Good Practice Report

Assuring Learning Outcomes and Standards

Final Report 2014

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Acknowledgements

Executive summary

The Office for Learning and Teaching (OLT) and its predecessor, the former Australian Learning and Teaching Council (ALTC), have funded significant projects related to assuring course learning outcomes and standards. These have been reviewed and classified according to a theoretical framework of good practice. The review identifies some gaps in existing work and commends fruitful avenues for future work to stakeholders (including OLT, providers, disciplines, deans councils, professional bodies and quality assurance agencies). Most salient of all, however, the review reveals that the funding provided for the academic standards agenda has been extremely productive, with reach and spin-off projects beyond the projects funded by OLT and its predecessors.

The reference group for the review was the Learning and Teaching Academic Standards Discipline Scholars Network, whose advice is acknowledged with gratitude.

While the primary target audience for the Good Practice Report is course directors, the interests of executive level stakeholders in higher education providers (HEPs) are also acknowledged and analyses and recommendations are relevant for various levels of audience and types of provider (eg self-accrediting vs. non-self-accrediting HEPs).

In brief, the review of the funded projects and related work reveals a considerable level of interest and achievement in work stimulated broadly by the "standards agenda" which was given impetus by the Bradley Review of Australian higher education. A significant proportion of the work commenced prior to the passage of the Tertiary Education Quality and Standards Agency (TEQSA) legislation and the appointment of the Higher Education Standards Panel (HESP) and therefore presaged many of the discussion papers and practices recently emanating from HESP and TEQSA. Nevertheless, each has informed the other and there is a reassuring level of consistency and complementarity across the national standards landscape.

In order to provide an organisational framework through which the aggregated work and reports could be analysed in a practical way to assist academics in course development and improvement, the familiar 'Plan, Act, Monitor, Review'[1] was modified to a cycle designated as 'Plan, Implement, Externally reference, Reflect and Review' and containing 15 steps.

An additional classificatory category 'Enabling infrastructure and conceptual work' was added to accommodate the large number of projects that were in fact preliminary to the process of course development. Incorporated in this category were the many projects premised on the view that, whatever the eventual quality assurance approach, a necessary but not sufficient process was a national discipline based conversation and consensus, where possible, about the desirable learning outcomes that students at a certain level of study should be able to demonstrate, irrespective of provider. While "threshold" was never an ideal word to describe these outcomes, it became even more problematic with the advent of the national Higher Education Standards Framework, which included "Threshold Standards" and subsequently "Non-Threshold Standards" and where the former included several Standards relating to learning outcomes. Nevertheless, threshold learning outcomes (TLOs) proved to be a useful concept and many disciplines have undertaken and

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[1] Similarly used by Oliver in her Good Practice Review of OLT projects and fellowships pertaining to generic graduate outcomes.

continue to undertake a national consultative process to define them. The list continues to grow and Appendix A describes those that the reviewers were able to identify at the time of writing this review. There is evidence from the projects and from anecdotal information that the existence of TLOs has been an aid to the development of courses and formulation of improved assessment practices. This activity also fostered the development of networks in many disciplines whose roles initially were the development of nationally agreed TLOs but have since expanded to provide multiple sources of support for academics in course design, quality improvement and assessment, and sometimes external review. The relevant networks that we have been able to identify at the time of writing are described in Appendix B.

The role of the deans councils has been critical in several disciplines. The commitment of the Australian Council of Deans of Science (ACDS) in establishing the ACDS Teaching and Learning Centre is noteworthy and reflected in the high level of activity in science disciplines. Peak bodies and groups have also funded collaborative work. For example, the Australian Business Deans Council funded a discipline scholar to lead efforts around academic standards including seed funding the accounting discipline to externally assess achievement of TLOs for bachelor and coursework masters degrees. Discipline groups, led by their deans councils and accreditation bodies have committed considerable energy to developing approaches to assuring comparability of assessment in several health disciplines. This activity was given added impetus by the need to review accreditation processes as part of the Australian Health Professions Registration reforms.

Notable by its absence (or at least relative invisibility) is the participation of non-self accrediting and private providers in these projects. Granted, this is a result of previous policy decisions about eligibility for funding. However, given the new higher education landscape, the national regulation of all providers and the large number of private HEPs, this absence is anachronistic and needs to be addressed. Also notable by its absence was any OLT-funded work specifically addressing Step 6 of the organisational framework that we adopted (engaging students in an understanding of the standards), although some of the work on capstones would have certainly engaged with the issues.

Given the centrality of the student experience and the increasing importance of students as informed consumers of education, this is a critical gap in our evidence base for quality assurance. Similarly there were no projects relating to steps 12 – 15 but this is less unexpected given the sector has been grappling with the third stage of the cycle in the framework – external referencing.

Disappointing, but not surprising, is the relatively low number of projects devoted to the processes of external referencing, reflection and review. The projects that have endeavoured to address the issues around assessment and external referencing of standards are more disparate and do not yet permit a confident set of advice about "best practice". They do, however, offer some interesting models for emulation and refinement and some have developed some excellent tools that could well have much broader application if their existence were more evident to a wider audience. This is a critical issue that has informed some of our recommendations.

A few 'lighthouse' Australian projects have been undertaken and are reviewed but even they provide options for further exploration and development rather than definitive advice for best practice. On an international and national level there are good but relatively isolated examples of external referencing which, however, are often lacking in evidence to guide practicability and scalability in the local context. The Go8 Quality Verification System (QVS) is currently the only approach, in Australia, to externally assuring learning outcomes and standards that has several years' history of being embedded in the member universities, although in its present

form it does not include any process for calibrating reviewers. A realistic assessment at this time is that while the literature does not offer any clear formulae for assuring comparability of standards there is a considerable degree of convergence among researchers across education systems internationally. Peer engagement in the process through consultation and some form of calibration of peer judgements around exemplar assessments is generally agreed to be desirable. However, the traditional system of external examiners or "visitors" has many problems for assuring learning outcomes and standards particularly because they lack any process to ensure calibration or consensus. Trade-offs between evidence-based "best practice" and feasibility, time and money are inevitable and not yet resolved.

In Australia the professional disciplines such as those in health and engineering have begun the process of developing nationally comparable or common assessment tools and many of these provide good models for consideration by other disciplines. However, the process of collecting, maintaining, validating and benchmarking performance data to ensure comparability of standards between institutions is in its infancy. Development of such systems is labour intensive in terms of ensuring alignment of data and information systems and staff training and is likely to be undertaken only in response to a felt need within the institution. To this extent, clear guidance from the regulatory authorities as to the types of evidence they will seek is important, as is internal recognition of the importance of using such data for course improvement and course marketing.

Projects undertaken using contestable OLT funding produce outcomes similar to other research but with a very important distinction. The close link between themes addressed by OLT projects and practical issues confronting higher education providers and regulating agencies on a daily basis means that the full value of a project output is unlikely to be realised using normal academic dissemination methods such as conferences, seminars and academic publications which have a significant time delay and a specialisation factor built in. We found that a number of projects developed or trialled tools that appear to have broader applicability beyond the discipline or project in which they were used. In many cases we found it difficult to track these tools down because they were held on various websites and maintained by a variety of organisations. It was evident that a valuable pool of resources developed as a result of OLT funding, while theoretically freely available, remains somewhat inaccessible. Even with the option of OLT extension grants, dissemination via the projects themselves will always be limited. The capacity for this valuable output to be built upon would be improved by a systematic strategy for storing, reviewing and promoting it. An OLT funded project is underway to catalogue project outputs more systematically but this will not necessarily result in active engaged dissemination and uptake. One of our recommendations is that OLT maintain an inventory of reviewed tools that can be accessed for various purposes by course directors and others wishing to build on the work of other projects. Appendix C lists and summarises the tools and resources that have been developed and may be useful for assuring learning outcomes and standards, or for further development.

Additionally, we noted that the ability to share project achievements is limited by the inability, with the time and resources available, to take developments into the next logical phase of research and testing that would prove utility for a wider audience and find an outlet in the broader academic literature. This would more effectively provide the "evidence-base" that the sector needs to guide its advancement in assuring the quality of learning outcomes. This issue is addressed in Recommendation 1 and deserves some consideration at the level of OLT funding policy. For example, a category of funding specifically earmarked for empirical testing of initiatives and resources that have been developed in previous projects could be considered.

The following recommendations are derived from our observations of the gaps and missed opportunities in the extensive and valuable work that has been done related to the external assurance of learning outcomes and standards.

Recommendations

Recommendation 1:

Funding for future projects in the area of assuring learning outcomes and standards should encourage focus on developing and researching, and in some cases testing:

1.1 feasible and scalable methods for ensuring inter-institutional comparability of course learning outcomes and standards;
1.2 capturing multiple learning outcomes and standards in capstone integrative tasks;
1.3 harmonisation between external assurance of learning outcomes and standards with professional and disciplinary accreditation systems.
1.4 use of learning outcome assessment data for self-improvement as well as quality assurance purposes;
1.5 methods for collaboration between networks of public and private higher education providers for the purposes of external referencing;
1.6 approaches to ensure students understand the standards;
1.7 external assurance of learning for post-bachelor qualifications, particularly coursework masters degrees, embedded 4 year honours degrees and their distinctiveness from 3 year bachelors degrees;
1.8 external assurance of learning for research degrees

Recommendation 2:

Although it is desirable to encourage diversity in the formulation of course learning outcomes and TLOs, their use as reference points and exemplars, could be enhanced by their compilation into an edited database, annotated as to date of development and review. The OLT could provide the managed repository with deans councils and networks taking responsibility for reviewing and updating TLOs.

Recommendation 3:

Acknowledge the essential role of networks in defining learning outcomes and standards, sourcing exemplars to develop good practice guides, developing benchmarking skills, harnessing collaboration between academics and practitioners, and developing discipline-relevant methods for inter-institutional comparability of course learning outcomes and standards. Evidence confirms that peak bodies (eg. deans councils and groups of higher education providers) are well placed to establish, resource and provide leadership for such networks, especially if seed funding is available to initiate the process.

Recommendation 4:

OLT as an agency continue to expand its international collaboration with similar international agencies such as Higher Education Academy and Ako Aotearoa and develop systematic approaches to sharing good practice particularly when it comes to external assurance of learning outcomes and standards. This may even entail consideration of incorporation, into funding priorities, of the option to extend successful national projects into the international arena.

Recommendation 5:

Considerable effort needs to be expended in improving accessibility, currency and technical sophistication of the many useful tools that projects are developing. This could be addressed in a number of ways, some of which are outlined in the report. However, we recommend that OLT commission a project to address the issues specifically.

Table of contents

Tables and figures

Tables

Table 1   Examples and commentary on projects that exemplify good practice in each step of the curriculum and course design framework.

Figures

Figure 1   Curriculum and course design framework for externally assuring achievement of agreed course learning outcomes

Chapter 1: Aim, methods and context

1.1 Aims of the report

The good practice report is intended to assist higher education providers to design, deliver and assess courses, and externally assure course[2] learning outcomes against externally benchmarked standards[3] of achievement. Assurance of course learning outcomes using methods that provide external validation and feedback through grading and verification is a relatively new approach in Australian coursework education particularly.

OLT (and ALTC) funded projects related to assuring course learning outcomes and standards were reviewed and classified according to a theoretical framework of good practice outlined in Section 2. The report identifies some gaps in existing work and commends fruitful avenues for future work to stakeholders (including OLT, providers, disciplines, deans councils, professional bodies and quality assurance agencies).

While the primary target audience for the good practice report is course directors, the interests of executive level stakeholders in higher education providers (HEPs) are also acknowledged and analyses and recommendations are relevant for various levels of audience and types of provider (eg self-accrediting vs. non-self-accrediting HEPs).

1.2 Scope

This review is limited to the projects, fellowships and networks referred to us by the OLT with occasional reference to others of which we are aware. We have not done a systematic search to uncover other projects nor have we extended the review to projects funded subsequently to the commencement of this review in early 2014.

