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# Facilitating staff and student engagement with graduate attribute development, assessment and standards in business faculties

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## Abstract

Executive Summary The aim of the project was to promote and support strategic change in advancing graduate attribute development in Business education through engagement of staff and students with learning and assessment processes that embed graduate attribute development. The focus on graduate attributes currently is of upmost importance as Australian Business schools obtain, or seek to attain, international accreditation such as AACSB (Association to Advance Collegiate Schools of Business). The quality assurance process of AACSB requires each degree program1 to specify learning goals, and demonstrate a student's achievement of these learning goals. The participating institutions had all achieved initial AACSB accreditation and were in the maintenance of accreditation process. This situation was crucial in the project initiation and provided a platform for driving forward the process at a strategic level as well as being a prime motivator in the engagement of academic staff with the project objectives. Attribution: Support for the original work was provided by the Australian Learning and Teaching Council Ltd, an initiative of the Australian Government Department of Education, Employment and Workplace Relations.

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# Final Report

# Facilitating staff and student engagement with graduate attribute development, assessment and standards in Business faculties

## August 2009

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**2009**

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## Executive Summary

The aim of the project was to promote and support strategic change in advancing graduate attribute development in Business education through engagement of staff and students with learning and assessment processes that embed graduate attribute development.

The focus on graduate attributes currently is of upmost importance as Australian Business schools obtain, or seek to attain, international accreditation such as AACSB (Association to Advance Collegiate Schools of Business). The quality assurance process of AACSB requires each degree program[1] to specify learning goals, and demonstrate a student's achievement of these learning goals. The participating institutions had all achieved initial AACSB accreditation and were in the maintenance of accreditation process. This situation was crucial in the project initiation and provided a platform for driving forward the process at a strategic level as well as being a prime motivator in the engagement of academic staff with the project objectives.

To achieve the project aim a social constructivist approach to graduate attributes was adopted, whereby assessment processes, criteria and standards were framed within an active engagement and participation of both students and their Business educators. This process was supplemented where appropriate by using a pre-existing online assessment system, ReView. This system allowed staff to engage with the graduate attributes by developing criteria that assessed graduate attributes within the set assignments. Students were then encouraged to engage with these attributes through self evaluation of their performance for each criteria.

The impact of the project intervention was continuously evaluated using a variety of methodologies. The intended outcomes of the project included a perceived increase in staff awareness of graduate attributes with academic staff developing assessment criteria writing skills and establishing feedback mechanisms that aligned with graduate attributes. Student survey results demonstrated that student awareness of graduate attributes and understanding of assessment criteria improved as a result of the implementation of this process. The self-assessment element of the process was found to aid students in developing a better understanding of their graduate attribute development, with the data suggesting that students became more accurate in their self-evaluation over subsequent assessment submissions.

There were also a number of significant unintended outcomes from the project. The process assisted some of the academics involved in assessment grading were enabled to moderate marks across the tutor group, using the Online software system to collate tutors' comments and analyse tutor feedback by grading category. In illustration, a participating lecturer's approach to the analysis of tutor comments was 'revolutionary', working with tutors to align their marks with their feedback to students' comments (Cathcart, Kerr, Fletcher, & Mack, 2008). These and other related outcomes were shared at senior levels and gave the project a level of credibility that enabled a higher level of acceptance of the project implementation. The level of ownership taken of the process by the academic staff was significant in moving the project to a more intense level of engagement.

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[1] Program denotes a full course of study; a degree program

The project implementation process facilitated the development of a community of practice between the four partner institutions. This community has engaged in numerous productive discussions that have heightened awareness and provided solutions around a range of issues. It is anticipated that this community will continue to support and guide practice in teaching and learning in the business schools involved.

## Project Material

- EGA Project Related WebPages

UTS: http://datasearch.uts.edu.au/site_manager_sites/business2008/teaching/staff/EGA.html

USyd:

http://teaching.econ.usyd.edu.au/UoS/2_0_home.html

- Video Footage ( accessible through website/ALTC Exchange)
- ReView support materials

http://www.econ.usyd.edu.au/Learning/elearning/online/8

- "How to" Guides

    o https://fileshare.qut.edu.au/public/fletchmm/Caboolturelogin.swf

    o https://fileshare.qut.edu.au/public/fletchmm/CaboolutreSelfAssess.swf

    o https://fileshare.qut.edu.au/public/fletchmm/GASubjectProfile.swf

    o https://fileshare.qut.edu.au/public/fletchmm/ViewMarks.swf

- Interview Transcripts (QUT)
- Interviews with UTS Staff
- ALTC Exchange

    http://www.altcexchange.edu.au/supporting-engagement-gradutate-attirbutes-using-assessment-alignment-self-assessment-relevant-feedb

- Conference Presentations & Posters

## Project Overview

The 'Facilitating staff and student engagement with graduate attribute development, assessment and standards in Business Faculties' project focused on developing an approach to embed graduate attributes in the Business curriculum using an online system, ReView, to assist with the process. The term 'graduate attributes', as used in this project, encompassed: a broad range of personal and professional qualities and skills, together with the ability to understand and apply discipline-based knowledge.

Graduate attributes are often mentioned in curriculum documentation but the effective integration of these into developmental approaches in the classroom has proven to be somewhat elusive. In concert, the consistent alignment of graduate attributes with assessment processes is not widespread across the higher education sector (Chalmers & Thomson, 2008). The apparent lack of viable processes with which to engage staff in linking assessment to attributes initiated the development of an approach which utilised an existing online assessment system to assist the engagement process.

There is substantial evidence to suggest that not only does assessment drive learning (Ramsden, 2003), but also that assessment processes and student learning can be enhanced through a social constructivist approach (Rust, O'Donovan & Price, 2005). In a social constructivist approach knowledge about assessment processes, criteria and standards is developed through the active engagement and participation of both students and their educators (Kember & Leung, 2005). This constructivist approach was used as the theoretical foundation for developing a process to use across the four participating Business Schools.

The most prominent driver in this project was the accreditation or maintenance of accreditation from international bodies, such as EQUIS (European Quality Improvement System) and AACSB (Association to Advance Collegiate Schools of Business). These accreditation organisations require institutions delivering Business education to be able to demonstrate a process for ensuring that a student achieves designated program learning outcomes as defined by clearly articulated goals for key business and management-specific knowledge and skills. The process developed, implemented and evaluated as part of this project was trialled as a mechanism for providing evidence to assure that certain standards of student learning are met. The fact that the institutions were AACSB accredited, and the focus of this accrediting agency on continuous improvement through program level assurance of learning processes, was a major consideration. The project's success is closely associated with the strong influence of institutional adoption of policy, as well as a mechanism to engage and encourage academic staff to implement an approach to demonstrate assurance of learning.

The approach taken to move forward on embedding graduate attribute development and assessment evolved from an innovative approach, originating in the Faculty of Design, Architecture and Building at University of Technology, Sydney (UTS) that was being used to assess and give feedback to students on their work. This method of assessing and tracking graduate attributes via assessment was incorporated into a pilot project at The University of Sydney, where the online assessment system was successfully implemented. The initial pilot

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led to a further implementation at UTS business and subsequently to the ALTC project proposal - which aimed to further develop an approach to develop a constructivist approach to graduate attributes, with both staff and students using the existing online system, ReView, in the implementation (Thompson & Treleaven, 2008).

During the course of the project a community of practice was established which incorporated both the project team and associated academic staff using the process in their own practice. These experiences led each institution to review their policies, practices and/or procedures at the program[i] level.

## Academics

**Graduate Attributes** identified through whole of program mapping process

**Relevent Graduate Attributes** reflected in learning outcomes for units of study

Assessment criteria made explicit through careful wording which shows the relationship to the Graduate Attributes, the expected outcomes and levels

Lecturers work with Tutors to develop understanding of relationship to the Graduate Attribute learning outcomes, levels with the assessment criteria

Lecturers and Tutors introduce Graduate Attributes in relation to assessment criteria to students

Academics introduce effective self-assessment techniques to students

Staff use ReView to mark each of the assessment criteria providing feedback in relation to the Graduate Attributes

Academics receive performance feedback on student success in relation to Graduate Attributes, in order to modify teaching.

Unit of study evaluated for future development.

Unit of study evaluation used for program mapping and review of policies and procedures.

