The explicit embedding of graduate attributes in assessment is essential for policy implementation.

‘Assessment defines what students regard as important to learn…and how they come to see themselves as students and then as graduates’ (Brown & Knight, 1994, 12). The explicit inclusion of graduate attributes (GA) in assessment of student learning is recognised as one of the most convincing forms of evidence of graduate attribute policy implementation. However assessment is recognised as being problematic in many Australian universities as they continue to grapple with attempts to introduce standards-based and criterion-referenced assessment (Sadler, 2005). The inescapable first step in adopting standards-based assessment is the decision about the intended learning to be assessed. In other words – what are the learning outcomes students should demonstrate through assessment? Graduate attributes – as a statement of learning outcomes - offer a way of refocussing learning on the achievement of complex capabilities and on the development of dispositions and ways of thinking in preference to conceiving of learning only as the accumulation of disciplinary ‘content’. This renders the outcomes which must be assessed as much more complex. As noted in other papers in this series, different understandings of GA entail different relationships among discipline content, the skills and abilities to apply that content in the real world and the ways of thinking that arise from the exercise of that knowledge. These different relationships require different assessment approaches (Hughes & Barrie, forthcoming). The converse is also true; the imposition of particular assessment techniques and policies can implicitly define the way learning outcomes are understood by teachers and learners. This backwash effect of assessment on defining learning is a familiar concept, however the impact of emerging standards-based assessment practice in defining the complex relationships between different domains of learning articulated as graduate attributes is one that has not been well explored (Hughes & Barrie, forthcoming). While the growing body of GA assessment literature provides many helpful pointers, the assessment of GA outcomes remains problematic and the difficulty of the task can tempt universities to avoid the problem of assessment by devolving the responsibility to supplementary, stand-alone skills assessments or GA checklists which may not be suited to the more complex graduate attributes the institution aspires to develop in students.

Despite the inherent challenges, improving assessment is a key focus of many current GA implementation initiatives in Australian universities. The challenge of graduate attributes ‘raises the bar’ for assessment. However it raises the bar in ways that universities are already inherently grappling with in their attempts to move towards standards-based assessment.

**What is being assessed**

Academics’ decisions about assessment reflect their understandings about graduate attributes (see ‘Conceptualisation’ paper). For instance, from the perspective of some academics’ understandings; GA are nothing to do with what students should be learning in their disciplinary studies, and therefore have no place in their assessment regime. On the other hand, for academics who see GA as necessary for linking knowledge to the real world of work and practice, particular types of assessment (typically authentic assessment tasks), suggest themselves as acceptable. Such variations in perspective among the individual teachers with control of assessment, lead to conflicting messages being sent to students about the learning valued by an institution. It is readily apparent that where assessment initiatives fail to provide opportunities for academics to explore their assessment practice in relation to institutional conceptualisations of GA, incompatible assessment practices can persist.

**Persistence of assessment traditions**

Assessment has many traditions which remain unquestioned and unchallenged because of their long association with particular disciplines. These ‘signature’ assessments are often underpinned by a particular focus such as the reproduction of valued subject matter which may be incompatible with contemporary understandings of GA. These signature assessments might also reflect the long standing use of particular assessment techniques (e.g, numerical problem calculations or MCQ). Some traditional assessment techniques are not easily adaptable to the assessment of GA, (or standards-based assessment for that matter). However, other longstanding techniques, for instance the use of essays in the humanities are potentially well suited to GA assessment.
The more complex types of GA are developed gradually as students integrate various learnings throughout a program of study and may therefore require longitudinal forms of assessment that are not yet widely used (Carroll, 2004). The incremental development of some GA is unlikely to be meaningfully assessable within the short semester-long time spans of subjects (and even less so in shorter modules). This suggests the need for alternative forms of assessment such as portfolios and capstone tasks that extend beyond or across traditional course boundaries. Tasks referred to as ‘high impact’ (Kuh et al, 2005) or integrative (Huber & Hutchings, 2004), are currently providing promising examples of alternatives to traditional forms of assessment of GA, as are the widespread interest by governments and universities in ePortfolios and the use of supplementary diplomas.

Assessment traditions are sometimes enshrined in faculty policy or school guidelines. Adopters of alternative GA assessment strategies may therefore find their efforts hampered by restrictions on practices such as cross-course assessment tasks, the elimination of marks or percentages, or the incorporation into course assessment of the outcomes of external assessment, such as those undertaken as service or work-integrated learning experiences.

Superficial approaches

There are many demands on academics’ time and energy and, in recognition of this, tentative or ‘soft’ incremental GA implementation approaches have been developed to ease the task. Unfortunately, this can leave academics with the impression that the assessment of GA requires little or no change to current practice- an impression that is quite misleading. As a result, while GA can be ‘mapped’ by ticking a box in a subject outline, assessment often continues as ‘business-as-usual’ for teachers and students. The proliferation of technology developed to ease the task of assessment documentation – ePortfolios, Electronic Course Profiles and software packages that record student progress in relation to institutional GA – if used without appropriate thoughtfulness or checks and balances, can exacerbate this superficial approach to assessment. No tasks, technologies or tools are intrinsically effective or ineffective, and adoption or adaption of the resources or practices of other academics or institutions must always be undertaken in contextually appropriate ways.

Over-reliance on external accreditation

For programs with a vocational orientation, professional accreditation exerts a significant influence on GA assessment. In recent years many professional associations have shifted their accreditation focus from inputs (e.g. hours allocated to the coverage of specific topics) to outputs (e.g. evidence that specific outcomes are assessed) (Palmer, 2004). This has driven assessment practices in particular ways in professional degrees, where the assessment of GA has a strong focus on authentic, contextualised assessment tasks rather than decontextualised generic skills assessments. While this is undoubtedly beneficial in fostering particular sorts of GA (translation attributes which focus on skills of application), over-responsiveness to professional accreditation also runs the risk of limiting the assessment focus to tangible workplace competencies at the expense of the transformational aspirations which underpin the graduate attribute philosophy of many universities. Similar changes currently occurring in national and institutional quality assurance processes are likely to have a direct impact on GA assessment practices. An increasing role for direct assessment of student learning outcomes in quality assurance measures in Europe and Australia is prompting new interest in assessment of program level graduate attributes outcomes (see ‘Quality Assurance’ paper).

Passive assessment roles for students

Perhaps the issue of greatest concern is that GA are often assessed ‘for’ rather than ‘with’ students. The best intentions of GA assessment plans can fail to be realised if students are not made aware of these and if they are not actively engaged as partners in the assessment process. It has been argued (Boud & Falchikov, 2006) that the role of assessment in developing learner autonomy be given equal attention to the more well-established purposes of certification of content mastery, and that this can be achieved only if students are weaned away from any tendency towards over reliance on the opinions of others (ibid, 403).

The experience of some institutions with long histories of successful implementation of outcomes education such as Alverno College (Loacker, 2000), has demonstrated that GA are most effectively embedded in assessment when they explicitly underpin all teaching, learning and assessment activities; when students are actively involved in directing their own learning through negotiation of assessment tasks, collection of evidence of progress in relation to specific attributes, submission of well-founded claims of achievement and engagement in dialogue about progress with teachers and peers. This also requires a deep and engaged consideration of assessment purposes and practices by academic staff - however, supporting such engagement is all too rarely an element of current institutional GA implementation strategies.