1.3 Method

A list of 67 projects was provided by the OLT[4] and their final reports formed the core of the review activity. The reference group for the review was the LTAS Discipline Scholars Network, whose advice is acknowledged with gratitude.

To provide a context for the review of these standards related projects[5], national

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[2] Course refers to an entire sequence of units of study typically leading to a recognised Australian higher education qualification.

[3] Standard refers to a definite level of attainment. Where it is capitalized it refers to the legislation.

[4] Summary: Office for Learning and Teaching Projects and Fellowships. Prepared for the National Learning Outcomes Standards Forum 9 August, 2013 and updated January 2014. <disciplinestandards.pbworks.com>

[5] 'OLT Projects' here refers to work undertaken funded by OLT (and predecessor bodies Australian Learning and Teaching Council and Carrick Institute for Learning and Teaching in Higher Education) and to fellowships and

and international work in the area and Australian policy objectives were reviewed. The resulting policy context and environmental scan were used to indicate where priority needs might arise, and recommendations were framed accordingly.

Tables summarizing all projects were developed as were several specific lists and inventories that specify and provide links to accessible outcomes from the projects. These various approaches to classification are provided in Section 2 and Appendices A to D. One aim was to identify gaps that need to form the focus of future work.

Five project leaders and Fellows whose projects most centrally addressed the topic under review were subsequently interviewed (see Appendix E for list of questions). This provided an opportunity to engage key stakeholders and to capture important emphases, ideas and nuanced outcomes that might not have achieved prominence in their final reports or that might have arisen subsequently.

Since this report is intended primarily as a guide for course directors and others engaged in curriculum development and delivery, the focus was on learning outcomes and standards at the **discipline** level rather than the more generic 'graduate attributes' negotiated across multiple disciplines at the institution-wide level. Furthermore, graduate attributes are typically aspirational rather than threshold. In order to provide the best guidance for future work we have also chosen to review projects with an eye to methods used for efficiently compiling and analysing reliable and valid **evidence** for external review of the achievement of learning outcomes. There is a dearth of projects addressing this practical issue.

The core group of projects described in Table 1 either broke new ground or pushed the boundaries of existing work in the context of assuring learning outcomes and standards. Analysis of the total number of projects resulted in differentiation into a core group of projects that bear most closely on developing approaches for defining, delivering, assessing and externally referencing learning outcomes and for monitoring and analysing evidence of achievement of learning outcomes, and an ancillary group of projects which were either incomplete or unpublished or were more preliminary in nature (see Appendix D). The projects in the ancillary group were analysed and summarised in less detail but sufficient to indicate to interested readers their most salient contribution to assuring learning outcomes and standards.

A standard template was used to analyse each of the reports under review so that the overall findings were easily aggregated and accessible for the busy reader. Key outcomes and features from each project were identified and addressed in a few paragraphs as the 'take home' message.

In summary, considerable activity has been undertaken in Australia relating broadly to assuring learning outcomes and standards, much of it funded by the OLT and its predecessors or directly by institutions, or peak bodies. Relatively little of this work, however, has addressed the assessment and assurance end of the spectrum of potential activity, the majority addressing the important but preliminary tasks of seeking consensus on definition of learning outcomes and standards. Some of the more salient projects are outlined in Section 2. We have identified, without a doubt, the need for a stronger emphasis on projects that close the quality assurance loop and that develop feasible and effective approaches to external benchmarking of learning outcomes and standards.

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networks as well as grants specifically for projects.

1.4 Review of the context

1.4.1 TEQSA legislation and role

The Australian higher education regulatory context has been in transition since changes were first flagged in the 2008 Bradley Review. In May 2009, the Australian Government announced its formal plans. In July 2011, the Tertiary Education Quality and Standards Agency (TEQSA) was established, superseding the Australian Universities Quality Agency's (AUQA) quality assurance function and with a wider scope.

TEQSA's role formally expanded to registering and regulating the entire Australian higher education sector in January 2012. TEQSA's regulatory role was established with three principles (regulatory necessity, risk and proportionality) and a set of Threshold Standards (Provider Registration Standards, Provider Category Standards, Provider Course Accreditation Standards and Qualifications Standards). Detailed provisions were legislated in the *Higher Education Standards Framework (Threshold Standards) Act (2011)* and built on the previous National Protocols.

The so-called 'Non-Threshold' standards, referring to Teaching and Learning Standards, Research Standards and Information Standards, have not been defined and are not currently subject to regulation. Further work on the Non-Threshold Standards was initiated with a discussion paper around the Teaching and Learning Standards in June 2011.[6] The paper included a discussion of the options for operationalising external assessment of course learning outcomes.[7] An invitational summit in July 2011 provided an opportunity for discussion.

The creation of a single national regulator and a public register of providers have facilitated a clearer picture of the sector – more than 40 self-accrediting institutions (mostly universities including the first specialised university) and a further 130 plus providers without self-accrediting status.

Following a review of TEQSA's functions[8] in 2013, amendments to TEQSA legislation are before Parliament at the time of writing this report. A new TEQSA Advisory Council was announced in April 2014, which clearly precedes announcement of significant changes to TEQSA governance.

1.4.2 Higher Education Standards Panel

The Higher Education Standards Panel (HESP) is currently reviewing the Higher Education Standards Framework that TEQSA uses to regulate and register providers. Following substantial consultation with the sector, in March 2013, the Panel released the first sample of draft Standards, namely those relating to course design and

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[6] Developing a Framework for Teaching and Learning Standards in Australian Higher Education and the Role of TEQSA, available at <www.hestandards.gov.au/sites/default/files/TeachingLearningDiscussionPaper.pdf>
[7] While 61 submissions responded to the call for comment, it was not until September 2012 when the Higher Education Standards Panel had been established and begun its work that the sector was provided with feedback. Communiqué 3 is available at <www.hestandards.gov.au/sites/default/files/CommuniqueNumber3-HEStandards.pdf>
[8] Review of Higher Education Regulation Report, 2 August 2013 by Professors Kwong Lee Dow and Valerie Braithwaite. http://docs.education.gov.au/node/33587

course learning outcomes for coursework degrees. This coincided with their first discussion paper that provided further information distinguishing the role of *Standards* and *Reference Points*. Three reference points for *Learning Outcomes (Coursework) Standards* were suggested (as below).

> *Reference Points*
> i.   *Australian Qualifications Framework (January 2013)*
> ii. *Learning outcomes statements developed for the field of study by Office for Learning and Teaching discipline communities or other disciplinary or professional bodies.*
> iii. *The requirements for professional accreditation of the course of study and registration of graduates where applicable.*

In May 2013, following 72 submissions, the Panel clarified the definition and role of reference points, published the comments from the sector and released their response (in Communiqué 8).[9]

> *Significant codes or frameworks that the Higher Education Standards Panel judges to be of relevance to providers in considering how particular standards may be met or demonstrated.*
> * *Reference Points are an important adjunct to the Higher Education Standards but are not themselves standards statements.*
> * *Generally, the items listed as Reference Points are developed and maintained by peak national bodies and agencies.*
> * *The Higher Education Standards Panel does not intend to create or maintain the items listed as Reference Points.*

On April 23, 2014, as this Good Practice Report was being written, the Higher Education Standards Panel released the Proposed Higher Education Standards Framework with a consultation period ending June 27[10]. The proposal replaces all existing Threshold Standards and discards the notion of 'Non-Threshold' Standards. It divides the Framework into four parts:
A. Standards for Higher Education
B. Criteria for Higher Education Providers
C. Application of the Higher Education Standards Framework for regulatory purposes
D. Definitions and explanations of terms

The definition of reference points has also been updated in Part D of the proposed Framework (D/E 18):

Reference Points are significant codes or frameworks that the Higher Education Standards Panel judges to be of relevance to higher education providers in considering how particular Standards for Higher Education may be met or demonstrated.

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[9] Submissions available at <www.hestandards.gov.au/engagement/call-comment-number-1>. Communique 8 available at <www.hestandards.gov.au/sites/default/files/CommuniqueNumber8-HEStandards.pdf>.
[10] Proposed HES Framework Consultation Draft, April 2014 available at
http://www.hestandards.gov.au/engagement/call-comment-number-3

Reference Points are an adjunct to the Standards for Higher Education but are <u>not</u> themselves Standards Statements. Use of the Reference Points by higher education providers is not mandatory; the Standards do not require a provider to consult the Reference Points or to comply with positions advocated within the Reference Points. The items listed as Reference Points are generally developed and maintained by peak national bodies and agencies.

Of most relevance to this report are Part A and C of the Proposed Higher Education Standards Framework. HESP's statement of Principles underlying Part A[11] indicate that, among other things:

- *Outcomes rather than inputs and processes are addressed where practicable.*
- *The Standards Statements do not presuppose any particular approaches or types of evidence that individual providers might adopt to ensure or confirm that specific Standards are being met.*
- *The proposed Standards will facilitate gathering evidence that they have been met through the normal course of internal monitoring by the provider.*
- *The Standards will not address specific discipline content or discipline-related curriculum details.*

In its explanation of Part C HESP states that:

How the Standards are proposed to be applied and which particular Standards have been chosen for each purpose, have been guided by the three basic principles of regulation set out in the TEQSA Act (i.e. necessity, risk and proportionality). In particular, the proposed application of the Standards takes account of whether a regulatory purpose is for 'initial' purposes or a subsequent purpose such as re-registration or a re-accreditation, where a provider would, ordinarily, have already demonstrated a history of meeting standards.

The Standards Statements outlined in Part A (p.8) hold no surprises and are statements of best practice including, in relation to 'Learning Outcomes and Assessment':

- Definition of learning outcomes that are consistent with qualification standards and national and international comparators and encompass discipline specific as well as generic outcomes (these are specified);
- Methods of assessment are consistent with the learning outcomes being assessed, are capable of confirming that all specified learning outcomes are achieved and grades awarded reflect the level of student attainment.
- On completion of a course of study, students will have demonstrated the learning outcomes specified for the course of study, whether assessed at unit level, course level, or in combination.
- On completion of research training, students will have demonstrated specific and generic learning outcomes related to research, including a set of outcomes that are specified by HESP. HESP has been quite specific in its proposed standards for examination of research degrees and its description of the outputs of research training.

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[11] Background Paper: Proposed Revisions to the Higher Education Standards Framework (p.3) Call *for Comment (Number 3, 23 April, 2014).* Available at http://www.hestandards.gov.au/engagement/call-comment-number-3

For standards related to learning outcomes and assessment HESP proposes as Reference Points:

i. *Australian Qualifications Framework (second edition January 2013).*

ii. *Learning outcomes statements developed for the field of education or discipline by discipline communities or professional bodies.*

iii. *The requirements for professional accreditation of the course of study and registration of graduates where applicable.*

In relation to 'Monitoring, Review and Improvement' the proposed standards statements include (p.17) the expectations that:

- courses of study will be comprehensively reviewed at least every seven years and are supported by more frequent monitoring[12] of the quality of teaching, supervision, student progress and delivery of units;
- review and improvement activities will include regular external referencing of progress, attrition, completion rates and "the grading of students' achievement of learning outcomes for selected units of study";
- the results of regular monitoring, reviews and external referencing are acted on to mitigate future risks to the quality of education.

Not only is the standards approach relatively new to the sector but it explicitly draws attention to outcomes as well as inputs and processes, and to some new areas explicitly covered in the current and proposed Higher Education Standards Framework which all providers, including self-accrediting institutions, must address.

With a few exceptions in some disciplines[13], providers have traditionally directed only limited attention to demonstrating achievement of course learning outcomes in forms that facilitate external benchmarking. As providers transition to the new context, providers have a substantial task in devising efficient approaches to compiling this evidence, and TEQSA has a substantial task in devising efficient and effective ways to evaluate the evidence.

