International trends in establishing the standards of academic achievement in higher education

An independent report and analysis

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This report was prepared during July 2009, and presents a snapshot of international trends and activities in the setting, measurement, and reporting of academic achievement standards in higher education. While much of the data was collected through a web-based ‘desk audit’, I am also indebted to colleagues who provided insights, ideas, and resources. I would especially like to thank: Professor Roger Brown for his advice, insights and information regarding events in the United Kingdom; Dr Akiyoshi Yonezawa for providing access to his recent publication, and for suggesting other contacts regarding trends in Asia; Professor Teofilo C. Daquila for insights into practices in Singapore; and José Miguel Salazar for information on events in Latin America, and in Brazil in particular. In addition, I thank Dr Carole Hooper for her invaluable assistance with the collection of materials.

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CSHE
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Note regarding terminology

The case studies are described using the language of each particular initiative or program. For this reason, terms such as ‘learning outcomes’ and ‘standards’ are variously employed. Their specific meaning should be apparent from the context and/or the examples provided. It is not the intent of this paper to propose definitions. Rather, the paper highlights the various ways in which learning outcomes, levels, assessment and standards are conceptualised.
Introduction and contents

Recent initiatives in Australian higher education have focussed attention on the meaning of ‘academic standards’, and on how universities establish, measure, monitor and report on the academic achievement of students and graduates. Various projects supported by the Australian Learning and Teaching Council, for example, have formulated approaches to standards within particular fields of study (e.g. archaeology, biotechnology, and occupational therapy), and have produced benchmarking strategies based on student learning outcomes.

Furthermore, and in response to the May 2009 AQF discussion paper Setting and Monitoring Academic Standards in Australian Higher Education, universities across the country have been debating possible national approaches to academic standards. That is, to the development of explicit and externally-referenced systems for establishing the standards of graduate academic achievement. Concurrently, the Australian Qualifications Framework has been under review, and the May 2009 consultation paper from the AQF Council included a proposal for a revised architecture based on a taxonomy of learning outcomes.

It is timely, therefore, to survey approaches to academic standards in higher education systems beyond Australian shores.

This paper provides analysis of a range of national and international initiatives relating to academic standards. The approach is not to evaluate these projects, but rather to illustrate the range and extent of activity in this area. The paper represents both a summary and an analysis of the types of initiatives underway, and proposes a conceptual framework to facilitate further discussion within Australia.

The paper is structured broadly around geography, with sections on each of: Europe, the United Kingdom, Latin America, North America, and the Asia-Pacific region. The review is not a comprehensive survey. Rather, it represents a snapshot including both high profile initiatives, and others which may be less well known but which are potentially relevant to the Australian context. There is no ‘Australia’ section, as the objective here is to look outward, and to consider international and overseas trends in light of the current discussion in this country.

The intent is that this review support continued discussion within the Australian sector regarding the way forward, and the next steps, for Australia.

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Section 2: A summary of international trends

In higher education systems around the world, efforts are underway to focus attention on the nature, quality, and level of student learning. Much of this activity is international, and features discipline-based groups collaborating to describe the learning most valued in their particular fields. National and institutional autonomy is paramount, yet there is widespread agreement that university teaching and, importantly, university students and graduates, will benefit from greater clarity around learning outcomes.

Assessment plays a central role in student learning. Assessment within or upon completion of a program of study directs student learning, and provides the measure of an individual’s level of attainment. It is also central to consideration of academic achievement standards. Various initiatives internationally are looking at the ways in which assessment can be used to measure student achievement against specified learning outcomes.

It is important to distinguish between the measurement of learning, the external referencing of measurements, and the reporting of such outcomes. Internationally, different initiatives combine these objectives in different ways. The external examination process in the UK, for example, is primarily concerned with external referencing. The pilot VSA program in the USA, on the other hand, employs external and standardised measurement in order to publicly report graduate outcomes. A very different form of external referencing is associated with the ‘threshold level’ descriptors of Tuning in Europe.

In different countries the particular drivers behind standards-related initiatives vary widely. This paper does not focus on the specific forces at play in different national contexts. However, the one obvious commonality is the increasingly international character of higher education, everywhere. The global mobility of students and graduates is encouraging countries from Europe to Japan, from China to Chile, to consider their higher education systems as part of a global education network. This does not suggest the need for a single model of university learning, but it does demand greater clarity around the knowledge and skills associated with various higher education awards.

A conceptual framework

The various ‘academic standards’ related programs identified in this study were used to develop the conceptual framework depicted in Section 1 (page 2). The areas marked A through E represent different focal points for the consideration of academic standards related to learning outcomes. Points A to C each relate to setting expectations in terms of learning outcomes, while D and E represent distinct approaches to the measurement of attainment. It is possible to locate particular initiatives at particular points in this framework. For this reason, the framework is proposed as a conceptual tool to facilitate further discussion of academic standards in the Australian higher education sector.

A. Award level descriptors

National Qualifications Frameworks are beyond the scope of this paper. However, it is important to recognise that award level descriptors are increasingly presented in terms of learning outcomes, and that this has implications for both subject area descriptors and program profiles.

The Dublin Descriptors – defining awards across the European Higher Education Area, in terms of learning outcomes in five areas (Knowledge and understanding; Applying knowledge and understanding; Making judgements; Communication; Learning skills) See 3.1 (Europe)

B. Subject area descriptions

This is the area in which there has been the most activity internationally, in large part due to the Tuning project. It is also the area in which most current projects in Australia have focussed – and this is perhaps no coincidence, given the widespread acknowledgement of the importance of subject-specific interpretation and disciplinary communities.
The Tuning Process – identifying threshold-level learning outcomes for a wide range of subject areas. The original Tuning Projects involved 27 countries and 9 subject areas. In the next stage, a series of ‘Reference Points’ are being developed – guidelines to assist, but not prescribe, the design and delivery of programs.

Subject Benchmark Statements of the UK – in place for more than a decade, these subject-specific statements of learning outcomes form part of the national quality assurance framework. Learning outcomes are described in terms of ‘coverage’ and ‘level’. Two levels are described – threshold and typical. More than 50 subject areas are described for the UK honours degree, along with another 18 subject areas in specialist health care.

Tuning Latin America – a consultation process from 2004-2007, involving 19 Latin American countries in developing shared interpretation of generic competences. Subject area groups have also formed to interpret these competences within disciplinary communities.

Tuning USA – an initiative announced in April 2009, involving three states and six disciplines. While there is as yet no Canadian equivalent, universities in Canada are monitoring developments in the USA, Europe and elsewhere.

Hong Kong – representatives from all Hong Kong UCG-funded universities, collaborating on the development of an ‘outcomes-based approach’ to student learning. While not explicitly developing ‘benchmark statements’ of learning outcomes, the task force is facilitating collaboration between different institutions offering programs in related fields of study.

C. Program profiles
It is increasingly common for programs of study to be described in terms of learning outcomes. These serve as both a reference point for curriculum design, including the design of assessment, and for the actual teaching, learning and assessment processes. Program profiles are also important in communicating with students and with other stakeholders, including accreditation and auditing agencies.

Chemistry Eurobachelor® – the Chemistry group in Europe is promoting the concept of core subject-specific competences, common to programs across Europe, and is recognising their adoption under the label of Chemistry Eurobachelor®. Nearly fifty bachelor degrees across Europe now carry the Chemistry Eurobachelor® label.

CoRe Project – a joint initiative of the national qualification recognition agencies of the UK and the Netherlands. The project has evaluated the utility of the Tuning process in Europe, in terms of assessing international awards for recognition, and has endorsed the process. The CoRe Project, now in its second phase, is promoting the publication of ‘more specific and measureable information on competences’.

Taiwan – an example of an institution-specific approach to providing detailed program-specific statements of learning outcomes.

D. Program-specific assessment
Among their various roles, including the formative function of providing feedback to students, the assessment tasks within a program of study serve an important measurement function. Effective assessment tasks measure the level of students’ competence across the learning outcomes defining the program. They are used to determine whether a student has met the threshold requirements for the award, and in most systems also ‘grade’
the level of achievement above threshold standard. It is important to note that the ways in which the overall assessment of an award is calculated vary considerably, between systems, institutions, and awards.

The external examination system of the UK – a prominent feature of UK higher education, the system is facing challenges due to system expansion and diversification, and to the increasing modularisation of programs and departure from ‘capstone’ assessment. See 3.2

Chemistry Bachelor Thesis – programs accredited under the Chemistry Eurobachelor® label include, among other things, a capstone ‘Bachelor Thesis’. This may take the form of a project or a placement. See 3.1

Taiwan – use of student portfolios, and an emphasis on verifiable evidence mapped to the expected learning outcomes of the program. Also, the focus of the external qualifications agency in developing an accreditation framework which specifically seeks this information from institutions. See 3.5

E. External graduate assessment
This is, arguably, the most contentious area in the current debates around academic standards. In many countries, including Australia, external testing is associated with prescribed curricula, and equated with secondary rather than tertiary education. However, in professional disciplines the concept is more familiar, and in some countries the practice has a long history. The current OECD project, AHELO, has increased interest in this method of measuring student attainment, and raised questions about the role of standardised tests in not only measuring attainment, but also in monitoring and reporting against external ‘standards’.

EChemTest – an optional test for chemistry graduates across Europe, leading to the award of the ‘ECTNA – Certificat Européen de Chimie’ certificate. See 3.1

AHELO – The discipline strands of the OECD AHELO feasibility study have called for tenders to develop standard tests in the two pilot disciplines: engineering and economics. The Tuning Association is providing advice regarding the assessment of competences in each of these subject areas. ‘Field tests’ are scheduled to commence in late 2010, and will involve 7 countries, including Australia. See 3.1

AHELO – the generic-skills strand of the OECD AHELO feasibility study is adapting the Collegiate Learning Assessment (CLA) of the US, and will trial the test in 4 countries commencing November 2010. See 3.1

Brazil’s ‘Prova’ – a national, compulsory graduate assessment across both discipline-specific knowledge and skills, and generic skills. The ENC test of 1996-2003 was replaced with the ENADE in 2004, and a shift to a sampling methodology. See 3.3

Voluntary System of Accountability (VSA) – a pilot program, commenced in 2007 and involving 328 US colleges and universities. The VSA incorporates three standard assessment instruments in the measurement of critical thinking and written communication. Institutions choose from the Collegiate Learning Assessment (CLA); the Collegiate Assessment of Academic Proficiency (CAAP); or the Measure of Academic Proficiency and Progress (MAPP). Samples of 100-200 students are used. See 3.4
Section 3.1 Europe

Overview

The changes afoot in European higher education have captured the attention of universities and governments around the world. While summarising all the changes associated with ‘Bologna’ is clearly beyond the scope of this paper, there are several obvious points of intersection with the management of academic standards. Illustrating the far-reaching nature of the European developments, and their connection to international developments across the OECD and beyond, the initiatives described in this section of the paper extend well beyond continental Europe.