## Students

Students introduced to Graduate Attributes in conjunction with the assessment criteria both in class activities and through the use of ReView

Students are prompted to self-assess using ReView prior to submitting their assignments

Students receive specific feedback and an overview of their achievement in the Graduate Attributes, which helps them to manage their future learning

## Support Mechanisms

Academic Development Workshops to support assessment criteria writing

IT required to support staff using ReView

A bank of stem criteria developed in ReView as a resource for staff

Mechanisms to assist with this alignment were used Including an alignment table and in the ReView software

ReView system used to emphasise relationships between Graduate Attributes and assessment criteria (colour coding)

ReView used as a tool to mark work quickly, and efficiently.

ReView system allows the unit of study coordinator to review the spread of tutors' marks and student achievemnt across the Graduate Attributes
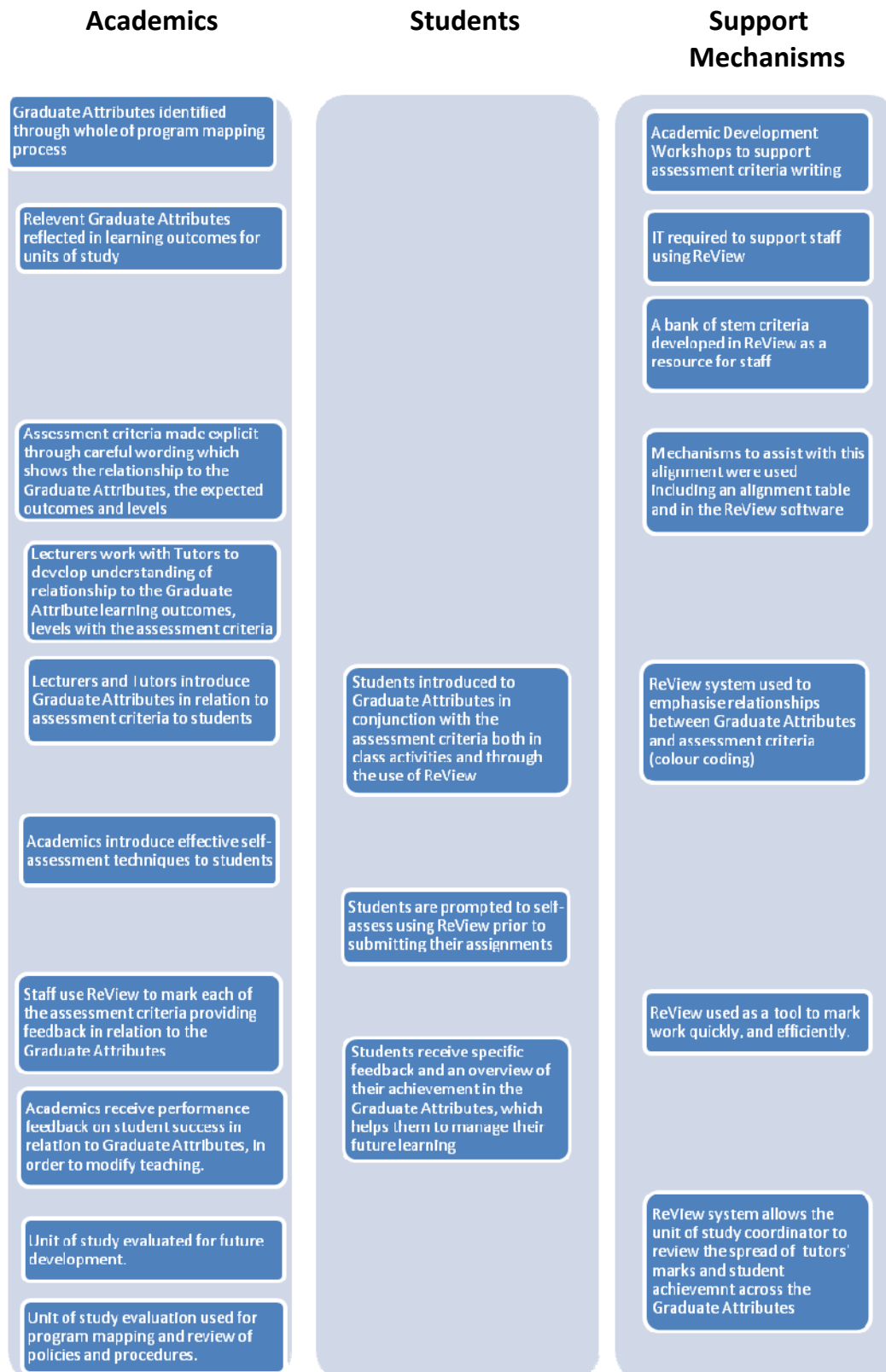
**Figure 1: Process developed to actively engage staff and students in a social constructivist approach about graduate attributes, assessment processes, criteria and standards.**

The implementation process that was developed as a result of the project is outlined in Figure 1. This figure illustrates the accumulation of practice across all the institutions and the identified critical success factors. It is however noted that the process needed to be flexible enough to be adapted to institutional and academic staff needs. Thus we suggest that the elements in Figure 1 can be seen as a complete process or taken as discrete elements of an overall process can be selectively implemented dependent on the requirements of the unit of study.

The implementation and engagement process developed within the scope of the project can also be delivered without the use of technology. However, it is acknowledged that the project outcomes were enhanced by use of an online system developed to support the process. The online system used in this project, ReView, is a package that provides students with criteria-based tutor feedback on assessment tasks and also provides opportunities for student self-assessment online. The initial steps of using an online software system incorporate a systematic 'review' procedure whereby assessment criteria are linked to graduate attribute categories and the criteria are clearly worded to ensure the qualities, knowledge and skills that are valued in student performance are explicit. Through this process, academics have the opportunity to clarify and demonstrate an unequivocal alignment of assessment tasks to learning objectives and graduate attribute development across units and levels of a program of study.

This initial stage requires academic staff to identify which graduate attributes are being addressed in the unit of study. In illustration the five categories of attributes listed in Figure 2 were developed and then colour coded to direct the student's attention to graduate attributes and to ensure the assessment criteria are aligned to graduate attributes. Academic staff then develop the assessment criteria linked to these attributes ensuring that the wording make the academic standard expectations and level of achievement explicit (see Figure 3).
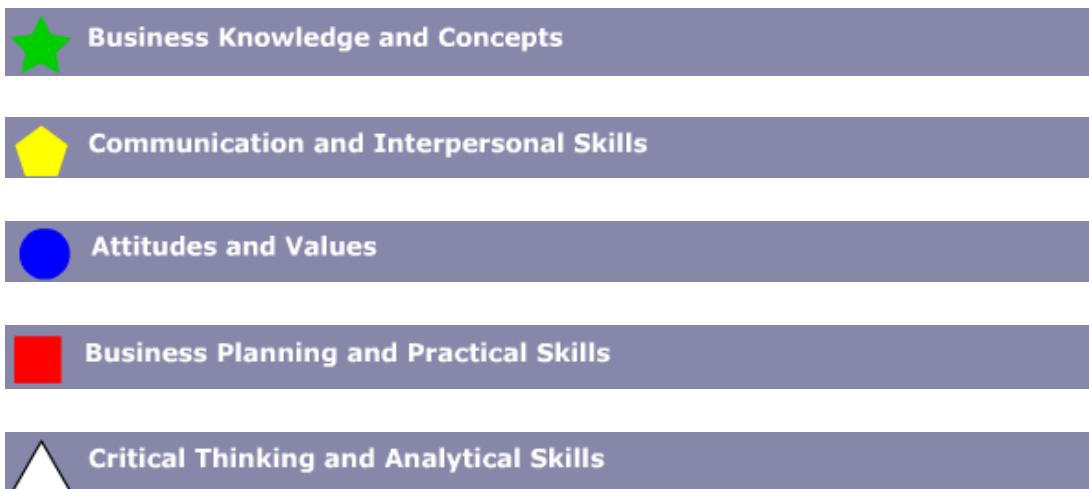
**Business Knowledge and Concepts**

**Communication and Interpersonal Skills**

**Attitudes and Values**

**Business Planning and Practical Skills**

**Critical Thinking and Analytical Skills**

**Figure 2: ReView Screenshot: Example of Colour Coding for Graduate Attributes at one unversity**

Students are able to view these assessment criteria before submitting their work and they visually see how the criteria align to the graduate attributes through the colour coding system. In colour coding each criterion to an attribute category, students are also able to view illustrative pie charts of the proportion of assessment criteria that relate to attribute categories for each assessment task in the unit of study. Students are prompted to self-assess their work in light of each of the criteria using a sliding scale for each criterion which then shows an overall grade category (see Figure 3).