1.4.3 Activities undertaken by the sector to address standards relating to course learning outcomes

The OLT (and its predecessors) as well as individual universities and consortia of universities and deans councils have sponsored a considerable number of activities and projects addressing definitions of learning outcomes and standards. Several networks emerged from these approaches, one being the Discipline Scholars Network funded by ALTC to undertake the Learning and Teaching Academic Standards project and subsequently funded by OLT to further support the standards agenda.[14] These funded projects are summarized in the following sections of this report.

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[12] Defined as 'at least every three years'

[13] For example, business schools accredited with Association to Advance Collegiate Schools of Business, available online: http://www.aacsb.edu/accreditation/standards/2013-business/learning-and-teaching/standard8.aspx or program accredited with European Foundation for Management Development available online (page 17): http://www.efmd.org/images/stories/efmd/EPAS/EPAS_Standards_and_Criteria.pdf.

[14] One outcome of the Discipline Scholar Network includes a wiki containing a list of work undertaken in relation to academic standards grouped by discipline cluster. See disciplinestandards.pbworks.com

An OLT Good Practice Report prepared by Oliver[15]deals with learning outcomes at the generic skills (graduate attributes) level rather than "outcomes related to discipline knowledge because that is the focus of most of the projects and fellowships" (p.2). Oliver notes a mismatch between the clusters of generic attributes and the sector wide attempts to assess them. She identifies an urgent need to address this deficit, a fact also noted in this Good Practice Report.

Krause, Barrie and Scott[16] in their discussion paper for the sector in 2011 sketched out a map of the key elements of the national landscape in relation to teaching and learning standards and identified what were, at the time, key areas for clarification and consideration. Several of the issues identified have been resolved in the maturation of the work of TEQSA and the Higher Education Standards Panel but some remain unresolved. Of particular import for this report is the question (p.6):

> *How will the national data system be developed/used to ensure there is timely, comparable, valid and reliable performance data available to TEQSA for its assessment of proportionate risk….?*

This remains a cogent question since no projects reviewed for this Good Practice Report have yet addressed in relation to course learning outcomes. Other questions raised in the Krause discussion paper that remain to be adequately addressed include effective approaches to integrate regulatory attention to performance data with the pursuit of internal quality improvement and to reconcile sector diversity with comparability of performance. The paper highlighted the value of peer review and proposed several options for advancing assurance of learning outcomes and standards. Some of those options have been addressed in one or two of the projects reviewed but there is, as yet, little systematic attempt to subject these or other options to systematic research or evaluation.

The growing recognition that an urgent need exists to move beyond **defining** standards and to address ways of **assuring** outcomes and standards has resulted in several key activities. For example, together with the Discipline Scholar Network, the OLT convened a national forum in August 2013 to propose the next steps in the standards agenda. The objectives of the meeting were to:

- Identify the core issues surrounding the implementation of national standards for learning outcomes and course design
- Explore the role of reference points for national learning outcomes standards
- Recommend transparent, defensible and efficient mechanisms for demonstrating achievement of learning outcomes

Discussion groups[17] at the Forum identified a wide range of potential reference points that could be used by course directors as well as the limitations from which they suffer. In relation to mechanisms for demonstrating student achievement of learning outcomes, participants identified the desirability of OLT's support for disciplines working towards efficient ways to define and assess learning outcomes and helping to develop benchmarking and audits of evidence arising from assessments. It was also recommended that universities take a stronger role in developing the capacity of academic staff in assessment design and assurance of

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[15] Oliver, B. (2011) Good Practice Report - Assuring Graduate Outcomes. [Online:

[16] Krause, K., Barrie, S. & Scott, G. (2011) Mapping Learning and Teaching Standards in Australian Higher Education: An Issues and Options Paper. [Online: <www.uws.edu.au/__data/assets/pdf_file/0005/402854/TL_Stds_Issues_Paper.pdf>

[17] http://disciplinestandards.pbworks.com/w/page/68103000/National%20Learning%20Outcomes%20Sta

standards. The need for scalable processes around sector wide calibration of assessment to ensure grade integrity at the course level was also noted. All of these issues have been addressed in one way or another in the projects reviewed in this Good Practice Report but not sufficiently to provide a clear guide as to the path forward. This is one of the gaps identified in this report that would benefit from further work.

A Satellite Event of the Universities Australia February 2014 meeting, entitled "Comparing Learning Outcomes", canvassed and compared a number of models used in Australia for external moderation of assessment alongside that used in the UK for decades. A comparison of the main models is provided in Appendix F.

The satellite meeting was predominantly a discussion and identified issues for further consideration rather than generally agreed approaches. However, a broad consensus included the need to consider costs as well as benefits and to involve peer review within a feasible framework. To achieve this it was generally agreed that formation of peer networks needs to be fostered. Appendix B lists discipline networks that have already formed as part of this agenda. If sustained, for example through deans council sponsorship, these networks have the potential to further progress on assessing and assuring outcomes as well. Such peer networks can form the basis for peer review of learning outcomes assessment. Given the heavy reliance on peer review in the research enterprise to assure research outcomes meet standards for journal publication, the use of external peer review to assess and assure achievement of learning outcomes should be acceptable and feasible. However, further work is needed on the feasibility and cost effectiveness of scaled models.

Chapter 2: Theoretical framework for assuring learning outcomes and standards

2.1 Literature review

Since the focus of this Good Practice Report and, indeed, the greatest unmet need in the new landscape is "externally assuring" that learning outcomes and standards are achieved and maintained, it is important to consider the literature relating to that topic and to provide an accessible overview of the projects that addressed peer review and external referencing. In overview there are a number of approaches that aim to assure standards through reference to external benchmarks. These approaches can be used to both improve student learning and to allow the compilation of data which permits internal and external benchmarking as well as the ability to demonstrate accountability for outcomes to regulators, professional bodies and other accreditation agencies.

The salient features of those approaches that are described in the literature are reviewed below and the projects that explored them are summarized in Section 3.

Important theoretical and empirical research on learning outcomes and standards is underway nationally and internationally. In the UK, where there is a strong tradition of external examiners and the Assessment Standards Knowledge Exchange (ASKe) has played an important role in this agenda. Early work included formulating six tenets around a manifesto for change, including how disciplinary communities might collaborate to support the learning outcomes standards agenda.[18] Particularly close to the philosophies espoused by many who are active in the field in Australia is Tenet 6 in the manifesto.

> *Assessment is largely dependent upon professional judgement and confidence in such judgement requires the establishment of appropriate forums for the development and sharing of standards within and between disciplinary and professional communities. (Tenet 6)*

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[18] Price, M., O'Donovan, B., Rust, C. & Carroll, J. (2008) Assessment standards: A manifesto for change, *Brookes eJournal of Learning &Teaching*, 2(3). See also Rust, C. (2009) Assessment standards: A potential role for subject networks, *Journal of Hospitality, Leisure, Sport & Tourism Education*, 8(1), 124–28. This article provides an example of such a forum for sharing of assessments within a disciplinary community that emerged from the Manifesto and the ASKe community.

Banta and colleagues[19] in the US identified three alternatives for providing rich data on performance while also providing data for public reporting. They highlight the importance of engaging academic staff in methods of assessment that demonstrate institutional accountability and describe academics' preference for "authentic" measures such as performing real tasks in case study analysis, laboratory or internship situations. The three approaches they describe to provide authentic measures are e-portfolios, which have significant logistical costs; a performance-based rubric system which provides guidance for consistent grading but comes at the cost of considerable complexity and up front planning; and assessment communities comprised of academics who engage in discussion about how student work should be assessed. They suggest that the latter can be carried out in online discussion group as well as in face to face meetings. This has a significant advantage in that in addition to improving assessment practice it also acts as a capacity builder for academics and assists the practice of assessment for learning. Assessment for learning as a focus for staff and institutional development is one of the seven propositions for assessment reform put forward by David Boud in his ALTC Fellowship report.[20]

While the literature does not offer any clear formulae for assuring comparability of standards either within or across institutions there is a considerable degree of convergence among researchers across education systems internationally. In general, peer engagement in the process through consultation and some form of calibration of peer judgements around exemplar assessments (as described in Tenet 6 above) is generally agreed to be desirable, however the traditional system of external examiners or "visitors" has many problems. Trade-offs between evidence-based "best practice" and feasibility, time and money are inevitable and not yet resolved.

In Australia considerable work has been underway since the move to a standards-based approach was flagged. Important theoretical work has been complemented by grants, fellowships, networks and commissioned projects.

Sadler[21] has convincingly summarised the arguments for an approach that "calibrates" academics to ensure consistency of judgements and comparability of standards over time and institutions. The definition of standards offered by Sadler, which makes calibration a particularly salient feature, is "a definite degree of academic achievement established by authority, custom, or consensus and used as a fixed reference point for reporting a student's level of attainment." This definition also highlights the centrality of peer and professional judgement in the process. Sadler's work provides a thoughtful conceptual basis for the processes of definition, codification, moderation and calibration of learning outcomes and standards and highlights the potential pitfalls of assuming that a single or simple answer will be found to address the issues.

[19] Banta, T.W., Griffin, M., Flateby, T.L. and Kahn, S. Three promising alternatives for assessing college students' knowledge and skills. Occasional Paper #2, National Institute for Learning Outcomes Assessment December, 2009. Accessed from www.learningoutcomesassessment.org.

[20] Boud, D and Associates (2010) Assessment 2020: seven propositions for assessment reform in higher education. Sydney: Australian Learning & teaching Council. Accessed from www.assessmentfutures.com.

[21] Sadler, D.R. (2013) Assuring academic achievement standards: From moderation to calibration, *Assessment in Education: Principles, Policy & Practice*, 20:1, 5-19.

On a practical rather than theoretical level Deane and Krause[22] undertook a comparative review of three key Australian projects[23] in order to derive an acceptable learning standards framework. They concluded that any framework must have at its base academic judgements and peer review of standards in disciplinary contexts, that a multi-level, holistic model is required to allow for different purposes and that it is essential that academic staff are trained and engaged in regular peer review of inputs, outputs and reference points for judging performance standards. They also conclude that inter-institutional collaboration in these processes should be conducted by methods best suited to the purpose.

One commonly proffered, and time honoured in the UK especially, solution to the problem of maintenance and comparability of standards is external examiners but Bloxham and Price[24] have argued that simply using a system of external examiners is insufficient. They draw attention to the fact that there is very little evidence that external examiners show consistency in both understanding and applying academic standards. Various reports into the UK external examiner system have recommended improvements including a pool of accredited examiners, consistent training and an archive of scripts to maintain standards over time. Bloxham and Price blend empirical evidence with theoretical perspectives to demonstrate that standards are socially constructed and contextual and thus that there are benefits in inter-institutional sharing, debating and examining each other's assumptions as the basis for a community consensus.

A recent review of the external examining process in the UK on behalf of the HEA and the Quality Assurance Agency came to the conclusion that examiners should be involved in processes to calibrate their standards within their discipline communities at national level and to align with available reference points[25]. Research conducted as part of this review found that of 20 assignments marked (five in each of the four disciplines) only one was assigned the same rank (highest or joint highest) by all 6 examiners in a discipline. In the HEA Handbook for external examiners[26] it is noted that: "The idea that a single external examiner could make a comparative judgement on the national, and indeed international, standard of a programme (sic) has always been flawed".

A range of models have been developed and trialled in Australia to test external peer review methods for assuring standards (See Appendix F and below). In addition to this more recent activity, processes of "external" examination have been commonplace in some disciplines for many decades in Australia. For example, it has been common practice for students in various clinical schools of a medical faculty to be examined by staff and clinical consultants attached to a different clinical school. Non-self accrediting and private higher education providers in some disciplines such as Divinity[27] have also been accustomed for many years to informal means of assuring comparability of assessments through peer networks.