Of fundamental importance, particularly for European nations, has been the move toward the creation of a ‘European higher education area’. This has generated considerable interest in award level descriptors. While individual institutions operate within their own national qualifications systems, and frameworks where they exist, efforts have been made to articulate the meaning of awards in a broader ‘European’ sense through the Dublin Descriptors.

The other significant European development in terms of academic standards is the Tuning Process. Originating as a specific project aimed at engaging the higher education sector in meeting the objectives of Bologna and the Lisbon strategy, Tuning is now described as a process rather than a project. It can be considered embedded in the fabric of European higher education practice, at least in the particular subject areas involved. For these subject areas – and they range from history to chemistry, nursing to business – Tuning has generated external reference points for first cycle (Bachelor) and second cycle (Masters) degree programs, described in terms of learning outcomes and competences. The ‘owners’ of the process are the disciplinary communities. Notably, the focus extends beyond descriptors of ‘coverage’, and into consideration of the ‘level’ of learning expected of graduates. These reference points broadly equate to the ‘threshold standards’ described under the Subject Benchmark Statements of the UK.

As described above, in many subject areas European disciplinary communities have made significant advances toward ‘shared understandings’ and frameworks for setting degree expectations. It is not the intent of this paper to summarise them, or to analyse the various approaches taken. Rather, by way of illustration, the subject area of chemistry was chosen as a case study. Chemistry was one of the first subject areas involved in Tuning, and is an area in which the influence of Tuning is evident in other initiatives. Two examples of such initiative are described below – the Chemistry Eurobachelor® label, and the EChemTest, an external test of graduate achievement.

A measure of the effectiveness of the Tuning process is in the extent to which programs of study are described in terms of learning outcomes and competences. An evaluation has been undertaken across four subject areas, including Chemistry – at least, from the perspective of credentialing evaluators. The CoRe Project findings endorse the value of these ‘degree profiles’, and the organisations responsible are advocating for this information to be included on all Diploma Supplements.

The OECD Assessment of Learning Outcomes in Higher Education feasibility study (AHELO) is an international project and, as such, has a prominent place in contemporary national discussion and debate around academic standards. This project is set to trial standard tests of learning outcomes in a ‘graduate assessment’ approach. While the project is an exercise in measurement, AHELO draws upon the work of Tuning in the setting of expectations, and has implications for both institutional and system-wide approaches to monitoring and quality assurance. The work of two AHELO strands are of particular relevance to academic standards: the discipline-specific strand which is trialling testing in economics and engineering; and the generic skills strand which is soon to pilot a US-based test, the Collegiate Learning Assessment test, internationally.
Dublin Descriptors

The Dublin Descriptors, developed and published by the Joint Quality Initiative group in 2004 and subsequently endorsed by the European Ministers of Education, present broad statements of learning outcomes in support of an 'overarching framework of qualifications for the European Higher Education Area' called for in the Berlin Communiqué.

The Dublin descriptors for each award list both what students have demonstrated in order to complete the award, and what they are capable of as graduates. Below is the example for the Bachelor level award.

"Qualifications that signify completion of the first cycle are awarded to students who:

- have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study;
- can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study;
- have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues;
- can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences;
- have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy."

(page 1, The framework for qualifications of the European Higher Education Area, JQI, 2006)

The 2004 Dublin Descriptors report attempts to differentiate between different between Bachelor, Master and Doctoral level awards in each of five areas:
- Knowledge and understanding
- Applying knowledge and understanding
- Making judgements
- Communication
- Learning skills

For example, the distinction between Bachelor and Master awards in the area of 'making judgements' is described as follows:

"Bachelor (Cycle 1)
Making judgements involves gathering and interpreting relevant data.

Master (Cycle 2)
Making judgements demonstrates the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete data."

(page 4, 18 Oct 2004 JQI 'Dublin Descriptors' paper)

Eurodoc, a federation of European national postgraduate associations, released a further elaboration of the expected learning outcomes and assessment of Doctoral programs. This 2006 paper builds upon the Dublin Descriptors for Cycle 3 awards.

Tuning

In the language of Tuning, learning outcomes and competencies have particular meanings. Learning outcomes are statements of expectation – what the graduate is expected to know, understand and/or be able to demonstrate upon completion of the ‘learning’ (whether that be at the level of unit of study or award). In contrast, competences are what is ‘obtained’ by the student, overall, and their development may not be readily ‘located’ within particular units of study. The competencies of a graduate may exceed the ‘required level’ described by the learning outcomes.

In this sense, learning outcomes in Tuning describe threshold-level expectations.
Tuning provides the basis for “developing reference points at subject area level”. The second phase of Tuning Europe was completed in 2004, and involved 27 countries and nine principal subject areas: business; chemistry; earth sciences; education; European studies; history; mathematics; nursing; and physics. Each group prepared a summary, based on a template, of the outcomes of consultation, including draft descriptors for both first and second cycle degrees.

In the subsequent, third phase (from 2005), the focus of Tuning has been on implementation through the support of various international associations and networks. A series of subject area guides has been published on the Tuning website, each titled Reference Points for the Design and Delivery of Degree Programmes in (insert subject name). Subjects currently documented include physics, chemistry, and occupational therapy.

Tuning reports stress that the subject-area learning outcomes are reference points only. They do not seek to prescribe the ‘profile’ of individual programs, which may well include learning outcomes additional to those listed in the Tuning documentation. The following disclaimer is included in each of the Tuning Reference Points guides:

**Tuning Educational Structures in Europe**

“The name Tuning was chosen for the project to reflect the idea that universities do not look for uniformity in their degree programmes or any sort of unified, prescriptive or definitive European curricula but simply for points of reference, convergence and common understanding. The protection of the rich diversity of European education has been paramount in the Tuning Project from the very start and the project in no way seeks to restrict the independence of academic and subject specialists, or undermine local and national academic authority.”

*(excerpt from inside cover, Reference Points for the Design and Delivery of Degree Programmes in Chemistry, 2008)*

**International, subject specific frameworks**

In a June 2009 conference presentation, Dr Achim Hopbach (Vice President of the European Association of Quality Assurance in Higher Education, and Managing Director of the German Accreditation Council) described Europe’s (and Germany’s) progress in the Bologna Process.

“Although the move from input/content to learning outcomes as basis for curriculum design was a paradigm shift for many European higher education systems, this concept is widely accepted today and applied properly.”

*(slide 23, 5 June 2009 conference presentation, Taipei)*

The first subject-specific framework introduced in Germany was in social work, in 2008.

In taking stock of Bologna, Hopbach also emphasised that fully linking statements of learning outcomes with the measurement of students’ attainment will take time:

“It is clear however that linking programmes with learning outcomes and designing assessment procedures to measure achievement of the intended learning outcomes are the most difficult parts and will take longer to implement.

The 2009 stocktaking clearly indicates that fully-fledged introduction of a learning outcomes-based culture across the EHEA still needs a lot of effort, and it will not be completed by 2010.”

*(slide 7, Achim Hopbach, 5 June 2009 conference presentation, Taipei)*

Similarly, the April 2009 Bologna Process meeting held in Leuven described the next stages of the process in terms of developing international reference points in specific subject areas.

“Academics, in close cooperation with student and employer representatives, will continue to develop learning outcomes and international reference points for a growing number of subject areas.”

*(pp3-4, Leuven/Louvan-la-Neuve Communiqué, April 2009)*

Hopbach emphasised that while qualifications frameworks and subject-specific learning outcomes statements serve different purposes, together “they provide comprehensive guidance for curriculum design” (slide 35, 5 June 2009 conference presentation, Taipei). He also stressed, however, that accreditation processes in Europe remain largely focussed on processes, stating that “addressing learning outcomes in (external) QA is only at the beginning” (slide 13, 5 June 2009 conference presentation, Taipei).
Chemistry, the Eurobachelor® and capstone ‘Bachelor Thesis’

The chemistry subject area is an intriguing case study from Tuning, as it has led to the development of 'trademark' degrees in Chemistry. According to the ECTNA³ website, 48 Bachelor degrees and 24 Masters degrees have been awarded the label, across 16 countries, 39 institutions and 3 international consortia. Graduates from these programs are designated as Chemistry Eurobachelor® or Chemistry Euromaster®

The individual programs retain their original title and distinctive characters xiii, and may vary in length.

“It must be made clear at the outset that each institution providing Eurobachelor®-type degree programmes in chemistry is completely free to decide on the content, nature and organisation of its courses or modules. Chemistry degree programmes offered by individual institutions will thus logically have their own particular characteristics. The depth in which individual aspects are treated will vary with the nature of specific chemistry programmes.”


The framework includes broad descriptors at the level of the award. In addition, more detailed statements of learning outcomes are included under the following headings:

<table>
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<tr>
<th>Subject knowledge</th>
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<tr>
<td>Abilities and skills</td>
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<tr>
<td>o Chemistry-related cognitive abilities and competences, i.e. abilities and competences relating to intellectual tasks, including problem solving;</td>
</tr>
<tr>
<td>o Chemistry-related practical skills, e.g. skills relating to the conduct of laboratory work;</td>
</tr>
<tr>
<td>o Generic competences that may be developed in the context of chemistry and are of a general nature and applicable in many other contexts.”</td>
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Notably, the document cites the UK’s chemistry Subject Benchmark Statement (QAA) as the origin of these statements of learning outcomes.

The Chemistry Eurobachelor® framework presents the recommended content of programs in some detail, including the ways in which the sub-disciplines are covered and described.

Of particular relevance to academic achievement standards – and their measurement – is the inclusion of a ‘Bachelor Thesis’ as the final module in each program. This is described as:

“An individual research or industrial project, the results of which will be presented in the form of a written report. This report may be subject to examination and will in any case be graded.”