Academic staff are given the choice of marking directly online using ReView's data sliders or using a paper printout to mark offline. Unit of study benchmarking is facilitated through possible use of a 'Total' data-slider that moves the individual sliders against each criterion and recalculates the overall task weighted marks, adjusting the total mark whilst keeping the marker's relative assessment of each criterion. This feature facilitates both granular judgments (through individual criteria) and a holistic judgment (through total assessment mark) made on the aggregate mark for a specific assessment task. As ReView is web-based, when the unit of study coordinator works in conjunctions with other staff or tutors, it is possible to view tutors' marks and comments when they are entered and moderate where necessary before grades were published for the students to access. As the project progressed academic staff decided to publish feedback on the online software system prior to the marks being released in the formal institutional manner. This delayed release mechanism prompted students to focus on the feedback they are given without the distraction of the grading.

Where there is a large variation between a student's self-assessment and the marker's criteria grading, the markers are able to use this variation as a basis for feedback in the online comment box.

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**Figure 3: Marker's view of a marking screen from a Faculty of Business unit of study.**

A: Selectable list of students (obscured here for ethics de-identification),

B: Colour-coded symbols next to the criteria represent one of five attribute categories in this particular university example,

C: Data 'sliders': The black bar is the tutor's slider. Triangles on the top edge of the data sliders are students' self assessments (done prior to tutor marking and not visible until tutors have marked),

D: 'Total' data slider: the black bar can be dragged causing the marks and bars on other criteria to move in proportion for benchmarking purposes.

## Uses and Advances in Existing Knowledge:

Institutional support for the acquisition and assessment of graduate attributes has been inconsistent and not without its problems (Hoban et al. 2004). Barrie (2004, p. 261) claimed that, "it is apparent that Australian university teachers charged with responsibility for developing students' generic graduate attributes do not share a common understanding of either the nature of these outcomes, or the teaching and learning processes that might facilitate the development of these outcomes." Attempts to integrate graduate attributes into teaching and assessment have met with responses ranging from reluctance and resistance to full adoption (Rust, O'Donovan & Price, 2005). Student reluctance is understood in terms of their central focus on practical and technical skills for entry into employment.

On the other hand, academics' resistance is understood in terms of their expectations that assessment is based only on discipline-specific content and that assessment of 'additional' attributes is a distraction or unnecessary extra work. Additionally, lack of awareness about how to develop graduate attributes across a degree program further reduces the concern to integrate graduate attributes at the individual unit of study level (Harvey & Kamvounias, 2008).

This project attempted to bridge the gap in academic staff understanding of graduate attributes, by introducing academic staff to methodologies to embed these attributes into their teaching through alignment of assessment criteria and feedback to these attributes. The use of self assessment also aided the students learning process in making the connections between graduate attributes and assessment. There is substantial evidence to argue that first, engagement in this project generated changes to teaching practice, particularly in improving the capability of staff to embed graduate attributes within assessment tasks and align them with learning outcomes; and second, that an improvement in some aspects related to student learning outcomes was achieved.

Research indicates that embedding opportunities for the development of graduate attributes and their mapping results in "a representation of the teachers' perspective and expectations, and may not be aligned with what the students both experience and perceive in terms of their development of graduate attributes" (Bath et al. 2004, p. 325). The teaching and assessment of these graduate attributes are often mentioned in curriculum documentation but the effective integration of these into developmental approaches in the classroom has been somewhat intangible.

The evidence from this ALTC project has shown that students and academic staff perspectives do differ at the beginning of a unit of study but the process of self-assessment and receiving feedback related to assessment criteria can assist students to gain perspectives more closely aligned to those of the teaching staff. This increased understanding is also evident in data that indicate that students' self assessment gets closer to the tutors marks as they progress through a unit, showing that expectations are getting more accurate as a result of this process of engagement. This evidence can be triangulated from a number of sources. In the transcripts of

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the project team's reflections it is possible to see how the online software system acted as a catalyst in this capability development and the alignment of graduate attributes with intended learning outcomes, teaching and learning activities, assessment tasks and assessment criteria. Furthermore, numerous Units of Study outlines demonstrated beneficial changes and improvements in terms of the criteria used by the associated Faculty in their annual audit of outlines, e.g. extent of alignment across the curriculum, provision to students of clear assessment tasks and criteria.

There is substantial evidence not only that assessment drives learning (Ramsden, 2003) but also that assessment processes and student learning can be enhanced through a social constructivist approach (Rust, O'Donovan & Price, 2005). In such a constructivist approach knowledge about assessment processes, criteria and standards is developed through the active engagement and participation of both students and their Business educators (Kember & Leung, 2005).

With regard to the students' engagement with assessment processes, there was strong evidence to suggest that students had a thoughtful and reflective approach to their own self-assessment and to their attribute development. These quantitative results were supported by students' qualitative end of unit of study comments that indicate some students indicated that the assessment tasks helped them to develop graduate attributes.

## Evaluation

The project was evaluated using a range of methods. A questionnaire was administered to students before they began the units that incorporated methodologies aimed to engage them in graduate attribute, as well as after they had completed the units. Consultations took place for both lecturers and students in each institution in the form of focus groups and interviews. These were conducted pre and post intervention implementation. Quantitative data was also collected in the form of student self-assessment scores and tutors' marks on assignments as a means to measure performance and changes in understanding of assessment criteria as a result of using the ReView system.

In this project, anecdotal evidence from the participating teaching academics provided the best evidence of the contribution this teaching and learning initiative has made to staff and student awareness of graduate attribute development in business education.

## Project Outcomes

| Intended | Achieved |
|---|---|
| Increased staff awareness of engagement with Graduate Attributes and ways of embedding Graduate Attributes development in curricula, with a focus on the alignment of specific attributes with appropriate teaching and learning activities and assessment tasks. | Interviews and focus group data indicate an increase in awareness of graduate attributes with academic staff developing assessment criteria and feedback mechanisms that align with graduate attributes. It expected that this improvement was due to the implementation of the whole or part of the process in units of study. |
| Improvement of student learning through effective assessment tasks that specify Graduate Attributes and align these clearly with intended learning. | There is an indication that students' performance improved over the course of a unit of study but a causal link to this increase in marks cannot be made to the process that was introduced (too many intervening variables). The combination of in class activities and use of ReView to self-assess is seen to be an important factor though in this increase.

Student survey results indicated that student reported that their awareness of graduate attributes and understanding of assessment criteria increased |
| Improvement in students' awareness of Graduate Attributes in relation to their educational progress and professional development. | The self-assessment process allowed students to develop a stronger understanding of their graduate attribute development and the quantitative data suggest that students became more accurate in their self-awareness as unit progressed |
| Improved organizational understanding and processes relating to assessment and GAs arising from evidence-informed practice and cross-institutional benchmarking. | The partnership was found to be a major strength of the project allowing a platform for constructive discussion and support in development.

Policies and procedures for programs were reviewed in participating institutions as a result of the project. |

## Project Deliverables

| Intended | Achieved |
|---|---|
| Formulation of an assessment process that enables the progressive integration, tracking, assessment and profiling of GA development for Business academics. | An approach was developed that incorporated:<br><br>- Assessment criteria development support for teaching staff<br><br>- Alignment of criteria with graduate attributes<br><br>- Self-assessment process for students<br><br>- Feedback procedures aligned with specific criteria which linked to graduate attributes<br><br>This process was implemented using the online system "ReView" |
| Guide for Business educators and academic developers to enable and inform the catalytic process of GA formation, implementation and tracking.  The guide will be tailored specifically to support Business and Commerce curricula.  It will be adaptable to other discipline contexts. | Guide material has been developed to aid users in writing assessment criteria that align with graduate attributes<br><br>Workshops and one to one sessions have been developed to support academic staff<br><br>Video footages to discuss using the process are available as a learning resource |
| Dissemination workshops for Business academics aimed at developing communities of practice.  Peer learning process will be used initially to create communities in the Partner Institutions, followed by workshops and subsequent implementations with Cascade Participant Institutions.  Use of ABDC to build an extended leadership community across other institutions. | The development of a partnership community has been a strength of the project with institutions supporting each other in their development<br><br>Workshops have been delivered in faculties to develop teaching staff understanding and criteria writing skills |
| Documented valid evidence (measurements; qualitative data) of effects intended (e.g. 'increased staff engagement with of GAs'; 'improvement in student learning'). | The results of the evaluation methodologies (focus groups, surveys, interviews, assessment marks) provide both quantitative and qualitative evidence in the effects of the project |
| Final report, journal publications and conference presentations. | Conference presentations and posters to AACSB (Hawaii & Dallas), ABDC (Hobart ), |

| | GAP (Sydney) Three publications are in print and a further two paper s are to be submitted in 2009 |
| --- | --- |