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[22] Deane, L. & Krause, K. (2012) Towards a Learning Standards Framework. [Online: <www.uws.edu.au/__data/assets/pdf_file/0010/398620/Learning_Stds_Framewk_Final_Dec_2012.pdf>
[23] Assuring final year subject and program achievement standards through inter-institutional peer review and moderation; Go8 Quality Verification of Standards (QVS); and Achievement Matters: External Peer review of Accounting Learning Standards
[24] Bloxham, S and Price, M External examining: fit for purpose? *Studies in Higher Education,* DOI:10.1080/03075079.2013.823931
[25] University of Cumbria, Oxford Brookes University, The Higher Education Academy and Quality Assurance Agency (no date) External examiners' understanding and use of academic standards.
[26] http://www.heacademy.ac.uk/assets/documents/externalexamining/External_Examiners_Handbook_2012.pdf, p.29
[27] http://www.auqa.edu.au/gp/search/detail.php?gp_id=2973

The only system currently embedded as continuing practice is the Group of 8's Quality Verification System (QVS). Not funded by OLT, it involves external verification of course outcomes. Reports on various subject reviews are published on websites of some participating Go8 universities[28].

The key features are:
- a focus on assessment in a sample of final year subjects in undergraduate courses;
- benchmarking for comparing grades awarded in similar courses across Go8 universities;
- senior discipline-specific academics will conduct the review and will have an understanding of academic standards in similar universities around the world; and
- flexibility to complement other quality assurance mechanisms within Go8 universities.

The Learning and Teaching Standards project led by Krause[29] tested blind peer review amongst a representative range of universities. Institutions were partnered and academics who were teaching equivalent undergraduate units of study blind reviewed both assessment inputs (subject outlines, assessment tasks and marking criteria) and outcomes (de-identified samples of assessment at different grade levels). The project found "high levels of broad agreement" on assessment standards and grading in 12 discipline areas.

The Innovative Research Universities (IRU) commenced a "calibration project" in 2012 targeting the TEQSA Course Accreditation Standard that requires benchmarking of standards for assessment[30]. The process is similar to the QVS approach. It focuses on the retrospective verification of grades awarded (not moderation of grades) using the main assignment in a final semester unit (where possible a formal capstone unit) that best captures the course learning outcomes. Reviewers do not remark student work or standardise student grades. The publication of the outcomes is aimed at subsequent alignment of standards over time. Anonymity of students and academics is protected. The process is conducted by each university and aligned with regular five yearly course quality reviews. Only bachelor and are covered, with some exceptions for coursework masters degrees and Honours. Assessments reviewers are a randomly selected, de-identified sample of three marked assignments across four grade levels. Reviewers are Level C or above academics with relevant disciplinary backgrounds from IRU and other, including international, universities and are paid at the AUQA auditor rate. They are provided with an induction pack and a range of materials to contextualise the degree program being calibrated.

The Achievement Matters project led by Hancock and Freeman focused on benchmarking assessment tasks (and related samples of student work) against agreed bachelor and coursework masters TLOs in one discipline, namely accounting. Two experienced academics from 17 higher education providers (15 universities, a TAFE and a private provider) undertake double blind reviews. A third external reviewer is sourced if conflicting judgements about meeting a standard arise. Rather

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[28] http://www.adelaide.edu.au/learning/staff/benchmarking/go8qvs/; http://sydney.edu.au/ab/qvs.shtml
[29] Krause K-L et al Assuring Learning and Teaching Standards through Inter-Institutional Peer Review and Moderation. A sector wide model for assuring final year subject and program achievement standards through inter-university moderation 2014. OLT. www.uws.edu.au/latstandards.
[30] http://www.iru.edu.au/our-activities/projects/calibration-of-academic-judgements.aspx

than comparing assessments and learning outcomes from units of study, providers choose the assessment tasks they believe best demonstrate various TLOs from a range of final units of study. However, no external reviews take place until reviewers have participated in related calibration workshops. Calibration workshops, which also include professional practitioners, focus on sample assessment tasks seeking to demonstrate one or more agreed bachelor or coursework masters accounting TLOs and include a small random sample of student work. Eight calibration workshops have taken place over the three and half year project. Watty et al[31] reports on the calibration process relating to one TLO, namely assessing written communication skills in accounting. Individuals participate in consensus moderation activities in groups after individual assessing sample work prior to workshops. In addition to reviewing discrepancies in ratings (and the written justifications) between multiple markers, the authors point to valuable staff development around assessment practice. They also claim that the process shifts examiners from relying on essentially private knowledge to collegially held knowledge around standards. They raise issues relating to sustainable coordination beyond the project.

Freeman (2014) highlights similarities with the peer review process in research.

- Like peer review of research, potential bias is reduced through double-blind peer review and when all cues about achievement and prior grading are removed.
- Similar to sound research sampling practices, potential bias is reduced by relying on random samples of student work rather than stratifying samples of student work from each grade band.
- Just as article reviewers are selected from those researchers with recognised expertise in the sub-domain by publishing on similar topics in current or similar journals, judgements about learning outcomes are expected to be more reliable when reviewers are selected from a subset of senior academics with specific sub-domain expertise (e.g. auditing; financial accounting) and who have participated in various calibration experiences.[32]
- Research journals sometimes have a special theme and editors are chosen to coordinate them. Choosing specific discipline standards for the focus of a calibration workshop is an equivalent process.
- Other common practices for reviewing research outcomes for journal publication can find an equivalent with processes to review learning outcomes that include calibration. For example, resorting to additional calibrated academics when reviewers' judgements conflict; reviewers justifying judgements and recommending improvements.

In another project, focused on teacher education, five universities collaborated to compare and moderate unit outlines and assessment tasks in teacher education[33].

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[31] Watty, K., Freeman, M., Howieson, B., Hancock, P., O'Connell, B., de Lange, P and Abraham, A. Social moderation, assessment and assuring standards for accounting graduates, Assessment & Evaluation in Higher Education, DOI: 10.1080/02602938.2013.848336.

[32] To ensure shared understandings of academic standards, calibration activities typically need to be intentionally incorporated (as per *Achievement Matters*). In contrast, researchers in typical academic settings get numerous opportunities to engage in calibration activities around research standards.

[33] Faculty of Education External Moderation Project, University of Tasmania. http://www.utas.edu.au/student-evaluation-review-and-reporting-unit/external-moderation2

The project uses an online moderation tool which requires completion of an online peer review form. Reviewers were required to assess the two examples of student work using the marking criteria/rubric provided and comment on grade alignment with that previously allocated. Reports generated by the online tool were provided directly back to the peer-reviewee.

Other approaches which depend less on moderating the process of judgement in assessing student performance and more on moderating the process of setting assessment tasks or questions are exemplified by several of the projects reviewed here including the Assessment of Physiotherapy Practice (PP6-28), the Competency Assessment Tool in Nursing (CG523) and the Australian Medical Assessment Collaborative Assessment Framework (SP10-1869). A well known international collaboration that adopts this approach is the Assessment of Higher Education Learning Outcomes (AHELO) Feasibility Study[34] in which international expert groups developed assessment instruments for generic skills, economics and engineering which were administered to thousands of students in seventeen countries.

These brief summaries serve to highlight that there is awareness amongst Australian higher education providers of the need to engage in external referencing with peers and other institutions to assure the achievement of consistency in assessing learning outcomes. Different approaches entail different levels of effort and time and while it is important that institutions participate in national and international processes to ensure and maintain standards for learning outcomes it is not yet clear at what point the costs exceed the benefits. This is a national conversation involving policies and politics as well as academic judgements and collegiality.

2.2 Framework

The framework we have chosen to assist us to categorise and synthesise the projects is based on the action research cycle (Plan, Act, Monitor, Reflect) used in education for seven decades,[35] and the ADRI (Approach, Deploy, Review, Improve) assurance model used by AUQA[36] and by Oliver (op cit). Mindful of the need for this model to have currency with busy academics we have modified the terminology and included a number of descriptors under each heading which allow ready identification with academic tasks.

The framework has been chosen with providers, and specifically course directors in mind. It aims to provide, at a glance, a sequence of steps that need to be taken, in one form or another, when course directors are compiling evidence for internal course reviews, external benchmarking, accreditation agencies and the national regulator. Where they exist we have linked specific projects to each step in the framework to provide a ready reference of ideas and, in some cases, tools developed by various projects. These projects offer providers and course directors concrete examples of ways in which they can demonstrate that courses have been designed with reference to external benchmarks and that they have taken steps to verify and benchmark achievement of learning outcomes and standards.

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[34] Testing student and university performance globally: OECD's AHELO. www.oecd.org/edu/ahelo
[35] Lewin, K (1946) Action research and minority problems, *Journal of Social Issues*, 2, 34-36.
[36] Woodhouse, D (2003) Quality Improvement through Quality Audit, *Quality in Higher Education*, 9(2), 133-139.

We recognise that the projects were not undertaken with this framework as an organising concept and so many do not fit neatly into the steps. We have categorised some projects into more than one step where they seemed to contribute significantly in a number of areas.

Figure 1:   Curriculum and course design framework for externally assuring achievement of course learning outcomes.
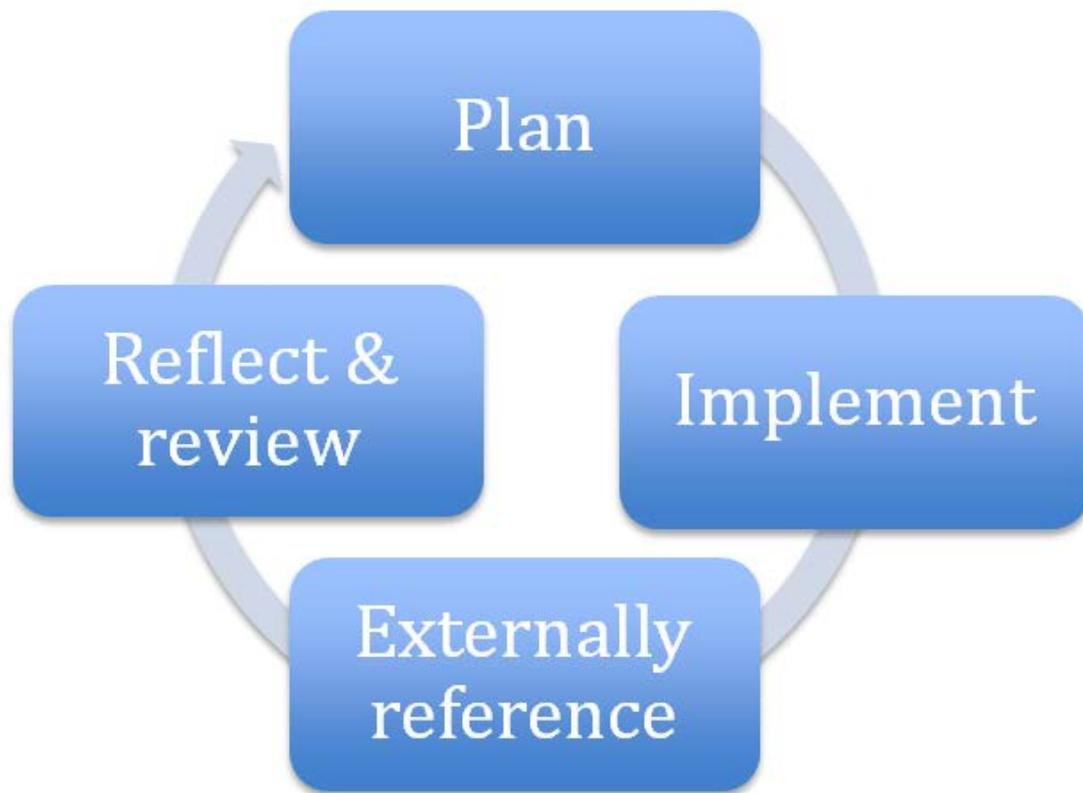
This framework for assuring course learning outcomes (CLOs) in Figure 1 encompasses a number of steps within each stage of the cycle. These steps are expanded in the following paragraphs. This is not necessarily a finite and complete list but is sufficient to provide an overview of the breadth and depth of activities that represent good practice.