The Bachelor Thesis is included as an important assessment of competence, and may be complemented by comprehensive (i.e. ‘graduate’) examinations. One stated objective of the Thesis is to enable comparability of standards:

“To ensure comparability of standards throughout institutions operating the programme, a significant part of the assessment should be ‘competence based’. Different levels of performance clearly need to be defined, and this can be facilitated through a series of statements which describe student skills, attitude and behaviour during the Bachelor Thesis. Attainment levels achieved by particular students can then be judged and compared. For example, keys to a successful Bachelor Thesis are the intellectual and scientific input of the student, the comprehension of the project, organisation and planning besides a well-written report.

The following two statements might encapsulate the range of abilities expected of students under the heading of Intellectual and scientific input: 'The student demonstrated an enquiring mind and an ability to innovate by controlling the direction of the project’ and ‘The student provided a technical rather than an intellectual contribution to the project’. Such statements can be equated to a mark or grading. Use of such grading tools allows us to move beyond the sometimes subjective assessment of a written document which only reports on the outcome and background to a project. Used in conjunction with a report, student log book, oral presentation and poster, such a
The EChemTest: entry and graduate level testing of core knowledge

The European Chemistry Test\textsuperscript{iii} – or, more accurately, tests – were originally developed by the ECTN as a means for incoming university students to assess the level of their core knowledge in chemistry\textsuperscript{iv}. Tests are now offered at four levels, including two graduate tests aligned specifically with the core curricula of the programs based on the Chemistry Eurobachelor\textregistered{} and Chemistry Euromaster\textregistered{} frameworks.

- **Pre-University Level 1**: a person at the end of compulsory education
- **Pre-University Level 2**: a person at the beginning of University studies
- **University Bachelor Level 3**: a person at the end of the Core Chemistry Syllabus at the University Level as defined in the Chemistry Eurobachelor\textregistered{}
- **University Master Level 4**: a person at the end of a Master degree in one of the specialized chemistry area in agreement with the Chemistry Euromaster\textregistered{} requirement*


While the tests are made available as a form of self-assessment (online, in ‘demonstration mode’), users are encouraged to sit the tests under examination conditions in registered test centres. These centres are based in member universities across nine countries. Students/graduates who pass the EChemTest examination, under the ‘official assessment’ conditions of a test centre, are eligible for the ‘ECTNA – Certificat Européen de Chimie’.

The test is not promoted as a tool for use by institutions or other agencies for quality assurance purposes. However, its potential for adoption for such a role is evident, particularly for programs which cover the ‘European Core Chemistry’ topics as defined by the Tuning project in chemistry.

The CoRE project: evaluation of degree profiles based on Tuning

The Competences in Education and Cross-border Recognition (CoRe) project\textsuperscript{v} was a joint initiative of two national agencies with responsibility for evaluating international qualifications against national qualification frameworks: NARIC in the UK, and NUFFIC in the Netherlands. The ultimate aim of the Tuning process is to promote the transparency of degrees and mobility of graduates. Tuning is therefore of considerable interest to qualification recognition agencies such as UK-NARIC and NUFFIC. The CoRe project was undertaken by these agencies as an evaluation of the effectiveness of Tuning.

CoRe examined the degree profiles – that is, descriptions of programs’ expected learning outcomes and competences – from samples of programs in each of history, chemistry, nursing and business studies (across nine countries).

The final report of CoRe\textsuperscript{vi}, published in June 2007, endorsed Tuning and the importance of the continued development of Tuning degree profiles. While the findings raised concerns with the degree of variation in presentation, and with the level of detail supplied, the report also described the potential of profiles to assist with the comparison and evaluation of programs. To this end, CoRe stressed that the competences listed in profiles should describe what graduates actually achieve, rather than what they ‘should’ achieve, and that these competences must therefore be assessed.

The CoRe report called for degree profiles to be included in the Diploma Supplement template.

The authors also argued that degree profiles would play an important role in aligning recognition practice with the trend in educational paradigm, away from inputs and toward student learning outcomes:

\textquotedblleft … as the learning paradigm according to which educational programmes are being designed in Europe is changing towards an outcomes-based approach, it will become increasingly important that credential evaluators find a methodology to evaluate the level of qualifications based on the outcomes that have been achieved.”

*(page 44, Core 1 Final Report, June 2007)*
A second phase CoRe project is underway to develop a format for the presentation of degree profiles. The aim is not only to promote a more consistent layout and language, but also to encourage provision of more specific and measurable information on competences.

**The OECD AHELO feasibility study**

Commenced in 2007, the OECD *Assessment of Learning Outcomes in Higher Education* feasibility study (AHELO) is ongoing, involving an international group of assessment experts, and institutions from a number of OECD countries, including Australia. The project will explore possibilities for the direct assessment of student achievement, testing learning outcomes through an approach that is relevant across institution types, national borders, and languages. Opportunities for establishing both absolute and ‘value-added’ measures are being explored.

The AHELO project was informed by a review of international practice in the direct assessment of learning outcomes, at either national or regional levels. The background paper prepared during 2007 by Deborah Nusche (as a consultant with OECD) presents the analysis of a range of instruments in widespread use, in terms of their structure, implementation, and purpose.

The OECD stresses that this is a feasibility study. Neither OECD endorsement of any instruments developed, nor their widespread implementation, is assured. And if such testing is introduced, a “full-scale AHELO” is unlikely before 2016, according to the OECD FAQs list.

The principal unit of analysis in AHELO is the institution, and the OECD describes the measurement of learning outcomes as just one contribution to be considered in quality assurance processes. On the organisation’s website, the OECD stresses that standardised, international measurement for the purposes of ranking institutions or education systems is not the intent of AHELO. However, the possibility for AHELO to influence system-wide assessment of performance is acknowledged.

> “The AHELO approach therefore centres on the establishment of measures of learning outcomes at the level of HEIs, departments or faculties, the idea being to combine the definition of OECD measures of quality with valid and reliable assessment methods to which HEIs could, with an appropriate set of incentives, voluntarily subscribe and which could progressively find acceptance in a widening range of HEIs. Eventually, if an OECD assessment gathered pace and found wide acceptance, issues of assessing system-level performance might be addressed, and this would make the work relevant to a much wider range of stakeholders in the longer term.”

*(page 5, Roadmap for the OECD Assessment of Higher Education Learning Outcomes (AHELO) Feasibility Study - 11 June 2009)*

**AHELO testing in engineering and economics**

The AHELO project clearly has implications for the monitoring of academic standards. The ‘strands’ of work underway include the development and trialling of discipline-specific approaches to the direct assessment of learning outcomes. The two discipline-specific strands are economics and engineering. The following characteristics of the disciplines informed their selection:

- Economics, as a research-based social science.
- Engineering as a science-based field of study common to both technical and research institutions.

In addition, through the accrediting role of the professions, engineering education has a history of conceiving curricula in terms of learning outcomes.

The Tuning process is directly involved in the work of both discipline groups. In June 2009, the Tuning Association published conceptual frameworks for each strand, which include overviews of agreed learning outcomes statements and discussion of the “new approaches required in teaching, learning and assessment for outcomes-based learning”:

> “To complete the cycle of learning one must also look at how students’ achievement of learning outcomes is assessed. When the development of graduating program-level competencies or learning outcomes are the core of the evaluation, the assessment of content requires specific systems and tools. Evaluation requires not only a personal reflection at the level of the individual teacher but also a joint perspective from the educational team to...”
make sure that the desired core of the learning processes, as specified in the degree profiles, is fulfilled. Particularly, the learning outcome-based approach requires a variety of appropriate methods of assessment. It requires a clear scrutiny so that the evaluation approaches are all-inclusive, reliable and valid and therefore consistent with the outcomes the student must attain and demonstrate. Some argue that this will require not only academic peer review of standards but also the involvement of educational, testing and practitioner specialists. Meaningful evaluation based on and consistent with student outcomes is resource intensive and thus costly in the economic sense.”


The task for the AHELO groups remains the development and trialling of assessment instruments aligned with such expectations. The next stages are described in the June 2009 Roadmap document. Tenders have been called for the development of the assessment instruments, with a deadline in August 2009 and ‘field-tests’ set to commence in late 2010. These trials will involve Australia, Japan and Sweden in engineering, and Belgium (FL), Italy, Mexico and the Netherlands in economics.

The feasibility study is described as providing ‘proof of concept’ for such direct testing, and for testing the feasibility of meeting minimum participation rates:

“The main criteria to assess the success of the feasibility study is to provide a proof of concept that the various instruments considered can be applied in diverse institutional, cultural and linguistic settings with appropriate adaptations and yet provide valid, reliable and free-of-bias measures of student learning outcomes as well as indirect measures of higher education quality.”

(page 7, Tuning-AHELO Conceptual Framework of Expected and Desired Learning Outcomes in Economics, The Tuning Association, OECD).

AHELO testing of generic skills, and the Collegiate Learning Assessment of the USA

The expert group working on the generic skills strand have elected to adapt and trial an online test currently used in the United States. The group is working with the Council for Aid to Education (CAE) in the United States, a non-profit organisation focussed on improving quality and access in higher educationxxi.

The CAE currently administers a standard test of generic skills for colleges in the US, the Collegiate Learning Assessment (CLA). The CLA is used in many USA collegesxxii to assess students’ attainment of ‘higher order thinking skills’. The test requires written-responses and the tasks are of two types: performance tasks, and analytical tasks.

“Performance Tasks ask students to engage in a “real-life” activity (such as preparing a memo or policy recommendation) that requires reviewing and evaluating several documents. There are two types of Analytic Writing Tasks: Make-an-Argument and Critique-an-Argument. The Make-an-Argument prompt asks students to explain why they would agree or disagree with a statement. The Critique-an-Argument prompt asks students to describe the shortcomings in an argument presented by someone else. All CLA tasks evaluate students’ ability to articulate complex ideas, examine claims and evidence, support ideas with relevant reasons and examples, sustain a coherent discussion, and use standard written English.”

(page 1, CLA Frequently Asked Technical Questions 2007-2008xxiii)

“CLA scores reflect a holistic assessment of the higher order skills of critical thinking, analytic reasoning, written communication, and problem solving. All Performance Tasks and Analytic Writing Tasks require the use of all of these skills, but in different proportions. For example, Analytic Writing Tasks strongly emphasize written communication while Performance Tasks elicit greater use of problem solving skills, particularly with complex and sometimes contradictory materials.”