## Participation Table

| Institution | Course/Subject | Academic Staff | Assessment Items in ReView | Student Nos. |
|---|---|---|---|---|
| UTS | Applied leadership and Strategy (2 implementations) | 3 | Leadership Audit | 45 +43 |
| UTS | Macroeconomics (3 implementations) | 3 | Assignment Part A + B | 250 + 107 + 481 |
| UTS | Arts Organizations & Management | 1 | Strategic Plan | 26 |
| UTS | Managing People & Organizations (2 implementations) | 11 | Applied Management report 2$^{nd}$ iteration: Individual assignment (40%) | 1350 + 402 |
| USyd | Introduction to Human Resource Management | 2 | Presentation Case study report Final exam | 87 |
| USyd | International Human Resource Management | 3 | Essay Class Participation Exam Group project | 157 |
| USyd | Human Resource Development | 3 | Essay Class Participation Exam Group project | 86 |
| USyd | Corporate Finance 1 | 4 | Essay Class participation | 283 |
| USyd | Ethical Decisions in International Business | 2 | Fortnightly team assignments Learning journal +Case study report | 49 |
| USyd | Trade Practices & Consumer Law | 1 | Tutorial participation, Individual assessment, Oral presentation, Quiz, Group research paper. | 62 |
| USyd | Business in Global Environment (3 implementations) | 16 | In class quizzes, Team case studies, Reflective journal, Country opportunities /risk report | 100 |
| QUT | Management People and Organizations (4 | 21 | Virtual Business Group Project | 1302 900 |

| | implementations) | | Individual essay | 200 |
|---|---|---|---|---|
| | | | | 1000 |
| QUT | Advertising Campaigns (3 implementations) | 3 | Part A, Individual component | 92 |
| | | | Theory paper | 94 |
| | | | Part B, I C + Pitch | 51 |
| QUT | Managerial Accounting | 1 | Mid Semester Exam | 25 |
| | | | Tutorial Assessments | |
| | | | Research Project | |
| QUT | Working in Business (2 implementations) | 1 | | 200 |
| | | | | 1500 |
| QUT | Managerial Economics | 1 | | 200 |
| QUT | Leading Organisations | 1 | | 296 |
| UQ | Introduction to management | 1 | | 141 |
| **Totals** | **18** | **78** | | **9529** |

## Methods

### Pre and Post Student Survey

A questionnaire was administered to students who had been taking units that were engaged in the project in order to promote awareness of graduate attributes. The survey methodology included the administration of a pre questionnaire to obtain information on student awareness of graduate attributes before the unit and a post survey to measure awareness after the unit. This post survey also further explored how engagement with the graduate attributes had aided the students learning.

The data collected indicated that graduate attribute awareness was very low in students at the beginning of the unit but there was an increase in the number of students who reported they were familiar with graduate attributes at the end of the unit. Students credited the unit of study for this awareness, which is a positive outcome. Further questions were asked to find out how these students had engaged with graduate attributes. The majority (93.2%) reported that their involvement with the unit assessment along with the classroom activities had been responsible for developing this awareness. The assessment was linked to the graduate attributes for all the students which would have increased this awareness and a number of units of study had assessment that involved students using the system to self-assess their work using criterion that was again directly linked to the graduate attributes through the colour coded system. It would appear that this element of the project intervention (i.e. direct links to graduate attributes and the self assessment mechanism) assisted the students to gain a better understanding of both what was expected of them in their assignments and how the assignment could demonstrate the graduate attributes. The in class activities reported as heightening awareness of graduate attributes would indicate that as staff became more aware of the graduate attributes they gave greater emphasise and attention to their development through learning activities in their classrooms..

The impact of the online software system in aiding students to understand the assessment criteria was again evident from the survey questions relating to the assessment. The students reported they were able to clearly see how the assessment criteria linked to the graduate attributes (79.6%) and that this meant that the criteria being applied for assessing was easier to understand (76.4%). This increased understanding would also have an effect on the feedback mechanisms by being able to identify areas for improvement through a better understanding of the criteria referenced feedback.

The impact of the self-assessment process made an impression on the students' understanding of what was expected of them in relation to the assessment criteria and the level that was required. As a result of completing the units that incorporated self assessment, a reasonably large proportion (60.7%) reported they would like the opportunity to self-assess in all their units.

**Interviews**

Interviews were an effective method to gather anecdotal data relating to cognitive changes academics perceived were achieved through their use of the online software system to foster engagement with graduate attributes. Project participants were eager to share their experiences of the process in relation to the project aims. For example, in a focus group interview conducted during the project implementation at Sydney University, tutors expressed their positive experiences:

*Do you think the students have learnt more about graduate attributes than they might have done under previous ways of teaching or assessing?*

Interviewee: Yes, without a doubt. It makes you talk about them so much more. When they say to me, I don't need clear writing; I want to be a stock broker… (laughter) and I say, a stock broker needs to write reports… That's what I would say about the graduate attributes, you've got to link it all in and make them connect the dots.

*How have your criteria for evaluating or assessing these graduate attributes changed as a result of being part of this project? Have they changed?*

Interviewee: They did for me. I thought about this post going through the ReView process. Where in the past you'd build your course outline by thinking about what the subject terrain involves - so you slowly build it about how you're going to develop the course so you can deliver what the students need to learn. With ReView, it made me work backwards. So from the assessment tasks back into what the course involves. It really made me think about, what is it that I'm getting these students to do? Beyond answering an interesting question and going into that research and inquiry phase that we get all students to go through. It made me focus on, what does this task involve and how is it really honing in on particular graduate attributes? I did that implicitly and it forced me to think about

> it explicitly. It really broke them down without discounting what the whole meant. It didn't sort of splice it up and break it down into a meaningless set of components. It really made me think about what I'm getting each student to evaluate in what they're doing and what I'm assessing as the result of that.

The full transcripts from the interviews were analysed and the following themes emerged: writing criteria – change and reflection; self-assessment – student benefit, learning engagement, and awareness; graduate attributes – building blocks, contextualised, structured approach; and grading assessments – processes, standards, student feedback, and student learning. The emergence of these themes indicated that staff involved in the project experienced a similar impact as that reported by their students.

**Focus Group Interviews**

*Staff Engagement*

Staff were given the opportunity to reflect on their experience of using the system to engage with graduate attributes within their units through the focus group interviews conducted at each implementation site. The following focus group findings illustrate how their involvement in the project has facilitated engagement with not only graduate attributes and but also teaching and learning in general:

- Explicit descriptors for grading students are beneficial: "How can students be expected to self-assess, when the teachers have different individual expectations for awarding HDs or Ds, C, etc." (Focus Group participant).
- There is a demand for 'grading descriptors' and that are made available to students as well as teaching staff.
- The online software system forces teaching staff to reflect on learning objectives and ensure these are more explicitly linked to assessment criteria.
- The online software system greatly aides teaching staff to demonstrate how to ensure criteria are aligned with Graduate Attributes.
- Teaching staff felt that both they and their students, were more aware of graduate attributes as a result of their participation in this project, and they stated they would use ReView again.
- Several champions of the system emerged, and several focus group participants noted the online software system improved their marking experience. There was a general perception that the project had a positive impact in their Business School, especially in terms of teachers finding a strategy for the effective delivery of feedback.
- Some participants noted that the success of the online software system is aligned to particular teaching styles and that it might not be effective for everyone.

- The evaluation process itself i.e. focus group discussions is an effective way of fostering a "community of practice".

### *Student Engagement*

The focus group participants also commented on the impact the project had for their students with the points below providing evidence for this:

- All tutors remarked on how those students who did self-assess rated themselves rather more highly than their tutors initially but became more accurate over the course of the unit.
- On self assessment issues, one of the tutors said that in his class of 50 students using the online software system, only 1 self-assessed - but he made the point that this was probably a cultural obstacle as most of his students due to their cultural heritage were uncomfortable with the concept of self-assessment.
- At one institution there was unanimous agreement about the effectiveness of the online software system in terms of providing detailed feedback that students would read, independently of the process of merely collecting their assignment marks.
- There was some debate whether students rely on hard copy feedback, with some academic staff presenting a very definite opinion that ReView could not possibly replace that hard copy. Others provided only online feedback through the online software system with students reporting that they appreciated that form of feedback. There was some evidence in the student survey responses of similar student sentiments.