Plan

1. Check the CLOs are aligned with relevant external reference points eg discipline standards or threshold learning outcomes (TLOs), AQF level descriptors, international benchmarks and existing professional accreditation standards relating to learning outcomes.
2. Determine the learning experiences and map those parts of the curriculum in which the CLOs will be developed. eg. Will there be capstone experiences such as placements/practicums or simulations? How often will they be used? Are they elective or mandatory? How much online, self-directed and/or collaborative learning will be used?
3. Decide how the achievement of CLOs will be assessed. What tasks will students have to complete and to what standard? What exemplars will be used to ensure inter-rater comparability?

Implement

4. Support teaching and assessing staff to ensure that they are using comparable and consistent standards.
5. Ensure all resources and documentation are in place to support learning eg internships (practicums, placements) and simulations as well as traditional resources like learning management systems, databases, books, tutors, rooms.
6. Work with students to ensure that they understand the standards, particularly around CLOs or TLOs. eg provide practice tasks, simulations and placements that emulate the required standards and which provide timely and effective feedback; provide students with opportunities to interpret the standards in forums where they grade and discuss exemplars of past student work.
7. Provide opportunities and resources that allow students to assess themselves against the agreed standards, particularly CLOs and TLOs. What exemplars of meeting, exceeding or failing one or more standards will be used?
8. Conduct unit and course assessments that provide reliable, valid and comprehensive evidence of the students' achievement of learning outcomes, particularly CLOs and TLOs.

Externally reference

9. Submit assessment tasks[37] relating to CLOs or TLOs and related samples (or total population) of de-identified student work for external review **or** collaborate in the use of standardised shared assessment tools.
10. Work with external reviewers to corroborate the validity of assessment tasks to demonstrate agreed standards and to calibrate assessment of student work against agreed standards. Standards may be represented as TLOs or by grade bands against CLOs.
11. Collaborate with an intermediary coordinating external reviews or with a benchmarking partner to anonymously assess the validity of assessment tasks and assess samples of student work for achievement of learning outcomes for another provider.

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[37] 'assessment tasks' includes assessment of work integrated learning, performance, experiential outcomes

Reflect and review

12. Analyse and externally benchmark the achievement of CLOs (or TLOs) by total population of students.
13. Analyse performance against the externally referenced data.
14. Reflect on those analyses and determine actions indicated for course improvement.
15. Compile a report of the assessment tasks and student performance with samples of evidence of achievement and external benchmarking, and archive for future use for course improvement, accreditation and TEQSA review.

Projects have been categorised into each of these steps in Table 1. For some steps no projects were found. An additional step designated as Step 0 and classified as 'Enabling infrastructure and conceptual work' was added to the framework in Table 1 to accommodate several of the projects under review. Projects in Step 0 relate to formation of networks, development of concepts and other infrastructure that facilitate the development of the standards agenda nationally in some way.

Table 1: Examples and commentary on projects that exemplify good practice in each step of the curriculum and course design framework.

Framework Step	Project Identifier	Comment
		Enabling infrastructure and conceptual work
0 Networks and other preliminary conceptual infrastructure that facilitate the development of the standards agenda nationally. (An inventory of discipline networks created to date is provided in Appendix B).	2013 Fellow Johnson	This fellowship developed the **Australian Council of Deans of Science Teaching and Learning Centre** whose purpose is to: • Publish good practice exemplars • Provide advice to faculties assist with curriculum reform • Provide advice to regulatory, funding and policy bodies • Construct and support links among science and maths education leaders and practitioners. The report provides a useful model for other disciplines. The description of the development of the Centre is concise but sufficiently detailed to be helpful for those wishing to create something similar. The operating principles and relationships with stakeholders (p.21-26) are particularly useful for disciplinary clusters seeking to coordinate and support disciplinary efforts, including those relating to academic standards. www.acds.edu.au/tlcentre
	PP6-47 Jones	The project investigated the understanding of standards within the discipline of urban and regional planning. It canvassed the diversity of current practice in work-based learning and assessment in planning and the views of academics, practitioners and students involved in it as well as the challenges it poses. It raised interesting issues about the "potentially conflicted nature" of the relative contributions of the university and the

| | | workplace to student learning and public good. This national scoping review focused on academic standards, assessment practices and student outcomes and underpinned the development of models and materials for enhancing assessment practices and academic standards.

The report provides a useful overview of **practice - based education** that is relevant across many disciplines and outlines a set of guiding principles for enhancing assessment practices and academic standards for structured work placement which are relevant to others.
www.plannereducation.org.au
www.olt.gov.au/project-generating-academic-standards-2006. |
| | PP10-1603 Evans | The project outcomes included:
• the creation of a database of current (2010–2012) practices in **Australian Clinical Legal Education** (CLE), collated, analysed and published as regional reports,
• the development and refinement of a comprehensive set of Best Practices – Australian Clinical Legal Education
• acceptance and unanimous endorsement of the Best Practices by the Council of Australian Law Deans in November 2012.
law.monash.edu.au/about-us/legal/olt-project

Pages 48 – 66 of the Final Report describe best practices for CLE under seven themes derived from the audit of current practice. For each theme there is a brief contextual statement, one or more statements of principle and specific examples of best practice are provided. The themes are:
1. Course design
2. Law in context in a clinical setting
3. Supervision
4. Reflective Student Learning
5. Assessment
6. Staff
7. Infrastructure |

		The themes cover the theoretical and practical dimensions of designing a clinical course at best practice level which are relevant to disciplines with a clinical practice component and practice related learning outcomes. http://www.olt.gov.au/project-strengthening-australian-legal-ed-clinical-experiences-monash-2010
	PP10-1801 Webb & Brien	Two publications resulted from the project: • **Examining Doctorates in the Creative Arts**: A Guide • Examination of doctoral degrees in creative arts: process, practice and standards. The project conducted a series of roundtables, focus groups and surveys, benchmarking of university policies and processes and analysis of examiners' thesis reports. It found that: • the variation across courses and universities is potentially damaging to scholarly rigour and consistency in the field, and yet the differences between art forms and discipline areas should be preserved; • there is insufficient support given to examiners, training in examination, or awareness of standards in examination practice; • the creative arts academic peak bodies should take the lead in promoting training for examiners, acknowledging the value of the work of examination and of research into examination practice; • there is a very clear need for more research on examination generally, and examination in the creative arts disciplines in particular; • there is a very significant need for database/s of potential examiners; • there has been a notable improvement in the quality of creative arts doctoral dissertations, and the quality of examination, in the past decade; • policies and practices need review and refinement across the nation's universities. creativedocexams.org.au

		These conclusions could indicate that future projects in assuring learning outcomes for research degrees are needed. www.olt.gov.au/project-examination-doctoral-degrees-creative-arts-process-practice-and-standards-2010
	SI11-2120 Clark & Galloway	**Law Associate Deans Network**. The purpose of the network is to: • promote collaborative approaches to teaching and learning in Australian legal education; • to lead, encourage and document good practice in learning and teaching in the discipline of Law; • and to create processes and strategies to sustain the network as a subcommittee of the Council of Australian Law Deans. The Network has developed and distributed Good Practice Guides on the six Law Threshold Learning Outcomes developed in the ALTC LTAS* project to all Australian Law Schools and published them on the Network website. http://www.lawteachnetwork.org/resources.html * Learning & Teaching Academic Standards Project
	ALTC Learning & Teaching Academic Standards Project	**Threshold Learning Outcomes** and standards statements developed for Accounting, Law, Education, History, Geography, Science, Creative Arts, Engineering and Information technology, Architecture and Building. www.olt.gov.au/system/files/altc_standards.finalreport.pdf
	PP6-53 Beck	Benchmarking **Archaeology** degrees at Australian Universities This project used the UK benchmark statements process as a model and collaboratively identified learning outcomes in order to achieve common approaches to standards and assessment. It also held a workshop to trial moderation of Honours assessment and good practice examples for implementing the benchmark learning outcomes. Benchmark (learning outcomes) statements are in three categories: • Subject knowledge and understanding; • Archaeology-specific skills and

		• Generic skills The developers of the benchmark statements conclude, after broad consultation, that *"the standards of achievement for the individual benchmark statements will best be determined by teaching departments at the various universities, taking into account their own program emphases and priorities. External benchmarking and moderation are needed to ensure direct comparability of standards and grades and marks awarded for honours across different university departments."* This is an alternative model to the one used for defining TLOs and may be interesting for some disciplines without a professional accreditation body. It was also an early example of consensus moderation (see Step 10). The benchmark document is available at http://www.australianarchaeology.com/wp-content/uploads/2012/05/By-Degrees-Benchmarking-Archaeology-Degrees-in-Austrlaian-Universities.pdf
	SI11-2117 Stupans and PP8-923 Stupans & Owen	The **Australian Pharmacy Network** developed threshold learning outcomes for pharmacy curriculum and outcomes-based planning, graduated descriptors and quality indicators for pharmacy experiential placements. The network held a workshop in 2013 to provide evidence of achievement of outcomes and exemplar standards through assessment. Participants reaffirmed the outcomes and indicative standards that have been developed for pharmacy education in Australia, identified several more exemplar standards and discussed ways to compile evidence of learning outcomes and exemplar standards through the sharing and examination of assessment pieces. The process was highly collaborative and resulted in sector-wide agreement among academics, students and the Australian Pharmacy Council Ltd, with the Council committing to ensuring that the work of the network is embedded in future iterations of the accreditation process. This degree of collaboration is a recommended model for professional engagement and the website demonstrates ongoing work by the Network beyond the original two funded projects. http://pharmacylearning.edu.au/
	SI11-2122 Ross & Taylor	A set of **Biology Threshold Learning Outcomes** aligned with the LTAS Science TLOs has been developed by the biology network (VIBEnet – Vision and innovation in Biology

		Education)and is available on their website. https://sites.google.com/site/vibenet101/ Building on the Science TLOs developed in LTAS, the network held two workshops to develop biology TLOs and to develop visions for the future of biology higher education and for the mentoring of early career biology academics. Reports of these workshops are on the website. OLT funding for the project has finished, however there is a commitment from the universities to maintain VIBEnet. A third annual meeting is planned for July 2014. The Biology TLOs provide a model which could be applied by other disciplines in generating more specific discipline based TLOs linked with the broader discipline group TLOs produced by the LTAS project
	SI11-2127 Mallett	**Australian Mathematical Sciences Learning & Teaching Network** (AMSLaTNET) has progressed the Threshold Learning Outcomes for the mathematical sciences, under the guidance of the Australian Council of Deans of Science and alongside the other Science Discipline L&T Networks. A number of workshops, including a large national workshop held simultaneously in eight locations via the Australian Mathematical Sciences Institute (AMSI) Access Grid network have been employed to build a discipline-based interpretation of the Science TLOs for the mathematical sciences. These have been presented at national workshops and meetings including a workshop of the Australian Council of Deans of Science and the annual meeting of the Australian Council of Heads of Mathematical Sciences. http://amslat.edu.au/tlos/ The Maths TLOs provide a model which could be applied by other disciplines in generating more specific discipline based TLOs linked with the broader discipline group TLOs produced by the LTAS project.
	SI11-2119 Poronnik	The **Collaborative University Biomedical Education Network** (CUBEnet) has developed the Biomedical Science TLOs (BioMed TLOs). Using the Science Threshold Learning Outcomes (TLOs) as the starting point and with reference to the Biology TLOs, developed by the Vision and Innovation in Biology Education Network (VIBEnet), a two-stage process was adopted. The first stage was a consultative process with the CUBEnet. From this series of conferences and workshops the BioMed TLOs were drafted. In the second

		stage, the network is (at the time of writing this report) requesting feedback via an online survey from the wider national biomedical science education community. www.cubenet.org.au/ The Biomedical TLOs provide a model which could be applied by other disciplines in generating more specific discipline based TLOs linked with the broader discipline
	PP10-1769 Yeatman & Hughes	Academic Standard Statements for **Public Health Nutrition** are provided on pp 25-26 of the project report. Participants in a specially convened forum/workshop agreed that the standards developed through the Delphi process were too complex and were then asked to transform the list of competencies developed via the Delphi into a list of academic standards that could be readily adopted for curriculum renewal purposes. The project leaders recommend that further development take place to create support and resources for learning, teaching and assessment based on the standards. The Delphi Process is a fairly well established tool that has been in use since the 1970s. As in this case, it may not always yield focused useable results.
	2012 Fellow Guest	Standards statement for **Economics**. See Step 1 below.
	2010 Fellow Cranney	**National Standards for Psychological Literacy** and Global Citizenship: Outcomes of undergraduate Psychology education This is a discipline specific project of most interest to the psychology discipline.
	PP9-1280 Dowling & Hadgraft	The project's aim was to refine a model stakeholder consultation process: 'Define Your Discipline' to develop practitioner authenticated Graduate Capability Frameworks for courses in various disciplines. The process was also trialled in six other disciplines and at two AQF levels. A **Graduate Capability Framework for Environmental Engineering** degree courses was produced in this project using stakeholder consultation workshops to collect task descriptions expected of new graduates. The detailed capability framework and technical, process and generic capability tables were produced to guide course developers, students and employers. A Guide was produced to inform environmental engineering stakeholders about expectations regarding the capabilities of graduates in their first 2 or 3 years of practice.