(page 2, CLA Frequently Asked Technical Questions 2007-2008)

HEIs receive CLA data on both absolute and value-added attainmentxxiv. A sampling approach is taken, and student participation is voluntary.

AHELO will trial the CLA-based test in four countries (Korea, Finland, Norway and Mexico), commencing in November 2010.
“International experts gathered in 2007 and reviewed the various initiatives taken in countries to assess higher education learning outcomes (Nusche, 2007). They were impressed with the Collegiate Learning Assessment (CLA) approach taken by the Council for Aid to Education (CAE) in the United States.”

As a result, the experts recommended, as part of an AHELO feasibility study, to implement field-testing of this instrument to assess the extent to which higher order skills of the type measured by the CLA can be validly measured across different cultural, linguistic and institutional contexts. In addition, the CAE will select and use a multiple-choice critical thinking test that will be administered in parallel to the CLA performance tasks. Data collected will be used to provide evidence of the construct validity of the CLA performance tasks. As with PISA, these direct assessments of student knowledge and ability will be complemented by contextual information which will then enable policy- and practice-related conclusions to be drawn at institutional level.”

(page 12, Roadmap for the OECD Assessment of Higher Education Learning Outcomes (AHELO) Feasibility Study - 11 June 2009)

1 Available at: http://www.jointquality.nl/ge_descriptors.html (accessed 14 July 2009)
2 The Joint Quality Initiative is described on its website as an “informal network for quality assurance and accreditation of bachelor and master programmes in Europe”. The group’s stated aim is to enhance the transparency of awards at the level of Bachelor and Masters. http://www.jointquality.nl/ (accessed 14 July 2009)
4 The report dated 18 October 2004, and listed on the JQI website as ‘Complete set of Dublin descriptors’, is a draft working document. The descriptors themselves are included in subsequent documentation, such the 2006 document The framework for qualifications of the European Higher Education Area (also published by JQI). However, the award level distinctions do not appear in the 2006 document. Their status is therefore unclear. Both documents are available at:
6 The Tuning Educational Structures in Europe project includes members from across Europe. http://tuning.unideusto.org/tuningeu/ (accessed 14 July 2009)
8 Page 1 of Introduction to Tuning-2 (March 2007). Available at:
9 Dr Achim Hopbach was keynote speaker at an international conference in Taiwan on 5 June 2009. The presentation was titled: Learning outcomes and quality assurance in Europe: A paradigm shift in higher education and its implications on accreditation. The occasion was the 2009 International Conference - Quality Assurance and Student Learning Outcomes of Higher Education in Asia-Pacific Region. Information, including presenters’ slides, available at:
10 The report from the April 2009 ‘Bologna+10 Ministerial Conference’ held in Leuven, titled The Bologna Process 2020 - The European Higher Education Area in the new decade. Available at:
11 The ECTN (European Chemistry Thematic Network) Association is an Erasmus Thematic Network, and emerged from disciplinary networks formed during the 1980s. It includes member national chemistry societies and “around 150 higher education institutions”. http://ectn-assoc.cpe.fr/ (accessed 14 July 2009)
12 The ECTN framework for Chemistry Eurobachelor degrees, titled The Chemistry “Eurobachelor®”. Available from:
Section 3.1: A case study - Europe

xiii The EChemTest involves a series of 30 questions drawn randomly from a bank of questions designed to cover the ‘Euro-Curriculum Chemistry’ program: Information available on the official website:  http://ectn-assoc.cpe.fr/echemtest/ (accessed 14 July 2009)


xv The CoRe project website includes detailed information on the evaluation of degree profiles in four subject areas, including Bachelor degrees in chemistry from four countries: http://www.core-project.eu/?file=core1/background (accessed 14 July 2009)

xvi The final report of CoRe 1: http://www.core-project.eu/?file=core1/outcomes (accessed 14 July 2009)

xvii The CoRe 2 project includes the trial of a template and documentation across nine institutions and three subject areas: history, physics, nursing. Information available at: http://www.core-project.eu/?file=core2/background (accessed 14 July 2009)


xx These documents were prepared by the Tuning Association, “on behalf of a Group of Experts” with representation from many countries, including Australia. Available at: (economics) http://www.oecd.org/dataoecd/46/33/43160495.pdf and (engineering) http://www.oecd.org/dataoecd/46/34/43160507.pdf (accessed 15 July 2009)

xxi The Council for Aid to Education (CAE) website states that the CLA is central to its focus on improving quality and access in USA higher education:  http://www.cae.org/content/about.htm (accessed 15 July 2009)

xxii In her 2007 survey of such tests, Nusche reported that the CLA had been used in 134 US colleges between 2002 and 2005. A 2008 document from CAE states that over 370 institutions and 110,000 students had participated since the introduction of the CLA (in 2002). This OECD review is available at: http://www.oecd.org/dataoecd/13/25/40256023.pdf. More information on the CLA is available from the CAE website: http://www.collegiatelearningassessment.org/ (accessed 14 July 2009)


xxiv CAE publish a sample college report on their website: http://www.cae.org/content/pdf/CLA_0708_R_University_College.pdf (accessed 14 July 2009)
Section 3.2 The United Kingdom

Overview

In the UK, much of the current discussion around academic standards centres on the use of external examiners. External examiners are prominent in institutional accountability processes through their role in reviewing the academic achievement standards – both expected and applied – in coursework programs. The external examination system is, in many ways, the public face of academic standards in the UK. It is therefore unsurprising that it is this system that is receiving the most local scrutiny in the current standards debate in the UK.

Despite this current focus on the role of external examiners, this system of peer review is not the only contribution to the setting and maintenance of standards at a national level. There have been other developments of equal relevance to academic standards setting in the UK, most notably the Subject Benchmark Statements. These describe the expected learning outcomes for particular fields of study, and have been developed in more than 50 specific subject areas to date. Their primary focus is at the level of Bachelor degree with honours, with some extension into Masters. Further consideration of the role of benchmark statements for ‘second cycle’ degrees is ongoing.

Of particular relevance to the current context is the ‘Graduate Standards Programme’ (GSP). This UK-wide project commenced in 1994, was led by the Higher Education Quality Council (HEQC), and preceded the national inquiry which led to the ‘Dearing Report’. The GSP specifically explored the possibilities for establishing ‘threshold standards’ for first degrees.

The GSP adopted the following definition of academic standards:

“Explicit levels of academic attainment that are used to describe and measure academic requirements and achievements of individual students and groups of students.”

(see GSP Final Report, Volume I, Section 4.1)

The final report of the GSP, published in 1997, recommended the following:

- An increase in “clarity and explicitness”, including through the development of a “typology of programmes” and a “means of profiling their intended outcomes”
- An increase in “comparability and security” and efforts to “strengthen academic judgement”. Associated actions included: increased attention to the expected standards in the design and approval of programmes; the strengthening of the external examiner system, with “new fora in which examiners may review their practice and calibrate standards”; and opportunities for disciplinary communities to participate in both the identification and review of standards.
- Progress on the work to establish threshold standards, including by “ensuring that each institution clarifies its own threshold standards”.

( Summarised from GSP Final Report, Volume I, Section 7.2 )

The Quality Assurance Agency for Higher Education (QAA) was established in 1997 to take responsibility for external quality auditing, following on from its predecessor the HEQC. The QAA guidelines on academic standards and quality describe the central role of the UK’s Academic Infrastructure, which features:

a. National Qualification Frameworks, with their broad descriptions of awards and levels;
b. Subject Benchmark Statements, detailed descriptions of expectations for particular subject areas, focused primarily on the UK ‘first cycle’ degree – the bachelor’s degree with honours;
c. Programme specifications, descriptions of the intended learning outcomes of specific programs, including “the means by which the outcomes are achieved and demonstrated”;
d. The QAA published Code of Practice (intended to provided guidance on the maintenance of quality and standards)

( Summarised from QAA Academic standards and quality: http://www.qaa.ac.uk/academicinfrastructure/default.asp accessed 14 July 2009 )
Note: the Burgess Report release in October 2007 is also relevant to the standards discussion in the UK, as it proposes a review of both the assessment and reporting of student achievement. The details of the report have particular relevance to the Diploma Supplement, however, and are beyond the scope of this paper.

**The external examination system**

**Characteristics**

The UK has a long tradition of assessment by external peer review. The ‘external examination system’ is distinct from the arrangements made for the examination of doctoral theses and other individual pieces of student work. The system is specifically focussed on coursework programs and the assessment of student achievement within such programs.

Examiners are ‘external’ in that they are independent of the particular institution and program under examination. Examiners are typically academic staff from other higher education institutions, although for some programs examiners are also appointed from outside academia, such as from professional associations.

The specific role of external examiners varies considerably between institutions and, most probably, between programs within institutions. It is not a uniform, sector-wide approach to monitoring standards.

Typically, the judgement of external examiners does not have primacy over the judgement of internal examiners and examination boards. In some cases, the external examiner may be called upon to ‘moderate’ when the assessment of internal examiners differs. It is more likely, however, that external examiners will simply be called upon to add another perspective to the ‘mix’ of assessments. Final adjudication is the responsibility of the institution through their boards of examiners.

It is acknowledged, including by the QAA, that the specific role of external examiners is defined by each institution. The only requirement is that institutions make this role explicit, both to the examiners appointed and to the public. As a general principle, the QAA Code of Practice describes the role of external examiners in terms of reporting on both the expected and applied standards.

*An institution should ask its external examiners, in their expert judgement, to report on:*

i. whether the academic standards set for its awards, or part thereof, are appropriate;

ii. the extent to which its assessment processes are rigorous, ensure equity of treatment for students and have been fairly conducted within institutional regulations and guidance;

iii. the standards of student performance in the programmes or parts of programmes which they have been appointed to examine;

iv. where appropriate, the comparability of the standards and student achievements with those in some other higher education institutions;

v. good practice they have identified.*

*Extract from QAA Code of Practice for the Assurance of Academic Quality and Standards in Higher Education (Section 4, page 6)*

**Challenges and debates**

There is currently extensive debate around both the role and adequacy of the external examiner system in the UK. The strength of external examination relies upon: the professional judgement of examiners; their familiarity with the subject area and the program goals; and explicit external reference point – or ‘standards’ – against which to measure students’ attainment. In the context of mass higher education and curriculum diversification, the external examination system faces considerable challenge.