### Quantitative Data (Raw Student Data)

The data obtained from the online system has produced a complementary set of results. When student progress in their unit of study is monitored in tasks over the course of the unit then there is a significant increase between the coursework tasks ($t(238,1)=-2.411$; $p=0.017$) but this improvement is no longer evident when the examination assessments are considered (these tasks did not ask students to self-evaluate and the criteria was not linked to the graduate attributes of tasks one and two).

The initial task logged in the online software system showed a significant contrast between the teaching staff assessment and the students' self-assessment, with students overestimating their ability on every criterion. This variation diminishes with time and on the latter tasks there was no significant difference found between academic staff and student marks. This would indicate that students are aligning their expectations and standards to the standards applied by the staff as a result of the self-evaluation and feedback system.  There is also the possibility that in the first instance students are not taking the self assessment seriously and are putting in marks that they would like to achieve rather than assessing their work at standard they believe they have submitted.

Although student and staff marks vary in the initial tasks the data predominantly follow the same pattern with correlations found in the results. This means that although students are not accurate in rating their ability they are able to judge which criteria they have performed better in than others. These results are again encouraging for supporting the approach adopted by this project.
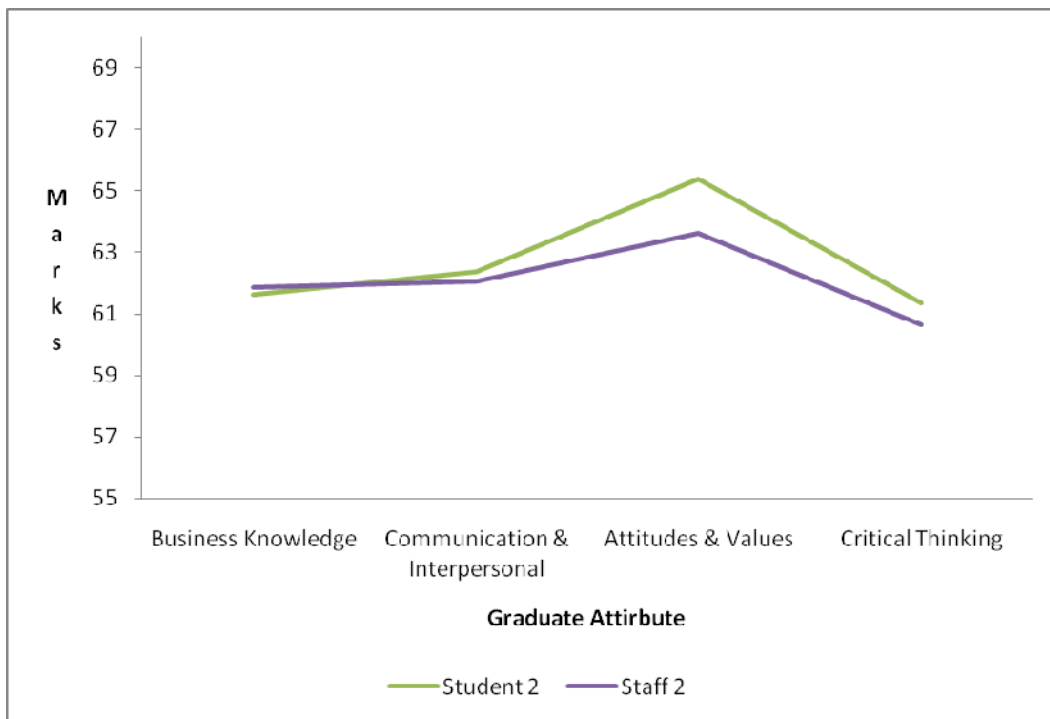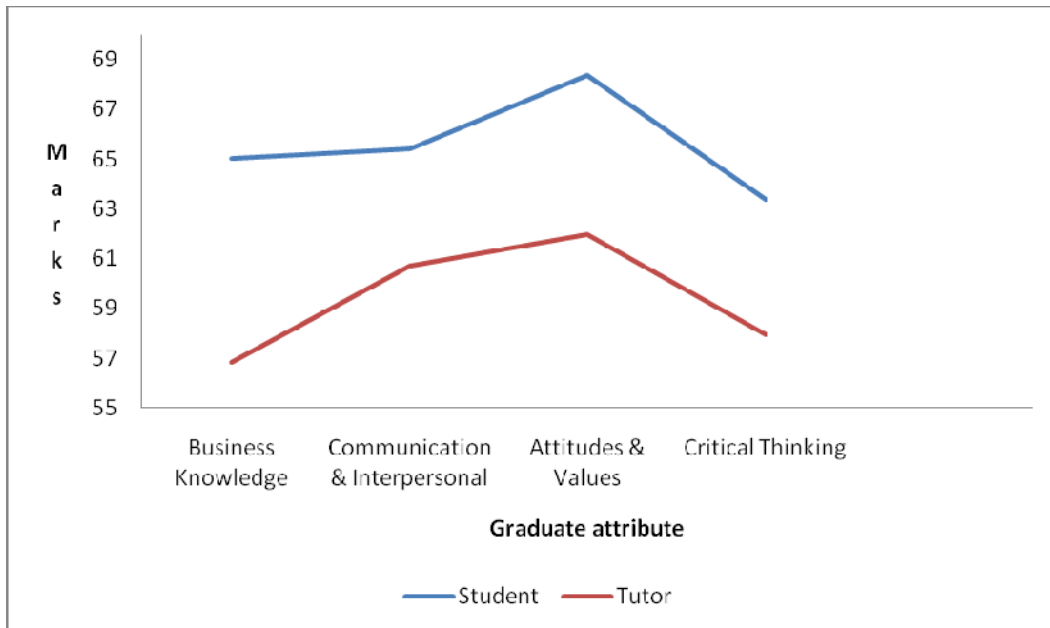
**External Feedback**

The process, objectives and outcomes of the project has been presented to a variety of audiences at both national and international conferences (for example AACSB International Conferences, ABDC National Conferences). Each presentation included an evaluation to gain feedback and suggestions for the project. The majority of comments from colleagues in the Business Education sector were very positive with responses including the following quotes:

- Very innovative
- I will use this presentation as the basis of making changes in T&L at my university
- The bottom up approach and involving student self assessment is inspiring. Thank you
- This initiative is really innovative and is particularly interesting because it goes beyond AACSB requirements
- Proactive and informing presentation, will be very useful to teaching & learning development at my university
- Would be keen to experiment with this tool.

**Case Studies**

There were four institutions involved in this project. Each business school has a different context, culture and approach to graduate attributes. The brief descriptions below highlight key aspects of each participating institution and the bases established through the project for continued process of graduate attribute engagement. There were substantial differences between the four participating universities, particularly in terms of the stage they were at in relation to developing and engaging with graduate attributes. This was evident in the implementation of the project approach with different levels of resources and commitment from faculty staff, as well as in the amount of existing policies and protocols already in place.

***University of Technology, Sydney (UTS) Faculty of Business***

At the time of the project initiation UTS did not have a university wide set of designated graduate attributes, although it did have a graduate profile framework. It was therefore necessary to firstly develop specific graduate attributes for the Faculty of Business and its courses and then work to engage students and staff with these attributes.

***Progression and Sustainability***

- The development of strong academic leadership for constructive change in strengthening existing internal teaching and learning policies and procedures
- Enhancement of staff capability in writing assessment criteria based on graduate attribute development
- Embedding graduate attribute development and assessment in course curriculum of all degree programs
- The further development of the ReView software as online system for implementing the process and as a method for mapping assurance of learning within programs

- The roll-out of ReView across all faculties at UTS will mean that continued development of graduate attributes is centrally supported.

### *The University of Sydney*

The University of Sydney participation in this project follows a pilot and study with three business academics over two semesters. The two principal strategies adopted have been consistent with an approach to change that is needs-oriented and relies on collegiate diffusion. To support this orientation, pilots in varying sites across the Faculty with innovators were strongly supported before wider adoption of successful pilots.