		The report of the DYD stakeholder consultation process is detailed and recommended for those wishing to adopt a more formal codified approach to stakeholder consultation to produce a detailed set of competency descriptors.
	2012 Fellow Guest	The fellowship developed **learning standards in economics** by aligning Australian Quality Framework (AQF) Level 7 and Level 9 learning outcomes with disciplinary core knowledge and skills, and benchmarked these learning outcomes through an assessment framework. The Fellowship drew on work in the UK and the Assessment of Higher Education Learning Outcomes (AHELO) project. The report contains a standards statement for Economics that outlines threshold learning outcomes and provides examples and commentary on the nature of the discipline. The Final Report can be downloaded from the project website www.economicslearningstandards.com. To ensure that the Learning Standards make a difference to economics education in higher education an extension project is currently being planned to develop collaboratively a pool of assessment items of various kinds, categorised under the five core learning outcomes in the Learning Standards. A website will be developed along the lines of the website for a similar resource in the United Kingdom: https://economicsnetwork.ac.uk/qnbank/

Plan		
1 Check the CLOs are aligned with relevant external reference points eg discipline standards or threshold learning outcome s (TLOs), AQF level descriptors, international benchmarks and existing professional accreditation standards relating to learning outcomes. (An Inventory of discipline level learning outcomes developed to date is provided in Appendix A)	PP8-844 King	In this project the academic and professional engineering communities collaborated to revise **Engineers Australia's competency standards**. The revised standards include evidence indicators to assist curriculum designers. The revised standards are aligned with international benchmarks and LTAS TLOs. The competencies focus on outcomes that *"should provoke educators to question the depth and breadth of their curricula and its (sic) assessment."* Funds were committed by the Deans Council to support workshops on curriculum mapping to the revised standards.

The section of the report on Revision of Stage 1 competencies provides a comprehensive overview of processes and outcomes that could be helpful to other professions wishing to align professional and academic standards and international benchmarks. |
| | SP10-1856 O'Keefe & Henderson | The TLOs in health that were developed in the LTAS project were used as the basis for a unifying framework for reporting the scope and level of student achievement across AQF dimensions and professional accreditation criteria in this project. The guide to accompany the framework assists disciplines to embed TLOs in existing course organisation and documentation.

This guide could be useful for other professions seeking to **harmonise** the requirements of accreditation bodies and AQF and regulatory standards. www.olt.gov.au/project-harmonising-higher-education-and-professional-quality-assurance-processes-assessment-learning. |

	PP9-1386 Jackson	This project examined the existing academic standards of **professional entry masters courses** and found some confusion on the part of academics coordinating and teaching masters courses. The report concludes that the graduate of an AQF level 9 professional entry course may undertake similar *content* to that undertaken in an undergraduate professional level 7 course, but their learning attainments will be characterised by greater depth in content, greater understanding and application of new knowledge, more rigorous intellectual approach to problem solving, a greater understanding of the contextual application of their knowledge, (due to the requirement for a significant proportion of practice related learning) and finally, a deeper understanding of the issues facing society and the relevant profession. The project developed an academic standards model for professional entry masters courses to provide guidance to course developers and coordinators for determining the appropriate academic standards for a masters level course, particularly one that leads to entry to a profession. Consultation on the model has been extensive and it is accepted as a very useful guide. At the time of writing this report the project team had not completed trialling the model to evaluate its use. The model appears to be a practical and evidence based approach to determining appropriate learning standards for coursework masters degrees. Project website on http://www.rmit.edu.au/browse;ID=2cto87x1qf7r
2 Determine the learning experiences and map those parts of the curriculum in which the CLOs will be developed. eg. Will there be capstone experiences such as placements/practicums or simulations? How often will they be used? Are they elective or mandatory? How much online, self-directed and/or collaborative learning will be used?	SP10-1862 Lawson & Taylor	See Step 8 below

	SI11-2120 Clark & Galloway	See Step 0 above
	PP10-1646 Bailey & Van Acker	See Step 5
	PP9-1374 Kift	See Step 5
3 Decide how the achievement of CLOs will be assessed. What tasks will students have to complete and to what standard? What exemplars will be used to ensure inter-rater comparability?	PP6-47 Jones	See Step 0 above
	SI11-2117 Stupans and PP8-923 Stupans & Owen	See Step 0 above
	PP7-320 Gore & Ladwig	See Step 8 below
	PP9-1280 Dowling & Hadgraft	See Step 1 above
	SI11-2120 Clark & Galloway	See Step 0 above
Implement		
4 Support teaching and assessing staff to ensure that they are using comparable and consistent standards.	2011 Fellow Boles	The program consisted largely of an extensive engagement of the Fellow as a collaborator and change agent in five universities where he worked on curriculum alignment and evidence based assessment and academic mentoring. There was a focus on supporting academics' effective teaching and assessment practices. The report provides comprehensive descriptions of the process and activities undertaken which could be useful for others who are interested in an **action research approach to curriculum change**. Links are provided to assessment resources and to Mentoring

		Guides produced as booklets and downloadable from www.nationalteachingfellowshipboles.com/resources/guides.shtml
	ID11-1925 Pyvis	The website is available as a reference for those involved in **transnational programs**. It provides a set of principles for universities to follow in ensuring offshore courses adhere to quality principles. These were last updated in 2009. The website also provides a set of workshop materials that could be useful for others intending to conduct CPD workshops for their staff. Extensive information is available on the project's website at www.transnationalquality.curtin.edu.au
	LE11-1896 Harvey	The BLASST **Sessional Staff Standards Framework** establishes criteria and standards by which to evaluate current practice in quality learning and teaching, and in management and administrative policy, procedures and systems affecting Sessional Staff. The Framework is designed to stimulate reflection and action, and to enable institutions, faculties, departments and individuals to work towards consistency in good practice with regard to Sessional Staff. The project produced an interactive benchmarking tool that provides a report at any of four levels of analysis chosen by the institution: individual, departmental, faculty, institution. This tool could be particularly helpful for small private higher education providers for whom sessional staff are critical. The guide also provides a suggested area for a full day benchmarking workshop. www.blasst.edu.au www.olt.gov.au/project-building-leadership-sessional-staff-standards-framework-2011.
	ID11-1913 Hancock & Freeman	See Step 11
	ID11-2026 Palermo	See Step 11

5 Ensure all resources and documentation are in place to support learning eg internships (practicums, placements)	G17–636 Zehner	An online resource toolkit (www.studioteaching.org) was produced to inform and reinvigorate **studio teaching practice** that includes:
		   i. best/good practice indicator;
		   ii. roles of teacher/practitioner, student, industry/profession;
		   iii. checklist for designing a learning environment;

and simulations as well as traditional resources like learning management systems, databases, books, tutors, rooms.		iv. analysis/commentary on assessment/feedback approaches; and v. learning environment evaluation criteria. www.olt.gov.au/project-curriculum-development-studio-unsw-2007
	ID11-2021 Baldwin & Rosier	The project produced a toolkit for best practice experiential learning opportunities. Each case study in the toolkit is a very readable and practical description of a suggested **experiential learning** event. The case studies include suggestions for activities, the underlying principles for experiential learning, examples of assessments, student feedback on the experience and ideas for further enhancing the experience. This is a user friendly resource for teachers who are planning meaningful and effective experiential activities. www.olt.gov.au/project-experiential-learning-planning-education-resources-and-tools-good-practice-2011 experientiallearninginplanning.com.au
	PP9-1374 Kift	The project used an action learning approach of consultation, feedback and reflection, and literature review to identify core curriculum principles necessary to design and deliver successful **capstone experiences** for final year students. Each of these principles has been expanded upon in a set of 'Notes on the Principles', which highlight the relevant research and include quotes from the project data. The Notes on each of the principles are contained in the Toolkit available on the project website. The web resource resulting from this project is an excellent example of an online resource for curriculum renewal. It provides links to useful national and international resources as well as practical advice for curriculum design. It features examples of capstone units, templates for subject outlines and course design, subject models and general principles. It is easily adaptable for other disciplines. https://wiki.qut.edu.au/display/capstone/Toolkit https://wiki.qut.edu.au/display/capstone/Capstone+Experience+Examples
	PP10-1603 Evans	See Step 0
	PP10-1741 Dunston	Section 3 of the report provides a useful overview of six **inter-professional practice competency frameworks** (IPP). IPP competency frameworks specify a range of inter-related competencies that underpin and inform effective collaboration and team based

		practice. Inter-professionality entails a paradigm shift in the way that clinical skills, problem solving , communication and judgement are understood. A summary of the frameworks is provided on p.39 of the report, full reviews in Appendix 5. Section 4 provides a summary of five IPE curriculum frameworks, developed in Britain, Canada, Sweden and Australia. Section 6 provides case studies and exemplars of IPE drawn from the national audit conducted as part of the project. www.olt.gov.au/project-curriculum-renewal-and-interprofessional-health-education-establishing-capabilities-outcomes.
	Science TLOs Good Practice Guides Jones & Yates	Following on from the ALTC Learning & Teaching Academic Standards project these Good Practice Guides provide an excellent model for other disciplines and discipline groups. Each guide includes current examples of the TLOs in action in Australian university science degrees. The case studies are accompanied by a short review of relevant published literature and pointers to useful sources for background, new ideas and resources. The **Good Practice Guides** are an excellent resource for science academics to stimulate curriculum innovation. http://www.olt.gov.au/resource-learning-and-teaching-academic-standards-science-2011
	SI11-2120 Clark & Galloway	See Step 0 above Law TLO Good Practice Guides
	PP10-1646 Bailey & Van Acker	**Capstone Courses in Undergraduate Business Degrees**: A Good Practice Guide. The Guide provides information, guidance, case studies and ideas for introducing, designing, teaching and assessing capstone courses. It also covers some of the pedagogical theories that are useful in designing and delivering a capstone course. The Guide and website is a user friendly resource that should be helpful to any teachers who are interested in learning more about capstones and in developing them for their own disciplines. A website designed around the content in the Guide allows download of the whole guide or sections of it. www.businesscapstones.edu.au