Many Bachelor programs in the UK have adopted a ‘modular’ structure, and with this a decrease in the use of ‘capstone’ assessment. Instead, students are considered to have satisfied the requirements for an award when they have satisfactorily completed each of its component units of study. (This is a structure very familiar to academic staff in Australian universities). Furthermore, in many programs the possibilities for elective units means that the sets of tasks completed by different students in the same program varies widely. For programs that do not culminate in a single major assessment task or module, the logical target for external examination
therefore becomes unclear. The capacity for the external examination system to moderate assessment in an increasingly modularised system has, it has been argued, been exceeded\textsuperscript{xi}.

The second challenge to the UK’s approach to external examiners is the increasing diversity of the sector. Given the diversity of institutions in terms of their missions, their students, and their programs, the reality of ‘national academic standards’ has been questioned. Former Chief Executive of HEQC, Professor Roger Brown has argued that it is not possible to make meaningful comparisons between the standards of even cognate programs, due to their diversity, including diversity in aims, content and learning outcomes\textsuperscript{xii}.

The various options discussed for the future of the external examination system include:

- increasing the assessment expertise of examiners, possibly through a combination of increased support, recognition and reward;
- moving to a model where institutions explicitly partner with ‘like’ institutions and programs, accepting that the notion of standards is no longer ‘national’ in such a system;
- introduction of a “college of peers” approach, emphasising examiners’ affiliations with subject areas rather than institutions; and
- shifting the focus of examiners to inputs, including the design of curricula and assessment, and the process of measuring attainment, and away from direct examination of student work.

Despite differences of opinion within the sector, a role for external examination is likely to endure. The alternative might be increased pressure for standardised testing of graduates, an approach unlikely to gain acceptance in the UK\textsuperscript{xi}.

Subject Benchmark Statements

In some subject areas, national statements of expected learning outcomes have been in place for a decade. Developed originally by disciplinary communities, these ‘subject benchmark statements’ are reviewed and updated in a process undertaken by “subject specialists drawn from and acting on behalf of the subject community” and overseen by QAA (see the ‘Preface’, essentially common to all subject benchmark statements\textsuperscript{xv}). The statements are published by QAA, and form part of the quality assurance framework described by the Agency as the ‘academic infrastructure’ of the UK. There are currently links to more than 50 subject areas for Bachelor degrees with honours, and another 18 covering specialist areas of health care.

Notably, each statement includes an explanation of the subject area. It is stressed that subject areas do not map neatly to institutional structures (eg departments or schools), nor to degree titles. The different discipline groups adopted various approaches to distinguishing levels of award. Some focussed only on the honours degree, while others described learning outcomes for each of a range of levels including Diploma and Masters levels.

Typically, Subject Benchmark Statements for honours degrees are presented under the following headings, along with inclusion of various additional sections as appendices:

- Preface
- Foreword
- Introduction
- Defining principles
- Nature and extent of (subject area)
- Graduate and transferable skills
- Subject knowledge and understanding
- Subject-specific skills and generic skills
- Teaching, learning and assessment
- Benchmark standards

Statements for health care areas also include descriptors associated with registration\textsuperscript{xv}, collectively referring to the range of statements as ‘academic and practitioner standards’.

While the statements vary in their level of detail, they share a common approach in providing descriptions of the learning outcomes expected for graduates in terms of both coverage and level. That is: the knowledge or skills to be acquired, or ‘attributes’ developed; and how well a graduate can be expected to demonstrate these. In terms
of coverage, the statements tend to include both subject-specific knowledge and skills, and more generic and transferable skills. For levels, these are distinguished as either threshold standard or typical standard.

a. Coverage
The following extracts from the Biosciences statement illustrate one approach to describing 'coverage' of the expected learning outcomes. It demonstrates some of the complexity involved in separating knowledge from skills, and the specific from the generic.

Subject specific knowledge
The statement is neither entirely prescriptive nor entirely 'general' when it comes to describing the knowledge base of the subject area, broadly defined. The following is the first from a list of ten areas of knowledge:

“Approaches to study and forms of subject knowledge likely to be common to all biosciences degree programmes will include:
* a broadly based core covering the major elements defined by the particular programme and providing the wider context required for the subject area, together with specialised in-depth study (often career-related) of some aspects of the discipline or subject area. Whatever the degree programme, there is a need for an interdisciplinary and (where appropriate) a multidisciplinary approach in advancing knowledge and understanding of the processes and mechanisms of life, from molecular to cellular, and from organism to community.”
(page 4, Biosciences 2007)

Subject specific skills
Described in terms of ‘qualities of mind’, the statement presents six skills, including some that might be considered ‘content focussed’ and others that resemble statements of generic skills. The following two illustrate this:

“Learners working to acquire the qualities of mind appropriate to the biosciences should recognise much of what they are taught is contested and provisional, particularly in the light of continuing scientific advances. The actual qualities include:
* an appreciation of the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment
* the ability to think independently, set tasks and solve problems.”
(page 5, Biosciences 2007)

Graduate and transferable skills
The Biosciences statement lists the particular generic skills – titled ‘graduate and transferable skills’ – of relevance to the subject area. These are:

“The specific graduate and transferable skills that should be developed in bioscience degree programmes are subdivided into the following headings and described in the following paragraphs:
* intellectual skills
* practical skills
* numeracy skills
* communication, presentation and information technology skills
* interpersonal and teamwork skills
* self-management and professional development skills.”
(page 5, Biosciences 2007)

Under each skill a series of outcome statements is listed, presented in terms of what graduates should be ‘able to do’. For example, the statements under numeracy skills include:

“Bioscience degree programme students should be able to:
* receive and respond to a variety of sources of information: textual, numerical, verbal, graphical
* carry out sample selection; record and analyse data in the field and/or the laboratory; ensure validity, accuracy, calibration, precision, replicability and highlight uncertainty during collection.”
(page 6, Biosciences 2007)
Similarly, the statements under communication, presentation and information technology skills include:

“Bioscience degree programme students should be able to:

- communicate about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.”

(page 6, Biosciences 2007)

These might be considered ‘subject-flavoured’ generic skills.

b. Level

As mentioned previously, Subject Benchmark Statements depict the expected level of learning through descriptions of both threshold standards and typical standards. It is worth noting that in their 1997 report<sup>2</sup>, Wolf and colleagues reported the challenges associated with defining threshold standards, and also described the UK approach of referencing levels of achievement in relation to a ‘central’ reference point – perhaps reflected in the use of ‘typical’ as a second key level in the standards. This approach is illustrated below, again using the Biosciences statement as an example.

In the description of levels (under the heading ‘benchmark standards’), the terms ‘generic’ and ‘subject-specific’ have quite different meanings to those used in the description of skills.

‘Generic standards’ are described as being not specific to any particular area within the biosciences. That is:

... the transferable and core skills that would be expected of all honours graduates in the biosciences. They do not involve much factual knowledge and are not specific for any particular subject.

(page 10, Biosciences 2007)

An example of such ‘generic standards’ include the following:

On graduating with an honours degree in biosciences, students should:

- be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study
- have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses
- have an understanding of the explanation of biological phenomena at a variety of levels (from molecular to ecological systems) and be able to explain how evolutionary theory is relevant to their area of study

(page 10, Biosciences 2007)

In contrast, ‘subject specific standards’ relate to particular fields within the biosciences. The statement includes standards for three such fields, by way of illustration. The statement explains the need for standards to include ‘factual and discipline-specific knowledge’, yet the impossibility of achieving this, nationally, for a subject area as large, diverse and rapidly changing as the biosciences:

The second group of standards is illustrative of specific topics, and does involve factual and discipline-specific knowledge. The range of the biosciences is, however, so wide and the scope of courses offered by HEIs in the United Kingdom so different that it is impossible to lay down meaningful standards for all such areas.

(page 10, Biosciences 2007)

Both generic and subject-specific standards are described at both threshold and typical levels. Paired illustrations are provided below:

<table>
<thead>
<tr>
<th>Generic standard</th>
</tr>
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<tbody>
<tr>
<td>Threshold standard</td>
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</table>

On graduating with an honours degree in biosciences, students should:

- be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study
Typical standard
On graduating with an honours degree in biosciences, students should:
* be able to access and evaluate bioscience information from a variety of sources and to communicate the principles both orally and in writing (e.g., essays, laboratory reports) in a way that is well organised, topical and recognises the limits of current hypotheses
(page 10, Biosciences 2007)

Subject-specific standards (subject area: Organisms)
Threshold standard
On graduating with an honours degree in biosciences in which the study of organisms forms a significant proportion, students should be able to:
* show knowledge of the basic genetic principles relating to, and evolution of, the organisms studied
(page 13, Biosciences 2007)

Typical standard
On graduating with an honours degree in biosciences in which the study of organisms forms a significant proportion, students should be able to:
* describe and analyse patterns of inheritance and complex genetic interactions relating to the lives and evolution of the organisms studied
(page 13, Biosciences 2007)

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1 QAA recently released a report in response to standards debates in the media, and one of the five ‘themes’ addressed in detail is ‘Use of external examiners’ [Thematic enquiries into concerns about academic quality and standards in higher education in England. (April 2009). QAA. Available at:
http://www.qaa.ac.uk/standardsandquality/thematicenquiries/default.asp (accessed 13 July 2009)

In addition, a recent article by Rebecca Attwood in UK’s Times Higher Education introduces many of the voices and perspectives. Outside Looking In, pp30-35, 25 June 2009. Available at:

ii Subject Benchmark Statements are published through QAA:

iii Statements for Masters level subjects include the sciences, such as chemistry and physics QAA listing of Masters level Subject Benchmark Statements is available at: http://www.qaa.ac.uk/academicinfrastructure/benchmark/masters/default.asp (accessed 13 July 2009)


v The findings of the Graduate Standards Programme were published in 1997 as a two-volume final report. The report, edited by Peter Wright, provides a comprehensive and cohesive analysis of the challenges facing the UK at that time, and proposes a set of recommendations in the form of ‘actions’. The reports are available, separately, at:
http://www.qaa.ac.uk/search/publications/archive/DQE241_GraduateStandardsProgammeFinalVol1.asp and

vi The recommendations of the GSP are listed under Section 7 (‘Action’) of Final Report Volume I. Available at:

vii An explanation, with links to further information on each of these elements is available on the QAA website:
http://www.qaa.ac.uk/academicinfrastructure/default.asp (accessed 13 July 2009)


ix Beyond the honours degree classification: The Burgess Group final report. October, 2007. Universities UK. Available at:
Section 3.2: A case study – United Kingdom
Section 3.3 Latin America

Overview

Interest in the Tuning process was sparked in Latin America in late 2002. The Tuning Latin America Project formally commenced in 2004, and involves 19 Latin American countries including Brazil, Chile, and Mexico. The focus so far has been on developing a shared interpretation of generic competences for Latin America. Subject area groups have further interpreted these through a methodology quite distinct from the European Tuning process. In particular, each country nominated a central point to coordinate national. The aim was not to reach national consensus, necessarily, but rather to engage all institutions in the discussion. Tuning Latin America served as a vehicle to encourage more dialogue around teaching, learning and assessment across the various systems.

