes and Assessment**

QUT, like most universities, has a university-level policy focused upon graduate attributes. The QUT policy does intend that students who graduate should ‘be confident in their understanding and articulation of their capability development, and their preparedness for a challenging and dynamic future.’ The QUT Policy appears in Figure 2:

*Every QUT course aims to develop graduates who are able to demonstrate:*
  * knowledge and skills pertinent to a particular discipline or professional area encompassing:
    * coherent theoretical and practical knowledge in at least one discipline area at the level of an entity in a profession
    * technological skills appropriate to the discipline
  * critical, creative and analytical thinking, and effective problem-solving including:
    * the ability to critique current paradigms and contribute to intellectual inquiry
    * the capacity to exhibit creative as well as analytical ways of thinking about questions in at least one discipline
    * the ability to identify, define and solve problems in at least one discipline area
  * effective communication in a variety of contexts and modes including:
    * effective written and oral communication with discipline specialists and non-specialists and in cross-cultural contexts
  * the capacity for life-long learning including:
    * searching and critically evaluating information from a variety of sources using effective strategies and appropriate technologies
  * the ability to work independently and collaboratively including:
    * managing time and prioritising activities to achieve goals
    * demonstrating the capacity for self-assessment of learning trends and achievements
    * being a cooperative and productive team member or leader
  * social and ethical responsibility and an understanding of indigenous and international perspectives encompassing:
    * active contribution to intellectual, social and cultural activities
    * understanding and appreciation of indigenous perspectives
    * recognition and appreciation of gender, culture and customs in personal and community relations
    * valuing and promoting truth, accuracy, honesty, accountability and the code of practice relevant to the discipline or professional area
  * characteristics of self-reliance and leadership including:
    * the ability to take the initiative, to embrace innovation, and to manage change productively

*Figure 2. Graduate Capabilities Policy. (QUT 2008, 1.4)*

Operationally within the Faculty of Business, the University GA’s are in the process, as curriculum is revised, of being applied as the following working subset, which are required to map directly to assessment tasks.
Students will develop the following capabilities relevant to a global business environment:

- **Knowledge and skills pertinent to a particular discipline (Knowledge & Skills K & S)**
  - This subset is the focus for demonstrating “assurance of learning” in line with program accreditation requirements.
  - Apply disciplinary theory and appropriate technologies to practical applications
  - Identify relevant international contexts and/or standards
- **Be critical thinkers and effective problem solvers (Critical Thinking and Analysis, CTA)**
  - Identify and critically analyze information relevant to a business problem or issue
  - Evaluate potential solutions and make recommendations to effectively address problems or issues
- **Be professional communicators in an intercultural context (Professional Communication, PC)**
  - Demonstrate effective written communication skills
  - Demonstrate effective oral communication skills
- **Be able to work independently and collaboratively (Independence and Collaboration, I & C)**
  - Demonstrate constructive self-awareness
  - Be a productive team member
- **Have a social and ethical understanding (SEU)**
  - Apply ethical reasoning, standards or codes of practice relevant to the discipline
  - Make decisions that are informed by social and cultural understanding

**Figure 3. QUT Faculty of Business Graduate Capabilities for Assurance of Learning.**

QUT curricular policy specifically mentions graduate capabilities in relation to assessment, including that ‘students benefit from progressive feedback on the development of capabilities’ (Queensland University of Technology Manual of Policies & Procedures, 2008, section 9.1.5). The assessment policy also has, for some time, mandated the implementation of criterion referenced assessment in providing the guidance that

Criterion-referenced assessment requires the determination and communication of detailed and clear criteria, each with performance standards, in advance of the assessment. Well-designed and clearly communicated criteria and performance standards will invest the assessment process with a great deal of objectivity, but of necessity the process must also rely on the professional judgement of those doing the assessing. (QUT 2008, 9.1.3)

In compliance with this, assessment criteria and standards exist for all units across the Faculty. Unit coordinators have for some time met this obligation, typically by preparing ‘criteria sheets’ which are matrices in word documents showing criteria with standards aimed to match a range of performances corresponding to available grades, and which provide clear utility for communicating feedback to students. The following is an exemplar demonstrating how to use a criteria sheet to clearly present criteria and standards, and to link criteria with GAs.
Participating Units