6 Work with students to ensure that they understand the standards, particularly around CLOs or TLOs. eg provide practice tasks, simulations and placements that emulate the required standards and which provide timely and effective feedback; provide students with opportunities to interpret the standards in forums where they grade and discuss exemplars of past student work.		No projects specifically addressing this step were provided for review although capstone projects contained elements of it.
7 Provide opportunities and resources that allow students to assess themselves against the agreed standards, particularly CLOs and TLOs. What exemplars of meeting, exceeding or failing one or more standards will be used?	CG7-523 Crookes	See Step 9 below
	PP6-28 Dalton	See Step 9 below
	PP10-1774 Ryan	The project resulted in **Occupational Therapy Competencies Australia** website that comprises: • resource stimuli to support competency development; • a competency evidencing mechanism mapped to and grounded in the 2010 Australian Minimum Competency Standards for New Graduate Occupational Therapists • students can use an online resource (OTCEM) to self-assess, record, track and evidence their competence and practice educators/lecturers can use it to verify student competence; and • an ePortfolio where students can upload, record, store and track competency

		attained . The project website is a good resource that could act as a model for other disciplines. https://otca.net.au/ Full report at http://www.olt.gov.au/project-creating-student-focussed-web-learning-resources-support-development-and-provide-evidence--0
	PP7-322 Taylor	The project offers an approach to **internal moderation of assessments** using the tool ReView which might be more broadly applicable as a benchmarking tool. ReView is a package that provides students with criterion-based tutor feedback on assessment tasks as well as opportunities for **self-assessment online**. The tool can be used by students as a self assessment exercise which then aids their understanding of the graduate attributes themselves. Similarly staff are enabled to learn from the process. http://www.olt.gov.au/resource-facilitating-staff-student-uts-2009
8 Conduct unit and course assessments that provide reliable, valid and comprehensive evidence of the students' achievement of learning outcomes, particularly CLOs and TLOs.	PP7-320 Gore & Ladwig	In this project, the focus was on naming what counts as high quality assessment. The tool used to judge **assessment task quality** enables feedback to be provided to academics in such a way that evidence, in the form of assessment tasks already developed and implemented, is used as the starting point for quality task development and an investigation of what counts as quality student achievement. This project differs from efforts to articulate standards for university teaching, which are often linked explicitly with graduate attributes, in its focus on articulating the underlying principles by which assessment practices can be evaluated and improved. The project report and the Quality Assessment Framework developed by it is a useful contribution to thinking about the quality of assessment tasks and is worth consulting by those who are interested in the conceptual basis of quality assessment and in helping academics to engage with core issues.

		www.olt.gov.au/project-quality-assessment-linking-assessment-uon-2007.
	SP10-1862 Lawson & Taylor	The project focused on good practice strategies for **curriculum mapping and data collection** for Assurance of Learning[38]and a resource kit was developed. The report identifies and reviews three most useful curriculum mapping tools (pp51 – 53: SOS tool (developed at UTS Business School); C2010 (developed by Curtin) and JISC Designstudio. The report also identifies three useful tools for data collection: ReView (developed at UTS); ELumen; and SPARK[Plus]. The project website – www.assuringlearning.com is available at http://www.olt.gov.au/search/apachesolr_search/SP10-1862
	ID11-2026 Palermo	See Step 11
		Externally Reference
9 Submit assessment tasks relating to CLOs or TLOs and related samples (or total population) of de-identified student assessment tasks for	PP8-955 McAllister	The project has developed a tool, the Benchmarking COMPASS® Database including a comprehensive technical manual to assist users to understand and use data captured in COMPASS® Online for benchmarking. **A Demonstration Benchmarking COMPASS Database is available for interested viewers**: http://benchmarking.portal.com.au/ The database articulates with the Speech Pathology of Australia's COMPASS online which

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[38] Increasingly coveted by Business higher education providers in Australia, several international accreditation agencies have accreditation standards around providing evidence course learning outcomes are planned, pursued, assessed and actions taken where achievement is not apparent. Assurance of learning might focus on school processes (eg. Association to Advance Collegiate Schools of Business or AACSB) which are then subject to five-yearly external review, or external review teams may focus on specific courses and their achievement of learning outcomes (European Foundation for Management Development' Program Accreditation System)

external review **or** collaborate in the use of standardised shared assessment tools.		is used by speech pathology programs to manage student clinical practicums and conduct and record competency-based student assessments. Assessment scores are automatically harvested from COMPASS Online and aggregated and benchmarked with the COMPASS database. This safeguards student and university confidentiality and requires no staff time to prepare and submit data. Resources and links providing further information on the system are available at http://benchmarking.portal.com.au/resources.htm A Handbook explaining the use of the system is available on http://www.olt.gov.au/resource-establishing-infrastructure-and-collaborative-processes-cross-institutional-benchmarking-st
	PP6-26 Lincoln	Benchmarking clinical learning in speech pathology to support assessment, discipline standards, teaching innovation and student learning. The project embedded COMPASS™ (a competency based assessment tool) into clinical education curricula. Programs used the measurement functionality of COMPASS™ to establish internal benchmarks of student performance. Through a collaborative process the participating programs developed a **model for ethical cross-institutional benchmarking of student learning outcomes** that was successfully trialled in the later stages of the project. http://www.olt.gov.au/project-benchmarking-clinical-learning-speech-pathology-sydney-2006
	PP6-28 Dalton	Development of the APP (Assessment of Physiotherapy Practice) instrument: a standardised and valid approach to assessment of clinical competence in physiotherapy. Representatives of all universities with entry-level physiotherapy courses had input into instrument development and refinement. **The Assessment of Physiotherapy Practice instrument (APP)** is a standardised clinical assessment tool with rigorous field testing behind its development. The APP has been endorsed by the Council of Physiotherapy Deans of Australia and New Zealand (CPDANZ) which has strongly recommended its use in university entry level courses in Australasia. The APP is listed as a validated tool for the assessment of student clinical competence by the Australian Physiotherapy Council in *Accreditation of Entry Level Physiotherapy Programs -- A Manual for Universities*. The APP is now used in the majority of accredited entry level physiotherapy courses throughout Australasia. The resource comprises the Assessment of Physiotherapy Practice Clinical Education Resource Manual and a DVD. The Resource Manual contains a comprehensive

		description of the APP instrument including desirable professional behaviours and practical performance targets which make up the performance indicators for each of the 20 items as well as detailed guidance for scoring of each item. The DVD cannot be used as a stand-alone resource. It is provided to support clinical educators in applying the APP and/or for training in assessment using the APP. The resource will be useful for academics involved in preclinical and clinical education of physiotherapy students, to clinical educators and preceptors in the field and to students themselves as a self-directed learning tool. Because of its standardisation and wide adoption in Australasia, there is significant potential for the APP to be used for benchmarking purposes and for comparison of assessment outcomes in various courses. The process of development and subsequent implementation also offer a useful model for other professional disciplines. http://www.olt.gov.au/project-development-clinical-assessment-2006
	SP10-1869 Wilkinson NTF 2014 Wilkinson	Developing the foundation for a national assessment of medical student learning outcomes, 2012 and nationwide collaborative assessment of Australian medical students, 2014. The AMAC Assessment Framework is available at http://www.acer.edu.au/documents/AMAC_Framework_May_2012.pdf The framework articulates the learning outcomes to be attained by medical students after completing their regular medical training. It provides a structured conceptual understanding of the areas to be assessed. The framework provides substantive foundations for subsequent development, along with technical and practical considerations of what would be appropriate and feasible to assess. The current version was completed in mid-2012. Currently it consists solely of Multiple Choice Questions (MCQ) but the potential exists for a broader range of assessment types eg Objective Structured Clinical Examinations (OSCEs) to be developed in the future. Although an MCQ assessment is only a partial test of competency it is a significant forward step in the context of collaborative assessment of medical education outcomes. The process undertaken by the medical schools is a model that can be followed by other professions. The ultimate governance and funding by a committee of the peak body Medical Deans of Australia and New Zealand is an important indicator of sustainability. The issue of sustainability was taken seriously and a tender was let for the development

		of a governance, organisational and business model for the collaboration. This model is provided in Attachment 8 of the Fellowship report. The process allows for a common element of rigorous standardised assessment alongside the flexibility for each school to pursue and assess its own unique "brand" of medical education. Partnerships with international peak bodies such as the National Board of Medical Examiners in the US and the Medical Schools Council-Assessment Alliance in the UK will ensure international benchmarking of standards. A key observation in the fellowship report is that "as discussions took place, the model of a shared and nationwide assessment itself developed and took on a form that became more acceptable to more people; hence the change process was less about convincing more people to agree to a model and was more about getting people together to get them to work on a model that they could agree upon."
	CG-523 Crookes	The project developed a **competency assessment tool** that: • articulates the competencies and assessments of the Australian Nursing and Midwifery Accreditation Council (ANMAC) • enables standardised inter-institutional benchmarking and evaluation to embed robust, valid and reliable work-based learning in practice • reduces the plethora of competency assessment tools in current use, with concomitant reductions in confusion and workloads for assessors. The tool can be embedded in nursing courses to develop competence and clinical skills. It also provides a lifelong learning framework or schedule for nurses to use throughout their careers as they acquire and apply new competencies. www.olt.gov.au/project-development-undergraduate-uow-2007 http://www.olt.gov.au/resource-nursing-competencies-toolkit-uow-2010
10 Work with external reviewers to corroborate the validity of assessment tasks to demonstrate agreed standards and to calibrate assessment of student work against	PP6-53 Beck	See Step 0 above
	ID11-1913 Hancock & Freeman	Achievement Matters: External Peer review of Accounting Learning Standards. This project was initiated by the Australian Business Deans Council with funds committed by both professional accounting bodies (CPA Australia and Institute of Chartered Accountants in Australia) who had revised their accreditation requirements to include the TLOs developed in the ALTC LTAS project. Funds were subsequently committed by

agreed standards. Standards may be represented as TLOs or by grade bands against CLOs		OLT. Funds were deployed to support potential reviewers participating in calibration workshops around each TLO and then undertaking an external blind review of the bachelor and coursework masters TLOs of another provider's assessment data. A minimum of two external reviewers engages in the double blind review exercise for each piece of assessment evidence. As well as the 15 universities, reviewers from one private provider and one TAFE participated. The theoretical basis relies on consensus moderation and social constructivism to inform the development of shared understandings of the TLOs. Importantly, practitioners also participate in the calibration workshops where sample tasks and student work are assessed. To mid 2013 three rounds of live external peer review of learning outcome data across AQF levels 7 and 9 had been reported and six calibration workshops had been conducted. Participants conducted similar calibration activities in their home institutions using exemplars aligned to TLOs and previously discussed at project calibration workshops. SPARK^{PLUS} was found to be an efficient tool for collecting reviewers' ratings and rationale for the live reviews as well as judgements leading into the calibration workshops. Institutions also receive a formal report containing the results of the live review of assessment data relating to each TLO. p.15 of the Interim Report provides an excellent diagram summarising the salient features and sequences of the model process. The requirements of higher education providers who participate in the process appear to be not onerous i.e. supporting the cost of two external reviewers to two workshops per year and providing evidence of five students' work in relation to one or more learning standards. The process could be used and coordinated by a disciplinary network, peak body or benchmarking partners seeking to calibrate understandings.
11 Collaborate with an intermediary coordinating external reviews or with a benchmarking partner to anonymously assess the validity of assessment tasks and assess samples of student work for	SP10-1843 Krause & Scott	A sector-wide model for assuring final year subjects and course achievement standards through inter-university moderation. The Report of the project provides a detailed and critical overview of the method and the issues arising from its implementation. It reports a pilot method which appears to be a feasible, robust and validated strategy for inter-institutional peer review and moderation which could be adapted or adopted by other institutions. It showed that consensus can be reached on both inputs (assessment tasks, criteria etc.) and outcome standards (as evidenced in samples of subject level assessment of final year and capstone subjects.