While Tuning Latin America did not focus on comparing levels of student achievement, there is a history of national graduate assessment in some parts of the continent, most notably in Brazil. Since 1996, Brazil has had a national examination – the ‘Prova de’, a requirement for all graduating students in specific courses of study. The ‘ENC’ was replaced by a related test in 2004, the ‘ENADE’, which adopted a sampling approach yet remained mandatory. The continuing significance of this testing is under question, as the government and institutions seek to negotiate a broader approach to quality assurance and accreditation.

Tuning Latin America

The Tuning project in Latin America is considered an intercontinental initiative, as it involves close collaboration between organisations and institutions in Latin America and Europe.

In some ways, this project has a more extensive brief than its European counterpart, in that it might be considered Bologna and Tuning combined, for Latin America. The Tuning Latin America project has the ‘fine tuning’ of educational structures as an explicit aim:

“The ALFA Tuning Latin America Project seeks to ‘fine tune’ the educational structures that exist in Latin America, initiating a debate whose aim is to identify and improve cooperation between higher education institutions, so as to develop excellence, effectiveness, and transparency. It is an independent project, promoted and coordinated by universities in many different countries, both Latin American and European.”

(Tuning América Latina website: http://tuning.unideusto.org/tuningal/)

An additional motivation for the Europe – Latin American collaboration is related to comparability of academic standards, at least in terms of expectations, as explained in the 2007 ‘Final report’ of the project.

“Another important justification behind the Tuning Latin America Project was the interest among European universities in learning of the conclusions of their Latin American counterparts. There was and is a great desire to know the level of correlation between the results achieved in Europe and those obtained in Latin America. These results will go further in informing the debate and will make it possible in the future to discuss international points of agreement on qualifications in both Europe and Latin America.”

(page 14 Reflections on and outlook for Higher Education in Latin America, Tuning Project 2007)

The final report of the Tuning Latin America project presents the detailed results from the four year project, 2004-2007. It provides a comprehensive set of higher education statistics for each of the participating countries, including information relating to quality assurance and to national qualifications frameworks.

The Prova of Brazil: case study of a national, compulsory graduate assessment

According to the Nusche OECD paper of 2007, Brazil is an almost unique example of a country with a mandatory approach to standardised testing of university graduates. The ENADE includes 13 domain-specific tests of knowledge and skills. It also includes a test of ‘General content knowledge’ and generic skills. Prior to the introduction of the ENADE in 2004, all graduates sat the Prova test – known then as the ENC. Under the ENADE, a sampling methodology is used, and some concerns have been expressed about this diminishing the rigour of evaluation in Brazil.
While mandatory, the stakes involved in this assessment are not high for students – ‘mandatory' involves turning up for the examination, not necessarily recording a result. Despite this, the National Student Performance Assessment Examination (ENADE) has been a core element of Brazil’s higher education accreditation and assessment framework\textsuperscript{1}. There are indications that this may be changing, however, as the nation introduces greater institutional involvement in quality assurance processes. Programs are evaluated by the National System of the Assessment of the Higher Education (SINAES), and included in the criteria is review of core objectives and curricula, although there is no evidence of a particular focus on standards of academic achievement in the new protocols\textsuperscript{3}.


\textsuperscript{3} A brief mention of ENADE is included in the Tuning Latin America final report (page 342). Also, the recognition agency ‘nuffic neso brazil' lists the ENADE as one of four principal criteria in the ‘SINAES' evaluation process: http://www.nesobrazil.org/dutch-organizations/brazilian-education-system/quality-assurance (accessed 13 July 2009)

\textsuperscript{3} personal communication, José Miguel Salazar (recently Higher Council for Education (CSE), Chile). 15 July 2009.
Section 3.4 North America

Overview

There are signs that higher education in the United States is keeping a ‘watching brief’ on developments coming out of Europe, and some calls for it to do more than simply observe. There are also examples, at the level of disciplinary groups and institutional-associations, of increased focus on establishing and demonstrating standards of academic achievement, based on learning outcomes and along the lines of the Tuning process¹.

Indeed, a recent initiative supported by the Lumina foundation in the US is set to pilot such a process across three states. In Tuning USA, the focus is on graduate learning outcomes in six disciplines (biology, physics, chemistry, history, education and graphic design), in terms of both subject-specific knowledge and transferable skills.

And there are signs that Canada too is reviewing higher education practice in light of the ‘Bologna process’. A national symposium¹ organised by the Association of Universities and Colleges of Canada (AUCC) held in January 2009 focused on the implications of Bologna for Canadian universities, bringing together senior executives from across Canada with representatives from the OECD, Europe, the USA, and Australia. The means for establishing greater clarity around academic achievement standards, however, was not a prominent theme at the AUCC event.

There remain concerns that Canada ignores these international trends at its peril. The risks, according to education policy researcher and commentator Alex Usher, are to the recognition and standing of Canadian degrees. The consequences could affect both Canadian graduates and the international competitiveness of higher education in Canada, Usher argues.

Concurrently, universities in the US are expanding their use of standardised tests of graduate achievement.

Commencing in 2007, a pilot program titled the Voluntary System of Accountability (VSA) has been piloted in 328 colleges and universities, and across all states. Included in the public information provided by participating institutions is information on student learning outcomes, and most particularly the assessment of critical thinking and written communication. Institutions measure these outcomes using one of three standard instruments: the Collegiate Learning Assessment (CLA); the Collegiate Assessment of Academic Proficiency (CAAP); or the Measure of Academic Proficiency and Progress (MAPP). The focus is at the level of the institution, it includes a ‘value-added’ calculation, and uses a sampling approach involving 100-200 students. The VSA encourages comparison between institutions, and the standard template employed for the public presentation of the College Portrait supports this.

“‘The skills are measured at the institution level across all academic disciplines and are intended to be comparable across institution types. It is a pilot project since many public institutions have not previously measured these broad cognitive skills at the institutional level and then analyzed the results to report learning outcomes in this manner.’” (extract from The VSA Overview of College Portrait (1/5/08). Available at: http://www.voluntarysystem.org/docs/cp/CollegePortraitOverview.pdf)

Various standard tests of learning outcomes are available for measuring the achievement of both commencing and graduating students. These tests are produced and administered by a range of agencies. The OECD comparative review of such tests prepared by Deborah Nusche in 2007² includes analyses of the origin, methodology and implementation of four US-based tests: CAAP; CLA; MAAP; and the MFTs. While further analysis is largely beyond the scope of this paper, the CLA is described in more detail Section 3.1 (Europe) due to the association of the test with the AHELO feasibility study.

The Voluntary System of Accountability (VSA), and the use of external ‘graduate assessment’ in producing College Portraits

The VSA³ is a joint initiative of the American Association of State Colleges and Universities (AASCU) and the Association of Public and Land-Grant Universities (APLU).
Institutions participating in the VSA publish detailed information about teaching and learning in their institution, in a standard format called a ‘College Portrait’. This provides information for prospective students, and includes a section titled Student Learning Outcomes. Within this area of the website, the institution reports data from the student and graduate assessment, including – for example – results from the CLA.

![Image](image-url)

**Pilot Project to Measure Core Learning Outcomes**

The Collegiate Learning Assessment (CLA) measures critical thinking, analytic reasoning and written communication using two different tasks -- a performance task and an analytic writing task. Such general skills are applicable and useful for both career and personal success and are important outcomes of college regardless of a student’s major. Below are the 2006-2007 results from the CLA.

**CLICK HERE** for information regarding the Collegiate Learning Assessment

![Image](image-url)

**2007 Collegiate Learning Assessment Learning Gains Between Freshman Year and Senior Year Average Institutional Scores**

<table>
<thead>
<tr>
<th>Performance Task</th>
<th>Analytic Writing Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Score</td>
<td>1138</td>
</tr>
<tr>
<td>Senior Score</td>
<td>1210</td>
</tr>
<tr>
<td>New Transfer Score</td>
<td>1107</td>
</tr>
<tr>
<td>Senior Transfer Score</td>
<td>1201</td>
</tr>
<tr>
<td></td>
<td>1177</td>
</tr>
<tr>
<td></td>
<td>1232</td>
</tr>
<tr>
<td></td>
<td>1124</td>
</tr>
<tr>
<td></td>
<td>1224</td>
</tr>
</tbody>
</table>

(Extract from page 5 of the VSA College Portrait of California State University, Long Beach)

VSA organisers attribute some resistance to an “old image of what tests are and what they do” (Mehaffy, AASCU)\(^1\), equating standardised tests to multiple-choice questions. The February 2008 interview contrasted this with ‘new developments in task-based testing’, such as the performance testing based on written responses employed by the CLA.

The reporting of test results for the VSA is deliberately intended to confound institutional rankings, and instead feature measurements of institutional performance against the standards that could be ‘expected’ for that institution, given the nature of the student cohort.

“Because of the palpable fear of *No Child Left Behind*, our members didn’t all want to be measured by the same test. At the same time, the taskforces decided they wanted some comparability so participating universities could get some idea of how they were doing compared to how well they could be doing. So the developers of the three tests selected have each agreed to express their results not just as raw scores but in terms of whether the scores are above, below, or at the level that would be expected, given the academic preparedness of the students who enter a given institution. So we will have comparability within very broad ranges, but it’s not information one could use to rank schools.”