In the QUT Faculty of Business, three unit coordinators (three of the authors of this paper) were approached and consented to participate in the ALTC project. The units involved are summarised as follows:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Curricular structure</th>
<th>Curricular purpose</th>
<th>students</th>
<th>taught by</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSB115 Management, People &amp; Organisations</td>
<td>Simulation of virtual business decision, problem based</td>
<td>Core BBus requirement</td>
<td>1200 per semester</td>
<td>3 lecturers ~20 tutors</td>
</tr>
<tr>
<td>AMB321 Advertising Campaigns</td>
<td>Group-based external client project with functional roles</td>
<td>Capstone to Major</td>
<td>100 per semester</td>
<td>1 lecturer 5 tutors</td>
</tr>
<tr>
<td>AYN418 Financial Accounting 3</td>
<td>Tutorials, Examinations, Research Project</td>
<td>Postgraduate</td>
<td>25 per semester</td>
<td>1 lecturer</td>
</tr>
</tbody>
</table>

Each of the unit coordinators spent time with the developer of the ReView application, concerning the wording of their assessment task criteria and documenting the alignments with relevant GA statements to be uploaded into the ReView application. As the existing unit curriculum documents already had required the completion of criteria sheets, this provided somewhat of a running start. However, as the institutions where ReView has been previously used did not articulate explicit grading standards statements as part of criterion construction, ReView in its current implementation leaves a bit of a blind spot for students and staff. In viewing task criteria in the ReView screens, they would still need to refer to the standards information elsewhere (still needing to look at the criteria sheet in either printout or another browser window from Blackboard) to self-assess or mark. An example of the ReView screen.
Engaging staff and students with graduate attributes across diverse curricular landscapes

As noted above, it had already been the practice at QUT to embed GAs with unit documentation for a number of years. However, the ATLC project prompted their review and provided a process for continuing improvement.

Differences between units within the faculty
BSB115 is a large first year introductory management unit, taught across three campuses, and with an intake of approximately 1200 students per semester. Lectures are delivered by a team of three, and approximately twenty tutors (all sessional staff) are involved in delivering the tutorial programme. Around two thirds of the students are enrolled on a Bachelor of Business Degree, with the remainder coming from over 30 different subject areas as varied as Sciences, Engineering and Arts. Ten per cent of the students are classified as International and around 15% are studying on a part-time basis. Almost all of the students are in paid employment in addition to studying (based on in-class surveys 2008). In BSB115, as in line with many core undergraduate management subjects, the unit was structured around a number of generic and transferable skills, including communication and teamwork. GA’s were explicit in some assessment criteria and implicit in others.

The advertising capstone unit, AMB321, sits at the other end of the continuum of student experience. Being the last unit before the students graduate, the focus is on applying the theory, models and applications, developed throughout their three years of advertising subjects to a real-world advertising problem. Hence, the content focus of the unit is not on acquiring new knowledge, but rather on exercising and stretching graduate attributes such as
critical thinking, communication skills, and independence and collaboration. These attributes are assessed through three assessment items. A theoretical paper on an aspect of advertising practice accounts for 30%. Their individual role in the advertising campaigns team consumes most of their energy and accounts for 50% of assessment. The third assessment item is a group mark worth 20%. It involves presenting the team’s advertising campaign to the client in a competitive pitch. A complexity of the role-based performance in teams is that the assessment criteria and standards vary slightly between roles, creating the need for staff and students to access a more complex body of information to understand and engage with the criteria.

The graduate accounting unit, AYN418 had small enrolments. A large number of the students, nearly half, were international ESL students, a large part of whom had done their undergraduate degrees overseas. The domestic students were mainly working full time. Only one assessment was aligned with GAs and fed back using aligned task criteria. An interesting variation was that, owing to a technical problem in accessing ReView at marking time, this coordinator used the ReView marking template in a paper-based format, rather than using ReView as an online medium. To date student and staff data on the impact of this mode of marking has not been obtained.

**Intermediate outcomes at QUT Faculty of Business**

**Review application**

Given the scale of the unit, one of the key challenges was managing the logistics of assessment using the ReView software. In BSB115 there are four meetings of the entire teaching team each semester, orientation, marking meeting one, marking meeting two and finally an end of semester feedback session. A number of practical recommendations emerged from these meetings including some ideas for technical improvements to the software (spell check, feedback screen, and emphasis on keys to coding of task criteria to GAs). Another practical realisation was that there is a necessity for tutors to have broadband access, in order to mark online from home.