Strategies for "buy-in" with the online software system have therefore been orientated towards meeting academics' current needs for:
- Ease of assessment
- Ease of feedback to/for students
- Monitoring of multiple markers anytime, anyplace
- Overall meeting of Program Learning Outcomes

The strategies at the The University of Sydney are as follows:
- The University of Sydney graduate attributes and their alignment with specific unit learning outcomes, learning activities, assessments and assessment criteria
- The subsequent entry of these assessments and assessment criteria into ReView
- Unit of Study Outline template, especially a curriculum alignment table
- Assurance of Learning template a program level
- Various university-wide feedback measures (such as Unit of Study Evaluation, Course Experience Questionnaire and several others).
- Linking to three strategic Learning and Teaching priorities at level of Dean's responsibility

The embedding of graduate attributes has also been facilitated through communities of practice such as:
- Learning and Teaching Associates Network
- Newly appointed Program Directors

### *Progression and Sustainability*

Strategies for disseminating the project developments have been premised on a model of diffusion of successful practice through;

- Learning and Teaching Associates into their discipline – informally with colleagues, teaching innovation group, workshop, seminar, more formal bi-annual meetings
- Funded L&T projects in disciplines
- Leverage off particular disciplines into other disciplines
- New Masters programs with newly appointed Program directors

- Feature articles in fortnightly bulletin *Teaching Matters*
- Journal publication and dissemination of a discipline-based innovation
- Development of implementation resources, including hard copy ReView kit and online website ttp://www.econ.usyd.edu.au/Learning/elearning/online/8

### *Queensland University of Technology*

QUT has had a long standing interest in embedding graduate attributes within its courses, in order to prepare its graduates to perform effectively in employment contexts. This has included mapping how and where graduate capabilities are developed and assessed across courses and units of study before courses and units can be formally approved by the University.

The Faculty of Business has its own history of initiatives concerned with embedding graduate attributes into curricula. For example, as far back as 2001-2, the Faculty funded and developed a case-study-based curriculum, in partnership with the Port of Brisbane Corporation, designed for developing discipline knowledge and generic graduate attributes across the eight core units of the undergraduate degree, in partnership with that organisation (Radfield, 2004). Significant curricular changes, including the mapping and embedding of graduate attributes and reflective self assessment of generic capabilities by students, were achieved by that initiative. However, that approach was unable to be maintained because the nested case-studies, relying on much specific and continuously changing content, were not able to be updated and maintained as teaching staff for the units turned over. More recently, the faculty has introduced Criterion Referenced Assessment (in 2004) and conducted a review of Faculty Assessment Guidelines (in 2007).

The Faculty's participation in this current ALTC project coincides with events and processes which have historical and concurrent influence upon staff engagement with curricula in general, and engagement with graduate attributes in particular. These historical and concurrent and processes include:

- A history of recent initiatives concerned with graduate attributes
- The first review of the Undergraduate degree in 10 years (Undergraduate Review)
- A period of Criterion Referenced Assessment (CRA) implementation across the University and within the Faculty
- Involvement in accreditation processes
- Formal policies and processes requiring graduate attributes to be embedded in the curriculum
- Establishment of a new team of specialist Teaching and Learning Consultants and Learning Designers to support curricula improvement and learning resource renewal.

Strong discipline communities of practice existed in the Faculty prior to this EGA project. As noted above, the Faculty has used a community of practice approach for the implementation of criterion referenced assessment since 2004. Subject area coordinators have led discipline teams in implementing criterion referenced assessment, and more recently at the end of 2007 in refining assessment based on the reviewed Faculty Assessment Guidelines. Consequently, across most majors and disciplines relatively strong communities of practice were in place

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before the EGA project. These communities of practice work within an action learning framework, with a focus on continuous improvement of teaching and learning practice, based on regular evaluation and monitoring of outcomes in teaching, units of study, and across majors and whole of programs. These discipline teaching teams are also actively engaged in the alignment of graduate attributes to unit learning goals, major goals and overall program goals.

***Progression and Sustainability***

- Each teaching cycle additional units have been implementing the online software system for assessments, based mostly on understandings of the benefits of engaging students with CRA and self-assessment as well as productivity for managing marking and providing better quality feedback to students on performance.
- Moving towards our assurance of learning process, a schedule of units to be sampled for performance against program goals will be set out and planned for implementation over Semester 2, 2009 and beyond.
- Developed further web-based support resources for students and staff.
- Ongoing negotiations with central Teaching and Learning Support Services, moving to have the ReView building block integrated with our Blackboard LMS. This process had shown very high levels of interest in implementing ReView as a QUT wide system.

### The University of Queensland

At the commencement of the project The University of Queensland had statements on graduate attributes that covered all programs undergraduate, postgraduate, and PhD. The undergraduate program graduate attributes are broadly based under five categories:  in depth knowledge and skills in the field of study, effective communication; independence and creativity, critical judgement, and ethical and social understanding.  The post graduate attributes are based under the same five categories, however, it is recognised that some postgraduate students are entering programs for the purposes of changing fields of study; others are looking to undertake additional study within their chosen field, and a third group are looking at undertaking research based programs. The post graduate attributes are enhanced in each of the five categories with specific research based attributes integrated.

The following points summarise activity at the beginning of the project:
- Schools were required to provide a mapping for each program.  These mappings show which units of study within a program are developing which attributes.  Each program is required to develop all the graduate attributes.

The university had standardised Course Profiles. As part of the development of each course profile academics are required to list their course objectives and then align these course objectives to the graduate attributes.  As part of the development of each course profile academics were required to also link course objectives to each learning activity; to also link course objectives to assessment; and to list their course objectives and align these course objectives to the graduate attributes.

This linking was undertaken by a series of check boxes; with the system making this a mandatory requirement before the course profiles becomes available for students to view. However, examination of the course profiles indicated that many staff do not really understand the notion of what it means when they "tick" the box. Some specific examples include: a course that develops all graduate attributes for all course objectives even though this clearly does not make sense. By only linking course objectives to learning activities and then linking course objectives to assessment many academics and students did not consciously recognise the connection between graduate attributes and learning activities, nor graduate attributes and assessment activities.

### *Progression and Sustainability*

Progress was slow at The University of Queensland due to a number of reasons which included lack of staff buy in due to promotional rounds prioritising their work loads. As it was difficult to implement the approach developed by the project the future is still focused on implementation rather than sustainability.

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## Most Valuable Outcomes for the Project

Commonalities of valuable outcomes across the four partner Institutions were:

- Assurance of learning (AOL) requirements had the most significant influence on outcomes, with CRA and GA awareness already high in some of the universities, the common external driver of AOL compelled academic staff to confront how they were achieving continual AOL process improvements.
- Related to the above the confluence of this EGA project, the AACSB emphasis on AOL in regard to program learning goals (GAs) and curriculum mapping for courses was a driving factor for facilitating change.
- Demonstrated evidence of academic engagement in re-thinking learning and designing assessment to align graduate attributes.
- Changes to the way teaching staff think about and write assessment task criteria, in terms of generating pre-assessment discourse between academic staff, especially tutors, and students concerning finer meanings of assessment criteria.
- Demonstrable development of tutors' teaching and learning capabilities.
- Perception that graduate attribute discussions opened a forum for inter-faculty communication and facilitated communication between different levels of academics.
- A heightened significance of student self-assessment processes.
- Synergies created with other ALTC Projects and Research.
- Increased student awareness of graduate attributes (attributed to the project).

Some of the distinctive outcomes of the participating universities:

- Commitment of the project piloters varied across institutions and commitment to continuing use of an online software system and to engage colleagues with its benefits has varied between the partner universities.

- The resources developed to support participants during this project varied across institutions eg development a full web page resource; written support material; DVD of process documents and relevant literature.
- Creation of data set from the assessment process that has been used in the assurance of learning process.

## Summary of Learning
Commonalities
- A diversity of factors can significantly influence the way both academics and students perceive and understand graduate attribute development.
  - Student factors include: class size; academic level of achievement; assessment procedures and expectations of educational outcomes; academic staff engagement; and peer group pressure.
  - Academic staff factors include: the level of innovation and research individual teachers are prepared to undertake along with their regular teaching work-load; support mechanisms; value placed on engaging with graduate attributes; links made explicit to course objectives.
- Assessment and feedback require explicit, stated relevance to the proposed development of a given graduate attribute, as 'marks' alone have little or no intrinsic meaning.
- The development of attributes measured by assessment and feedback processes need to be relevant to students, faculty and stakeholders.
- Graduate attributes require explicit descriptors in order for staff and students to fully engage and show understanding of the alignment between the teaching and learning framework and graduate attributes.