*(David Schuleberger, NASULGC)*

“Fortunately, the VSA allows two kinds of analysis, both of which are critical for institutions that are serious about learning outcomes. The instruments that the VSA offers to measure learning outcomes each provide both gain scores and average institutional scores, allowing institutions to compare how well they do against predictions of performance and against student scores on other campuses. The result is a rich set of materials for institutional analysis.”

*(George Mehaffy, AASCU)*
The approach to the introduction of the VSA has been deliberately gradual. The VSA is being introduced as a trial. Public reporting of learning outcome ‘scores’ is optional during the pilot stage, and testing will then be on three year cycles. It is acknowledged that there are concerns about the validity of such testing, and the value of the information for curriculum development or the establishment of a USA notion of academic achievement standards.

“...there’s considerable debate within the academy as to whether these tests really measure the right outcomes. There’s also disagreement as to whether it’s appropriate to measure the core outcomes across all students, as opposed to within a single discipline. Then there are those who argue that you can’t use the results of any of these tests to change the curriculum.

We need experience with the tests to address those concerns. If at the end of four years, participating universities have widely used these tests and conclude that they’re producing random noise or that they are unfair or of no value in improving the curriculum, then the VSA will need to reevaluate its use of them. That said, I think that some institutions or systems are going to publish their results immediately: the Cal State and Texas schools, for instance.”

....

“At the end of ten years, I’d hope that the academy would have reached some consensus about what we ought to be measuring, how we ought to be measuring it, and what set of tests are legitimate for measuring it. If we’ve done that, then the VSA should be widely used within public universities—and some of its elements in private universities as well. At the end of the day, if this information has value for those who produce it, the universities and their faculty, and for those who consume it, it’ll survive and grow and morph.”

(Schulenberger, ibid)

While the VSA does involve the use of ‘external’ graduate assessment instruments’, the control of this testing is left to institutions. This is not a state-controlled system of measurement.

“... we want to keep the assessment of learning within our own control. We believe that the diversity of higher education would be threatened if there were some centralized measurement required by law or administrative fiat. Again, if students and parents value the data, they’re going to insist that institutions release it. And if the faculty and universities use the data to improve what they do, they’re going to want it too.”

(Schulenberger, ibid)

**Tuning USA (or North America?)**

It is very early days for the Tuning USA projectxvi. Background papers do, however, position the project in terms of both a response to Bologna and an alternative to the VSA.

“A college, community college, or university does not demonstrate its accountability by issuing more public statistics about how many of its entering students come back for a second year, or by giving a test on critical thinking to 100 student volunteers, or by refreshing its mission and goal statements. That is all easy avoidance behavior with no penetration of the organization.”

(page 3, Adelman (July 2008). Learning Accountability from Bologna: a higher education policy primer. IHEP)

Clifford Adelman has agitated for a Tuning-like initiative for some time, most comprehensively in a IHEP ‘Issue Brief’ published in July 2008xvii. Adelman is directly contributing to Tuning USA, and recently prepared a background paper for the project, urging his colleagues in USA higher education to “learn something from beyond our own borders that just might help us rethink our higher education enterprise” (px, Adelman, 2009)xviii.

There does not appear to be an equivalent project underway in Canada – yet. According to Alex Usher of the Educational Policy Institute (a think-tank with connections to both Canada and the USA), it is simply a matter of time:

“Does this matter to Canada? Not immediately. It’s not that our own systems are lacking in quality or necessarily have poor outcomes – we just lack the specific structural mechanisms the Europeans have to demonstrate quality or describe outcomes. The problem is that in an internationalized system, you can’t just think about the domestic market. The concern has to be that the Euro approach is on its way to becoming a global standard. The Euro
approach to quality assessment – so absent in Canada – is gaining adherents all over the world. The Tuning project now does not just encompass Europe in a few disciplines – there is also a growing Latin American Tuning project and, although I can’t say too much about it, I think everyone should watch the US in the next couple of months to see if an American Tuning movement doesn’t begin there, too.”

...“Canadian institutions (and provincial governments) may, in ordinary circumstances, demonstrate enormous difficulty in working with one another to achieve common standards that are in students’ interest; however, if something of a global standard on quality and outcomes assessment begins to emerge, you can bet they will all be rushing on board as soon as possible.”

(Alex Usher, 27 March 2009, in the online The Week in Review - EPf)

1 Media commentary is emerging in both mainstream publications and the ‘blogs’ of academics. One example is a report in Inside Higher Ed (4 December, 2008). The debate centres around the need to develop shared understandings of learning outcomes in the humanities. Available at: http://www.insidehighered.com/news/2008/12/04/humanities (accessed 15 July 2009)

2 The report from 2009 The Bologna Process and Implications for Canada’s Universities symposium is available from the AUCC website: http://www.aucc.ca/publications/auccpubs/brochures/bologna_report_e.html (accessed 15 July 2009)


4 Together, AASCU and APLU institutions award 70% of the Bachelor degrees in the USA. Two-thirds (328) of their member institutions are participating in the VSA project, which commenced in 2007. Information available at: http://www.voluntarysystem.org/index.cfm (accessed 15 July 2009)

5 The CSULB College Portrait, on the VSA template, is linked to a comprehensive website of the same name. This website includes a section on student learning outcomes which includes information additional to the standard template, including a mandatory assessment for entry into graduate programs, the Graduate Writing Assessment Requirement (GWAR), and a report of students’ past performance on this assessment. Available at: http://www.collegeportraits.org/CA/CSULB/learning_assessment (accessed 15 July 2009)

6 A February 2008 interview with the vice presidents of the two college associations behind the VSA, George Mehaffy (American Association of State Colleges and Universities (AASCU), and David Shulenberger (National Association of State Universities and Land-Grant Colleges (NASULGC), reported in Change, by reporter Margaret A. Miller. Available at: http://www.changemag.org/Archives/Back%20Issues/July-August%202008/full-interview-mehaffy-shulenberger.html (accessed 15 July 2009)

7 To date, the Lumina foundation press release of April 8, 2009 is the most detailed documentation readily available regarding the Tuning USA project. Available at: http://www.luminafoundation.org/our_work/tuning/ (accessed 15 July 2009)


x Alex Usher is the Vice President of the Education Policy Institute, a non-profit organisation based in Virginia, and with offices in Canada and Australia. Usher regularly contributes commentary in The Week in Review, published by EPI. He published an article on 27 March 2009, titled Bologna and Beyond. Available at: http://www.educationalpolicy.org/pub/commentary/090327.html (accessed 16 July 2009)
Section 3.5 Asia-Pacific region

Overview

At the inaugural meeting of Asia-Pacific Education Ministers in April 2006, there was in-principal agreement to "enhance cooperation and cultural understanding in the region". The objective was not to establish a single higher education area in the way that Europe has done. However, it was agreed that the 'Officials' Working Group' formed after the April 2006 meeting would maintain a watching brief on developments in Europe:

"The Officials' Working Group will maintain cognisance of future possibilities for compatibility with initiatives already in development such as the European Bologna and Copenhagen processes."

(The Brisbane Communiqué, 4 April 2006, Point 11, page 2)

The Brisbane Communiqué initiative did not include a 'Tuning' approach. The subsequent activities of the project have been associated with quality assurance processes more broadly, and the recognition of higher education qualifications.

There is, however, growing interest across Asia in the identification and measurement of student learning outcomes. The internationalisation of higher education is a priority for many Asian nations, and this is encouraging the adoption and adaptation of the trends seen in Europe and elsewhere. This chapter presents a brief summary of some of these activities.

In **Hong Kong**, the governing agency is driving a move toward an 'outcomes-based approach' which includes a focus on the direct measurement of graduate achievement against explicit statements of learning outcomes. The focus is at the program level, and the development of a system which includes external examiners is being advocated.

In **Taiwan**, attention to student learning outcomes is being promoted as a more appropriate mechanism for quality assurance and program development than the historical focus on input and process standards. The major quality assurance agency for universities is developing an accreditation framework based on student learning outcomes, and institutions have started to develop criteria and performance indicators for their programs.

In **Singapore**, there is evidence of benchmarking of curricula involving universities in the UK and USA. While there does not seem to be the same level of activity around learning outcomes as seen in Hong Kong and Taiwan, international benchmarking is likely to encourage the articulation and alignment of learning outcomes between partner universities in Singapore and elsewhere.

In **Japan**, there is a growing focus on learning outcomes, although this may mean something quite particular in the case of Japanese higher education. Historically, undergraduate study in Japan has not been outcomes focussed. The 'achievement' of graduates was measured by the status of the institution to which they were admitted. However, higher education researchers in Japan report that this is changing. As Japan seeks to massively increase its share of the international student market, it is likely that international trends around learning outcomes and academic achievement standards will also influence Japanese higher education.

**Hong Kong: promotion of outcomes-based approaches to curricula**

Universities in Hong Kong are working towards an outcomes-based approach to curriculum design, teaching practice, and the assessment and reporting of student learning. Through a task force formed in 2007, collaboration between institutions has been encouraged at the level of disciplinary subject areas. A recent symposium of the task force included presentations under four disciplinary themes: business; sciences; engineering; and social sciences, humanities and education, with particular encouragement for discussion within specific 'fields' under each of these broad themes.

In addition to promoting the sharing of information between Hong Kong institutions, the terms of reference of the task force include a focus on international trends and practices in higher education curricula:
“To identify and disseminate international best practices and how they are to be adopted in the Hong Kong context”
(the fourth of seven terms of reference for the UGC Task Force on Outcome-based Approaches in Student Learning)

The Task Force on Outcome-based Approaches in Student Learning is one of the activities of the University Grants Committee (UGC) of Hong Kong. The UGC is the “statutory advisory committee responsible for advising the Government of the Special Administrative Region (SAR) of the People’s Republic of China on the development and funding needs of higher education institutions in the SAR”.

The task force includes two representatives from each of the eight UCG-funded institutions, including the University of Hong Kong, the Chinese University of Hong Kong, and the Hong Kong Polytechnic University.

“The UGC believes that its funded institutions should be encouraged to consider adopting outcome-based approaches to judge whether the processes and deployment of resources are effective in enabling students to achieve the intended student learning outcomes.”