**Engagement of staff**

The BSB115 tutor meetings were also a fount of ideas for improving feedback and engagement with graduate attributes by students. Ideas ranged from small tips such as using students and tutors names in feedback text, to theoretical discussions of the impact of students’ self-assessments on tutor marking. There was a general agreement that after overcoming a brief learning curve, online marking was much more efficient and transparent than paper-based practices. For instance, as the tutors in AMB321 embraced the new online system, they found it quicker for the smaller assessment items, yet struggled with the larger pieces. Often they marked in duplicate, writing comments on the hard copy and then duplicating these online. A shift in mentality was required, and probably would only be developed through practice, towards abandoning the red pen and marking solely online. The BSB115 coordinator also found that having the electronic access to feedback comments was a catalyst for some innovative whole of team tutor development exercises, such as using anonymous feedback via keepads, to critique and reflect on marking and feedback performances. The need for more flexible, timely and available technical support was highlighted by the experience of the AYN418 coordinator, when she needed to improvise and go back to paper feedback when experiencing technical problems up against her marking deadline.
Engagement of students
A key feature of the ReView application is the opportunity for students to achieve ‘internalization of criteria’ (Gibbs, 1999, p. 47) via self assessment. For the first assessment in BSB115, only 12% of students chose to undertake the self-assessment, this was only marginally improved by assessment two (13%). A need to consider strategies to boost student participation in self-assessment is obvious.

Both BSB115 assessments were marked on-line using ReView and the feedback was released to students (via ReView) one week prior to the marks being released and the work returned. One surprising finding was that 43% of the marked essay hard copies were uncollected by students, relying instead on ReView and obtaining their grades via Blackboard Gradebook (one week later) online. The lesson here was to focus on providing more detailed tutor feedback on-line rather than in the margins of the work itself.

The student feedback provided via the Learning Experience Survey for BSB115 was very favourable in terms of the assessment in the unit. Indicating almost 90% satisfaction with assessment and there were a significant number of qualitative comments stating that they saw the relevance and purpose of the assessment.

All tasks, information and assessment was set out clearly so was never in doubt as to what had to be done, when it had to be done by etc. (Student comment on LEX, QUT student learning experience survey, July 2008).

While the focus of the AMB321 capstone unit was certainly on graduate attributes, it was not the students’ focus. Their concern was on creating a great campaign, which they knew would secure their first job in advertising. In their last semester, they did not want to be concerned with more university rhetoric. Also, having mastered the CRA marking sheets in their journey at QUT, they did not want to know about a new online system of criteria (which gave them less detail and direction than their CRA sheets) in their final semester. It was clear that more effort had to be made to establish the relevance of graduate attributes to their impending job hunt.

AYN418 presented some general challenges in student engagement, which affected efforts to engage students specifically in relation to graduate attributes.

Conclusions
In terms of the ALTC project outcomes, the QUT Faculty of Business has so far achieved progress informing each of the four intended outcomes.

(1) The strongest outcome is in improved staff assessment capabilities. These improved capabilities are broader than, but definitely include a component around graduate attributes.

(2) Improvements of student learning have not yet been measured, although a large amount of student experience data related to the project activities has been gathered. If assessment quality and efficiency, support student learning outcomes, there has certainly been a reflection on established processes supported, but not limited by, the ReView tool. There was also a realisation that the diversity of CRA approaches, (specifically at QUT the use of standards), at different institutions may need to be accommodated within future application development.

(3) One of the issues that emerged was the need to make the graduate attributes relevant to the students. In many cases, students see the words in university documents or hear them
mentioned in welcoming speeches or in lectures. However, despite the fact that they are now being tied to assessment items, students still do not connect them with their employment prospects. They see graduate attributes as being a university priority, rather than an employer’s priority. In introducing strategies to engage students and raise their awareness of overall GA development, it may be necessary to consider a range of issues, including the potential contributions of self and peer assessment, cohort considerations and timings for applying strategies. It is clear that in relation to student engagement with GAs, there are many potential subtleties and combinations of strategies. Participation in the project has prompted much discussion and consideration of approaches, some of which are currently being implemented in the second semester of the project.

(4) Lastly, the piloted adoption of the ReView application at QUT confirms many of the cross-institutional diversities which are being experienced in the pursuit of curricular enrichment, as already widely reported (Barrie, 2006; Sadler, 2005). Through the resourcing and participation in such innovative cross-institutional collaborations, it is inevitable that valuable ideas and greater understanding toward achieving and demonstrating important outcomes relevant to the teaching and learning missions at each of our institutions will be gained.

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