## What were the success factors/challenges/lessons?
**Success factors**

- The use of distributed leadership, with a project leader in each of the four partner institutions, and embedding through a community of practice.
- The ease of use and implementation of the online system.
- Cohort effects with teaching staff meant that as the application was used multiple times, experienced staff scaffolded new staff into use of the process.
- The opportunity to investigate the innovative ways to present multi-level assessment information in order to engage students, i.e. sliders vs. matrices, screen or paper based, etc.

**Challenges**

- Student expectations for outcomes in each unit varied - and corresponded to the maturity of students, their attitude to graduate attribute development, integration and

awareness of graduate attributes. Therefore, the degree to which student 'frontloading' is required needs to be assessed taking into consideration these issues – with a customised plan for implementation that meets student needs to be devised for each subject.

- Technical requirements of software design were an issue and demonstrated the importance of effective infrastructure support and the role of technical personnel in ensuring success.

**Lessons Learnt**

- Graduate attributes need to be specifically related to student learning to be valued and recognised. This can be achieved by aligning the attributes with the curriculum alignment when discussing assessment requirements in the unit or by incorporating the business employer perspectives in relation to the graduate attributes.
- Academic staff require several iterations of support to develop adequate assessment criteria that relate to graduate attributes.
- Business academics are more likely to fully engage in graduate attribute development and assessment if the process is clearly linked to professional development and is presented as an appropriate and legitimate method for advancing individual staff immersion in cutting edge pedagogical thinking.
- Any online assessment system needs to be used with care or support as instrumental approaches, eg. Using only the criteria without comments sets up for failure.

## Conclusion of Findings:

The *usability* of the developed process (see Figure 1), including the use of the online system developed over time. Initial technical difficulties with the system were evident but the ongoing development produced a software support system that staff and students felt highlighted the relationship between assessment criteria with graduate attributes, eased marking and moderation processes, and allowed students to receive feedback that was directly related to the assessment criteria. This process was developed with contributions from each institution. It aimed to be flexible so that relevant elements could be implemented for staff if they are unable to undertake the whole process. Therefore it could be concluded that the project facilitated the further development of a sound framework for developing awareness of Graduate Attributes and their alignment with assessment, as well as a mechanism for encouraging reviewing and reflection.

The *satisfaction* factors of associated with student and academic staff engagement were generally positive. Students appreciated process that emphasised how the in class activities and online system are used to create a better understanding of assessment criteria and the link with Graduate attributes. Students also valued the feedback element of the online system, which allowed them to get specific feedback about assignments and provided a clear indication of achievement levels in relation to the Graduate Attributes. Staff noted that the process of aligning assessment with Graduate attributes and the support for writing such criteria has been beneficial to their practice. The online system itself has also, in some cases, helped lecturers to

moderate marks and to develop feedback skills in their tutors. Some tutors noted that the online system eased their marking load.

The main **outcomes** of the project have been the development of a community of practice that has worked together to design a process that aided the alignment and assurance of Graduate Attributes. This project has impacted on Faculty policies and is being used as an invaluable mechanism in meeting the assurance of learning requirements of the AACSB. Academic development workshops, consultations and resources have all been developed and these will continue to support staff in their teaching practice. In line with the process advancements has been the further development and refinement of the online system. This system has developed to meet the needs of academic staff and is viewed as an effective tool for use in practice.

The **impact** of the project has varied across the institutions due to different starting points, contexts and cultures and the driving factors within the participating Faculties. The long term impact can be seen in the development of a process that incorporated developmental support for staff, an online system that supports this process and has implications for marking loads and moderation practices. It is envisaged that as a result of this project the mechanisms that have been put in place will have an ongoing benefit in assuring learning goals for professional bodies such as the AACSB.

The **extendability** is seen as the availability of the process for developing practice in academic staff, as well as the online system will ensure that not only are these practices applicable to the project institutions but to a range of business and other disciplines in other universities worldwide.

## Project Outcomes Summary

In summary, the Project has had valuable catalytic and/or strengthening effects on enhancement of learning and teaching work in business faculties in four large Australian universities. Through its dissemination activities these effects should be extended over the next year or so. The learning enabled by the Project includes ideas and lessons about the challenges for projects that aim to change academics' thinking and practice relating to key curriculum elements such as *graduate attributes* (e.g. entrenched assessment philosophies and practices). It also illuminates ideas and practices that can be successful for helping to address such challenges.

The outcomes can be summarised as:

1) The use of a software application proved to be a very valuable resource for facilitating improvement in teaching and learning (particularly assessment), course (unit of study) design and management.
2) Substantial enhancement in the alignment of learning and teaching elements in several courses in business programs was achieved (i.e. elements such as learning goals, assessment criteria, feedback for students, and summative assessment methods and results).

3) Valuable learning was enabled; at the individual and local group levels about key concepts in learning and teaching and how to improve practice, and at the project level about success factors and challenges for achieving engagement with new practices (e.g. formation of local communities of practice to generate engagement with ideas and methods).

4) Increases in awareness have occurred, for specific groups of academics and students, of the meaning and relevance of graduate attributes (GAs) for learning and teaching, particularly at course level.

5) A valuable effect of the Project is that it has catalyzed, complemented and/or enabled synergies with other work in business faculties on important related matters in learning and teaching (e.g. critical review and clarification of learning goals; communication between academics and students and between course leaders and members of teaching teams; assessment practice; curriculum review, design and quality assurance; course-level leadership and management; and academic professional development).

The work done by this Project needs to be extended. If academics and students are to become seriously engaged with Graduate Attributes there will need to be well conceived, supported and implemented enabling strategies and projects at university and faculty levels for several years from now. There is a clear need for the real support of academic leaders and university and faculty level committees that apportion resources. Powerful professional and academic associations (e.g. ABDC; CPAA) also have particularly important roles to play in that they can influence academic leaders, and contribute actively to collaborative initiatives that are seen to be serving goals that are important to them.


## Extent the Approach/Outcomes are Amenable to Implementation

Ultimately, this project focused upon developing an approach in which graduate attributes may become the framework on which teaching and learning outcomes are based. In this respect, the project is building on previous work in this area. The development of a system to facilitate this was one that can be translated to other contexts. One of the major learning factors arising from the project arose from the partnership between the institutions. The project team shared experiences and examples of good practice, as well as engaging in deep discussion about the theoretical underpinnings of the system to incorporate graduate attributes into their teaching and learning frameworks. As an outcome of these discussions, for example, participant academics at the QUT Faculty of Business retained their practice of providing students with a paper based matrix of descriptors of performance levels against each criterion for each assessment task. Students were encouraged to comment on the wording of descriptors, revealing otherwise unspecified confusion with a view to activating strategic change and improvement in curriculum transparency. This community of partner institutions was viewed as a supportive network for developing practice in each participating university.

The process of engaging staff in order to raise awareness of graduate attributes was achieved through workshops and one to one sessions that focused on assessment criteria development. This practice can be replicated easily to other contexts.

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The use of self-assessment to increase students' awareness of graduate attributes was a significant and successful outcome of the project that can be implemented in a wide range of teaching situations. The important steps were to: develop criteria that students could easily understand the expectation and standard of the assessment task, this was further developed through the process of self-assessment and then providing feedback to students that was directly linked to the criteria; emphasise the relationships between the graduate attributes and the assessment criteria; maintain levels of understanding and relationships through regular referral to the graduate attributes through the assessment criteria. These steps were implemented through an online system which streamlined the process but the process can be applied without this tool.

Deliverables from the project that can be utilised to aid other interested parties in engaging staff and students with graduate attributes can be found in the form of video clips highlighting the experiences of staff and students using the process. These can be found on the project website and through the ALTC Exchange.

# Factors that Contributed to the Project's Success:

This data was generated from focus groups and interviews with staff and students and from the discussions held between the project communities of practice.

## Partnership

- Support and engagement of leadership team and individual commitment was a valuable factor.

## Institutional

- The availability of and contribution of institutionally relevant support services, for example central teaching and learning units, aided both the development and implementation of the project.

## Faculty

- Faculty support and engagement with pedagogical benefits of the project was critical in order to provide a focus for piloting the methods for engaging staff and students in graduate attributes.