In a recent address, one of the co-conveners of the task force (Professor Howard Davies) described an outcomes-based approach as including:

- A focus on defining and stating what students will be able to do at the end of the program: learning outcomes
- The alignment of teaching and assessment with the achievement of learning goals
- The collection of evidence on the extent to which learning goals/outcomes are achieved

(slide 5, Howard Davies, presentation 27 May 2009, Hong Kong Polytechnic University)

Davies acknowledged that, in part, institutions already do this. However, he also emphasised the need to do more in terms of: defining learning outcomes at the program level; aligning these with assessment tasks; and collecting evidence that these outcomes are achieved. He described, as an ‘ideal’, a situation where each stated learning goal would be:

- Located at the end of the program, but with ‘mile-post’ tests along the way, to assess progress
- Involve all students – sampling can have real problems!!
- Involve DIRECT tests of whether the student can do what the outcome intends they should do
- Have an element of external validity – not just the professors and students say all is OK
- Be inexpensive to administer
- Be non-intrusive on the program, integrated with the content

(slide 17, Howard Davies, presentation 27 May 2009, Hong Kong Polytechnic University. Original emphases.)

Taiwan: toward evidence of students’ attainment against specified learning outcomes

Higher education in Taiwan has experienced rapid growth over the last decade. The number of institutions has more than doubled, and student enrolments have increased by 65 per cent in the last ten years (see presentation by Dr. Angela Yung-Chi Hou of 5 June, 2009). This move toward universal higher education has focussed attention on quality assurance. In addition, Taiwan is seeking to ensure the ‘international academic competitiveness’ of its higher education system and graduates.

A recent conference in Taipei demonstrates the interest in Taiwan in international developments around student learning outcomes, their measurement, and their reporting. The 2009 International Conference - Quality Assurance and Student Learning Outcomes of Higher Education in Asia-Pacific Region was hosted by the Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT). The one day conference, held on 5 June 2009, featured speakers from Germany, the USA, Japan, Australia and Taiwan.

HEEACT is one of three external quality assurance agencies commissioned by the government, with responsibility for the 74 comprehensive universities and colleges in Taiwan. The agency is focussing attention on student learning outcomes, and is developing a framework to guide this process.
“In response to the changing context of higher education, HEEACT has been starting to develop a new framework for accreditation standards to assess institutional effectiveness based on student learning outcomes rather than on input and process standards in the second cycle of accreditation.”
(slides 24, Angela Yung-Chi Hou, presentation 5 June 2009, HEEACT)

“Student-learning outcomes now become a major concern in quality assurance of higher education in Taiwan. HEEACT is working on a new framework of student-learning outcomes-based standards now.”
(slides 26, Angela Yung-Chi Hou, presentation 5 June 2009, HEEACT)

Curriculum and assessment changes at Soochow University provide one example of how this focus on learning outcomes is influencing institutional practice in Taiwan. A representative from Soochow University at the 5 June 2009 HEEACT conference, Dr. Shihuei Ho, stressed the importance of “verifiable evidence of graduate achievement”. While it may be that the changes at Soochow are currently a work in progress, Ho described the identification of criteria and indicators of student learning as a core objective of the institution.

“Establishing criteria and indicators of student achievements has become the first step to assure the quality of higher education in student learning outcomes and professional cultivation”
(slides 27, Shihuei Ho, presentation 5 June 2009, Soochow University)

Ho described Soochow University’s approach to learning outcomes in terms of the following ‘attributes and competencies’:

- **general education**, in order to broaden basic skills, and awareness of diverse fields of knowledge. The core competencies listed under ‘general education’ included ‘science literacy’ and ‘critical thinking and judgment’. (Slides 5 & 6)
- **personal and social development**, in order (at least in part) for graduates to gain a competitive advantage in the labour market. The ‘core competencies of employability’ included ‘diverse knowledge’, ‘language learning’ and ‘application in computer science’. (Slide 8)
- **intellectual education**, which are more ‘knowledge-based’ and ‘mirror the educational goals and developmental characteristics of the departments and programs’. (Slide 12)
(summarised from: Shihuei Ho, presentation 5 June 2009, Soochow University)

The principles and strategies behind the planned approach at Soochow University emphasise the importance of evidence of graduate achievement.

“Starts thinking about what kinds of verifiable, actionable, representative and cumulative evidence can be counted as student learning outcomes, like portfolios of student work, exit competency examinations, performance on licenses and achievement tests, numbers of credit hours, employer ratings, and surveys of student engagement”
(Slide 20, Shihuei Ho, presentation 5 June 2009, Soochow University)

**Singapore: international curriculum benchmarking**

In Singapore, there are examples of international benchmarking of courses being embedded within institutional practice. The National University of Singapore (NUS) includes external review through ‘visiting committees’ and ‘international advisory panels’

The 2008 terms of reference for these reviews include:

(to) “review undergraduate and graduate courses offered by the Department and advise on desirable developments and improvements.”

(page 1, *Visiting Committees and International Advisory Panels*

The document also notes that this role is largely redundant for professionally accredited courses:

“For units with accreditation bodies, the scrutiny of undergraduate and/or graduate courses will have been done by the accreditation bodies, and there is no need for VCs to undertake that task as well accreditation.”

(page 1, *Visiting Committees and International Advisory Panels*
There is no explicit focus on learning outcomes in the NUS documentation, and the unit of analysis is the department rather than the program of study. However, given the discipline-specific approach that is taken (e.g. political science; chemistry; sociology; environment science and engineering), it is likely that any review of curricula would involve a review of expected learning outcomes. The Subject Benchmark Statements of the UK may have an influence, as UK universities are strongly represented on the advisory panels. The disciplinary representatives are predominantly drawn from universities in the USA and the UK, with some involvement of Australian universities.

No evidence of an inter-institutional approach between the three universities in Singapore was found during the research for this paper. This does not exclude the possibility, however, that there is such a national approach underway in Singapore.

**Japan: introducing a focus on learning outcomes**

The following section draws heavily on a recent paper by higher education researchers in Japan, Akiyoshi Yonezawa and Ri More*. The paper is based on their June 2009 presentation at the 2009 International Conference - Quality Assurance and Student Learning Outcomes of Higher Education in Asia-Pacific Region in Taipei.

Increasingly, universities in Japan are paying attention to learning outcomes. This is a new phenomenon in Japanese higher education, yet one that is set to rapidly gain traction as the government now requires institutions to “clarify learning goals to be achieved as outcomes” (cited in Akiyoshi & More, 2009, page 79).

Historically, undergraduate study in Japan has been treated as a period of reprieve between the previous pressures associated with meeting university entry standards, and the later demands of postgraduate study and employment. The relative achievement of university graduates was largely equated with the status of the institution to which they had gained admission. Academic standards were directly associated with university selection. According to Yonezawa and More, the learning outcomes associated with undergraduate study were therefore not foremost in the thinking of graduates, society, or the government.

So what has changed? First, demographic changes in Japan and the deregulation of private providers has led to an ‘over-supply’ of university places, evident since around 2002. Yonezawa and More describe an associated downward shift in entry standards, yet highlight the fact that completion rates in Japanese universities have remained both remarkably high and remarkably stable, at around 90 per cent by OECD figures. Second, the Japanese government is seeking to dramatically increase the number of international students studying in Japan – two to three-fold over the next twenty years.

In their June 2009 paper, Yonezawa and More describe a move toward a learning outcomes focus, and the relationship with national quality assurance policies in Japan. The authors emphasise the importance of the 2008 report by the Central Council for Education, *Towards the Establishment of Undergraduate Programs* (in Japanese). They state that the “2008 CCE report should be understood as a very important turning point” for Japan.

For Japan, the term ‘learning outcomes’ therefore has a rather broad meaning. A ‘learning outcomes approach’ could be anything that relates to attending to students’ learning during the undergraduate years, in contrast to the measurement of their academic potential at the point of university selection. It is likely, however, that Japanese universities will look to international trends as they move toward a learning outcomes approach. They might therefore be encouraged to consider undergraduate curricula in terms of discipline and generic learning outcomes, in the way that Europe, the USA, and Japan’s near-neighbours in Asia are doing. This remains to be seen.

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* The Asia-Pacific Education Ministers’ Meeting held in Brisbane in April 2006 led to the publication of *The Brisbane Communiqué*. Further information, including a link to the April 2006 document, is available at: [http://www.brisbanecommunique.deewr.gov.au/about.htm](http://www.brisbanecommunique.deewr.gov.au/about.htm) (accessed 1 August, 2009)
International trends in establishing the standards of academic achievement in higher education

The Hong Kong Task Force on Outcome-based Approaches in Student Learning was constituted in 2007, and has held symposia in June 2008 and May 2009: http://www.ugc.edu.hk/eng/ugc/activity/outcomes/outcomes.htm The terms of reference and membership of the task force are available from: http://outcomes.ugc.edu.hk/Annex.html (accessed 1 August, 2009)

The University Grants Committee of Hong Kong http://www.ugc.edu.hk/eng/ugc/about/overview/overview.htm Accessed 1 August, 2009.


Professor Howard Davies (Associate Dean (Programmes, Teaching & Learning), Faculty of Learning and Teaching Committee Chairman, Faculty of Business, PolyU) gave a keynote address titled: From here to there: but where is here and where is there? in which he discussed “some of the conceptual and practical issues which arise in respect of the Outcome-based approach”, including “the collection and reporting of evidence for the OBA and the challenge of OBA construed as organizational change,” Abstract and presentation slides available from: http://outcomes.ugc.edu.hk/presentation.html (accessed 1 August, 2009)

As a representative of the Higher Education Evaluation and Accreditation Council of Taiwan, Dr. Angela Yung-Chi Hou gave a conference presentation on 5 June 2009 titled: Quality Assurance and Student Learning Outcomes in Taiwan Higher Education. Hou described the challenges facing Taiwan Higher Education as it moves away from an ‘elite’ model of education, including the strategies in place regarding quality assurance and developing international academic competitiveness. Presentation available at: http://www.heeact.edu.tw:8081/conference2009/ (accessed 1 August, 2009)


Educational Quality Assurance in the National University of Singapore includes a range of measures, including external review of academic departments. Details are available from the Office of the Provost site: http://www.nus.edu.sg/pvo/educational-quality.php (accessed 1 August, 2009)