## Teaching Staff

- The extent of subject coordinator adoption of a graduate attribute alignment across a degree program allowed for the project to be implemented.
- The academic staff support and engagement with pedagogical benefits of the project across the faculties allowed the project implementation to be conducted in informed settings.
- The expertise in attribute coding and criteria development writing skills that was utilised within the project was an important contribution leading to academic staff development and understanding.
- Engagement in project via putting forward subject/assessment items and their explicit graduate attribute alignment was essential for trialling the self-assessment engagement techniques.
- Effective and informed teaching staff communication to students, and interaction with students about graduate attributes to students increased student awareness.

## Technical Development

- The ability to technically integrate the online software system with existing institutional systems made use operations easier and less time intensive.
- The availability of training resources by the developers of the system assisted the implementation.

# Factors that Impeded Success:

## Partnership

- Time was required to clarify critical project terms, for example unit verses subject and institutional contexts as these varied dramatically between the four partner universities. The initial meetings were therefore devoted to developing a shared and clear understanding of project objectives; understanding differences in contexts and needs in participating institutions.
- The original outline of the overall strategy and logic for the project could have been clearer and more creative, in order to further enhance the project's achievements by identifying different ideas for addressing the specific and difficult challenges of enhancing engagement with graduate attributes.

- Institutional levels of 'capability maturity' were different and thus adaptations were required to ensure the project was relevant to local conditions.
- The initial project proposal was changed following the first phase of implementation to address the issue of what kind of information would be of value and merit to stakeholders.
- Due to the variations across programs there was a need for more face to face meetings than originally planned. At this stage the associated travel costs have been largely borne by each institution.
- Initial strategies for dissemination offered a challenge met by encouraging presentations on the project at conferences (such as the case for AACSB) by individual members on behalf of the team as the opportunities arose.

## Institutional

- Cultural expectations (within the university) and the valuing of teaching and learning initiatives, and devoting time to such activities (versus research).
- The number of support staff (IT and Teaching and Learning) available (or not available).

## Teaching Staff

- Participating academics were introduced to the online assessment tool in a case by case approach based on each particular institution's pre-existing practice of curricula alignment with graduate attribute development and this was a relatively time consuming process.

## Technical Development

- Residual issues in software and project design relating to integration of existing online systems at each university were apparent – and systematically overcome by working individually with ITD staff at each institution.
- Software changes were required based on delivering best options to participating academics following consultation with ITD support staff.
- Software variations needed to be configured separately according to each institutional context.
- The risks inherent in being a "first mover" were largely resolved for leading academics through the production and introduction of a web wizard guide but the development of this took significant time.
- The ongoing challenge of the development of the software program and the level of technical and program support available necessitated in the software expert travelling to each institution to personally negotiate with IT issues and program implementation.
- The IT challenges and system integration aspects led to fewer Stage 1 implementations in one institution (The University of Queensland). Having lost the initiative, the site never recovered and engagement in the project was negligible.

## Unintended Project Outcomes:

- The level of ownership taken of the process by the actual users (the academic staff) was significant in moving the project to a different level of engagement, and it was the early adopter innovators thinking outside-the-square and that contributed to the valuable yet unintended outcomes.
- Tutors marking became more standardised, due to process of course coordinators monitoring and discussing tutor performance levels via the online software system, enabling greater understanding of standards.
- The collective knowledge was used by academics to improve understandings of expectations of student performance levels. In illustration, a participating lecturer's approach to the analysis of tutor comments was 'revolutionary', in working with tutors to more precisely align their marks with their feedback to students' comments.
- At each level of the curricula there was a clearer understanding of difference between graduate attributes and assessment tasks.
- Conversations about criterion were initially based on work with tutors and students to ensure a critical understanding and moderation of markers.
- The online software system was useful as a tool for moderating groups in processes of training and marking.
- The synergies with others projects, e.g. B-Factor project, National GAP, Accounting for the Future, indicated different interpretations and applications of graduate attributes amongst academics, these discussions added to the richness of understanding within this project.

## Recommendations:

- The funding structure of budgets for ALTC projects relies heavily on in kind support from participating institutions. The universities who made the most progress were

those with a dedicated Teaching and Learning Team to help implement the operational aspects of the project; the universities without this type of support were more limited in their outcomes.

- Further projects should look at operating collaborations on a multi level s– for example the policy makers, Associate Deans etc, together with the Learning and Teaching staff (academic developers) at the coalface. This project engaged the more senior staff in each Faculty in worthwhile discussions across institutions but the actual users would also have benefitted from more access to regular inter institution forums.

- Aligning projects with governing body standards, for example assurance of learning goals required for the AACSB maintenance is a strong driver in embedding procedures in institutions and is recommended as a consideration of future projects.

- The level of acceptance, and thus engagement with, ALTC projects varies in institutions, and is notably lesser in those with strong research cultures. This relates to the reward and incentives structures that often drive activity, particularly in terms of making choices about where to allocate time and resources. Providing scope for the ALTC projects to take on a research element would help to elevate their status and aid in recruitment of staff to be involved in the project.

- The amount of time allocated to ALTC projects limits the depth and breadth of the project, in this case the wider engagement of staff with graduate attributes. This kind of development has to be undertaken in stages which require a longer time span to achieve significant effects.

# Sharing the Project Outcomes across the Higher Education Sector

## Research Articles:

Cathcart, A.,Kerr, G. F., Fletcher, M. & Mack, J. (2008). Engaging staff and students with graduate attributes across diverse curricula landscapes. In: ATN Assessment Conference: Engaging Students with Assessment, 20-21 November 2008, University of South Australia, Adelaide.

Thompson, D.G. 2008, 'Graduate attribute assessment: Using online visual communication to engage staff and students', iPED 2008 Researching Academic Visions & Realities, Coventry University Technology Centre, September 2008 in Researching Academic Visions & Realities, ed Edited by the iPED Research Network, Coventry University, Coventry, UK, pp. 152-159.

Thompson, D.G. 2008, 'Software as a facilitator of graduate attribute integration and student self-assessment', ATN Assessment Conference 2008: Engaging Students in Assessment., University of South Australia, November 2008 in ATN Assessment Conference 2008: Engaging Students in Assessment., ed Duff, A., Quinn,D., Green, M. Andre, K., Ferris, T., Copeland, S., Australian Technology Network, South Australia, pp. 234-246.

## Conference Dissemination:

Freeman, M., Lyn Simpson, L. & Taylor, T. (2008). Assurance of Learning: An Australian Experience. AACSB International Conference, Hawaii.

Taylor, T., Simpson, L., & Freeman, M. (2008). Good Practice AoL Processes – Using Collaborative problem-solving for better solutions. AACSB Assessment Conference, Dallas.

Cathart, A. & Simpson, L. (2008). Engaging Students Through feedback. ABDC Conference, Sydney. ABDC Conference, Hobart.

Tracy Taylor, Darrall Thompson (UTS)  Lyn Simpson, Andrew Paltridge (QUT), Mark Freemen, Lelsey Treleaven (USyd), Fiona Rohde (UQ) (2008). Facilitating Staff and Student Engagement with Graduate Attribute Development, Assessment and Standards in Business Faculties: an ALTC funded project. .GAP Symposium, Sydney.

## ALTC Exchange

http://www.altcexchange.edu.au/supporting-engagement-gradutate-attirbutes-using-assessment-alignment-self-assessment-relevant-feedb

## EGA Project Webpage

http://datasearch.uts.edu.au/site_manager_sites/business2008/teaching/staff/EGA.html

## ALTC Strategic Priority Areas:

The Project addressed the ALTC 's (previously Carrick Institute) Priority 1 areas of Academic Standards (**Topic A**) on decisions about student performance and the development of a shared understanding of standards within a field, together with Assessment Practices (**Topic B**) relating to online assessment, assessing large classes, post-graduate classes and providing feedback to students.

## Academic Standards (Topic A)

The Project's purpose was to promote and support strategic change in advancing graduate attribute development in the discipline of Business through the engagement of staff and students in graduate attribute assessment. Using existing evidence and research on assessment, the Project established new evidence in identifying, creating, representing, and distributing knowledge about graduate attributes for learning and for application.

## Assessment Practices (Topic B)

The Project addressed the issues of how to develop, define, assess and provide feedback on graduate attributes for Business students effectively, in a way that was educationally meaningful, professionally relevant and measurable. During the implementation of this Project, both teachers and students were provided with access to online systems and support to facilitate a transparent, reliable and criterion referenced learning environment for the attainment of the designated graduate attributes with opportunities for reflection and review.

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