achievement of learning outcomes for another provider.		The user guide and handbook is concise, well written and comprises templates and models that are easy to adapt or follow. It provides: • User guide and handbook • Peer review template • Sample policy for inter-institutional peer review • Guidelines on how to respond to areas where need for improvement is identified • Strategies for publishing selected peer review outcomes • Recommendations for improving national and institutional policy and practice. www.uws.edu.au/latstandards
	ID11-1913 Hancock & Freeman	See Step 10 above. Administrative infrastructure is required to coordinate the arms-length external review process and to maintain a register of calibrated peer reviewers.
	ID11-2026 Palermo	A resource, Competency Assessment in Nutrition and Dietetics was developed to support assessors in best-practice competency-based assessment. Experienced assessors produced a list of 47 competency statements and their respective recommended assessment settings to provide direction for assessors and planners of curricula and placements. The resource could be adapted by other practice based disciplines for training assessors in the practice-based training environment. www.olt.gov.au/project-professional-competence-standards-learning-outcomes-and-assessment-designing-valid-strategy-
	SI11-2117 and PP8-923 Stupans & Owen	See Step 1 above. The website also provides a Graduated Descriptors for Competencies Tool which is a guide for assessing pharmacy students' progress towards achieving the competencies relevant to their experiential placements. A PowerPoint presentation for training students and/or preceptors in the use of the Tool is also provided
	PP7-322 Taylor	See also Step 8 above. The aim of this project was to engage staff and students with learning and assessment processes that embed graduate attribute development. This process is supplemented by using an online assessment system, ReView. The system allows staff to engage with

		graduate attributes by developing related assessment criteria within the set assignments. Tutors' marking became more standardised when the online software system was used by course coordinators to monitor and discuss tutors' performance levels. This enabled greater understanding of the standards. A community of practice has developed around the project, which has designed a process to aid the alignment and assurance of graduate attributes. These practices are applicable to a range of business and other disciplines. The authors recommend that further projects should look at operating collaborations on multiple levels (e.g. policy makers, associate deans and learning and teaching staff).
	PP10-1812	After standards: engaging and embedding history's standards using international best practice to inform curriculum development. A trial accreditation was performed to demonstrate that students graduating with a major in history had met the discipline-derived Threshold Learning Outcomes. The AHA could then use the tool based on the trial to manage an accreditation process. The lessons learned from this process are critically discussed on pp40 – 44. It was concluded that the "institution of a standards-based environment in History could be achieved in the easiest and least burdensome way by using a rubric rather than introducing standardised testing. http://www.olt.gov.au/project-after-standards-engaging-and-embedding-historys-standards-using-international-best-practice-
		Reflect & Review
12 Analyse and externally benchmark the achievement of CLOs (or TLOs) by total population of students.		No projects relevant to this step were provided for review.
13 Analyse performance against the externally referenced		No projects relevant to this step were provided for review.

data.		
14 Reflect on those analyses and determine actions indicated for course improvement.		No projects relevant to this step were provided for review.
15 Compile a report of the assessment tasks and student performance with samples of evidence of achievement and external benchmarking, and archive for future use for course improvement, accreditation and TEQSA review.	SP10-1862 Lawson & Taylor	See Step 8 above for useful data collection tools.

Chapter 3 Overview of projects as they relate to the framework

The projects reviewed in this report offer many fruitful tools and models for guidance and emulation but also reveal a telling lack of work on the development of ways to assess the efficiency and effectiveness of various approaches to external referencing and to management of data gathered for internal quality improvement as well as external accountability.

As Table 1 reveals there are gaps in the OLT-funded work relating to assuring learning outcomes. Much work has been done in refining processes to assist disciplines and institutions to engage in collaborative processes with stakeholders to define the learning outcomes expected of graduates and to design suitable learning experiences – the enabling infrastructure and planning/implementation phases of the framework represented in Figure 1.

Critically, however, considerably less work has been done at the external referencing and reflection and review phases of the framework. This should set the direction for future research and development priorities.

Several of the projects reviewed were as yet incomplete, and several more reiterated a process for consultative development of learning outcomes and standards. In some ways these latter are a "proof of concept" and have demonstrated effective approaches that others can follow if they choose to do so.

A significant corpus of practical work was commissioned by the former Department of Education Employment and Work Relations and devised and implemented throughout 2010–11 by the ALTC Learning and Teaching Academic Standards project Discipline Scholars. Discipline Scholars facilitated their respective disciplinary communities to collaboratively develop statements of threshold learning outcomes (TLOs). By 2011, eleven demonstration disciplines had published TLOs and other disciplines have followed (See Appendix A). Since then a considerable number of standards-related projects have been undertaken successfully. In addition to setting discipline threshold learning outcomes, other work has focused on assisting disciplines to apply discipline standards (e.g. Law and Science Good Practice Guides), capturing the extent to which discipline standards have been aligned in curriculum (e.g. Business, SP10-1862; History PP10-1812) or efforts to harmonise TLOs with professional accreditation systems (e.g. Health, SP10-1856). A smaller amount of work has focused on external assessment and referencing of learning outcomes. One notable example relies on implicit standards (i.e. multiple disciplines using moderation of final year subjects, SP10-1843).[39] Another cues assessors to explicit standards (i.e. Accounting discipline TLOs, ID11-1913) and uses calibration events before small randomly drawn samples are double-blind peer reviewed.[40] Others, notably in the health disciplines have collaborated to develop forms of common assessment that can be used across all institutions (See projects described in Steps 9 through 11 in Table 1).

Notable by its absence (or at least relative invisibility) is the participation of non-self accrediting and private providers in these projects.[41] Granted, this is a result of previous

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[39] See Deane & Krause (2012) for a summary.
[40] http://achievementmatters.com.au/approach/methodology-2/
[41] One exception is ID11-1913 where one TAFE and one private provider participated alongside 15 universities.

policy decisions about eligibility for funding. However, given the new higher education landscape, the national regulation of all providers, and the large number of private HEPs, this absence is anachronistic and needs to be addressed. Also notable by its absence was any OLT-funded work specifically addressing Step 6 of the organisational framework that we adopted, although some of the work on capstones would have certainly engaged with the issues:

> *Work with students to ensure that they understand the standards,* particularly around CLOs or TLOs*. eg provide practice tasks, simulations and placements that emulate the required standards and which provide timely and effective feedback; provide students with opportunities to interpret the standards in forums where they grade and discuss exemplars of past student work.*

Given the centrality of the student experience and the increasing importance of students as informed consumers of education this is a critical gap in our evidence based for quality assurance. Similarly there were no projects relating to steps 12 – 15 but this is less unexpected given the sector has been struggling with the third stage of the cycle in the framework – external referencing.

The role of the deans councils has been critical in several disciplines. The commitment of the Australian Council of Deans of Science (ACDS) in establishing the ACDS Teaching and Learning Centre is noteworthy and reflected in the high level of activity in science disciplines. Peak bodies and groups have also funded collaborative work. For example, the Australian Business Deans Council seed-funded the accounting discipline to externally assess achievement of TLOs for bachelor and coursework masters degrees. Discipline groups, led by their deans councils and accreditation bodies have committed considerable energy to developing approaches to assuring comparability of assessment in several health disciplines. This activity is given added impetus by the need to review accreditation processes as part of the Australian Health Professions Registration reforms.

The projects that have endeavoured to address the issues around assessment and external referencing of standards are more disparate and do not yet permit a confident set of advice about "best practice". The Go8 Quality Verification System is the only approach to externally assuring learning outcomes and standards that is has been embedded in the member universities, although it currently does not include any process for calibrating reviewers. The projects do, however, offer some interesting models for emulation and refinement and some have developed some excellent tools that could well have much broader application if their existence were more evident to a wider audience. This is a critical issue that has informed some of our recommendations.

The following paragraphs bring together some of the approaches to assuring standards through assessment and external referencing that should inform an expanded agenda for future work.

3.1 Collaborative development of assessment tools

All entry level physiotherapy schools developed collaboratively a standardised and rigorously validated instrument the "Assessment of Physiotherapy Practice" (APP) which has been endorsed and strongly recommended by the Council of Physiotherapy Deans of Australia and New Zealand (CPDANZ). The APP is now used in the majority of accredited entry level physiotherapy courses throughout Australasia. The Resource Manual contains a comprehensive description of the APP instrument including desirable professional behaviours and practical performance targets which make up the performance indicators for each of the 20 items as well as detailed guidance for scoring of each item. Because of its

standardisation and wide adoption in Australasia, there is a great potential for the APP to be used for benchmarking purposes and for comparison of assessment outcomes in physiotherapy courses which may be quite varied in their design and delivery[42].

Speech Pathology has taken the process a step further. Having developed a common set of assessments to assess the agreed speech pathology competencies the process was extended to the development of an online competency assessment tool (Speech Pathology of Australia's COMPASS[TM]) which allows internal benchmarking of student performance. This tool articulates with a database that is used to manage student clinical practicums and conduct and record competency-based student assessments. Assessment scores are automatically harvested from COMPASS Online and aggregated and benchmarked with the COMPASS database[43]. This safeguards student and university confidentiality and requires minimal staff time to prepare and submit data.

In nursing an assessment tool designed to assess competencies required by the Australian Nursing and Midwifery Council has been developed collaboratively by a number of faculties and is available for general use to enable standardised inter-institutional benchmarking although it is not clear that it is being widely used.[44]

A similar approach has been taken in medicine where the Australian Medical Assessment Collaboration has developed an Assessment Framework[45] that articulates required learning outcomes and technical and practical considerations of what is appropriate and feasible to assess. Currently the Framework provides only multiple choice questions but it is intended to extend this to a broader range of assessment types. The process allows for a common element of rigorous standardised assessment alongside the flexibility for each school to pursue and assess its own unique "brand" of medical education. Partnerships with international peak bodies such as the National Board of Medical Examiners in the US and the Medical Schools Council-Assessment Alliance in the UK will ensure international benchmarking of standards.

3.2 Peer review of assessment and calibration of assessors' judgements

The most comprehensive approach reported in the projects reviewed is *Achievement Matters: External Peer review of Accounting Learning Standards,* a project initiated by the Australian Business Deans Council and subsequently funded by OLT. The principal aims of the project were to obtain and use external peer reviewed evidence of learning outcomes benchmarked against agreed learning standards.

The model used for assessing the learning outcomes is based on a double-blind, calibrated external peer review. To mid 2013 three rounds of live external peer review of learning outcome data across AQF levels 7 and 8 had been reported and six calibration workshops had been conducted. SPARK[PLUS] was found to be an efficient tool for collecting reviewers' pre-workshop ratings and rationale. Practitioners and professional body representatives participate with academics in reaching a consensus on the application of agreed national learning standards. Academic participants report that they have conducted similar calibration activities in their home institutions.

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[42] http://www.olt.gov.au/project-development-clinical-assessment-2006
[43] http://benchmarking.portal.com.au/resources.htm.
[44] http://www.olt.gov.au/resource-nursing-competencies-toolkit-uow-2010.
[45] http://www.acer.edu.au/documents/AMAC_Framework_May_2012.pdf

Page 15 of the Interim Report provides an excellent diagram summarising the salient features and sequences of the model process. The requirements of higher education providers who participate in the process appear to be not onerous i.e. supporting the cost of two external reviewers to two workshops per year (that back existing conferences attended) and providing evidence of five students' work in relation to one or more learning standards. It is noted, however, that administrative infrastructure is required to coordinate the process and to maintain a register of calibrated peer reviewers. A Learning Standards Reference Board supported by a peak body (such as the ABDC or a relevant academic association) is suggested for making the project processes sustainable.[46]

3.3 Projects that developed useful tools

It is evident that a relatively valuable pool of resources developed or improved as a result of OLT funding, while theoretically freely available, remains relatively inaccessible. Some ongoing organisational infrastructure is always likely to be necessary to sustain and update useful tools. To this end we have made a recommendation for a more systematic approach to dissemination of generally useful tools and outputs. We suggest that OLT maintain an inventory of tools of that can be accessed for various purposes by course directors and others wishing to build on the work of other projects.

Appendix D lists and summarises the tools and resources that have been developed and may be useful for assuring learning outcomes.

3.4 What the project leaders told us

It was beyond the scope and resources of this review to conduct extensive interviews with all project leaders and fellows. We selected a few projects for follow up based on their apparent potential as providers of important ongoing infrastructure. Our questions were focused on outcomes subsequent to the completion of the projects and perceived facilitatory and inhibitory factors. The list of questions asked is in Appendix E. The following comments do not identify any individual responses but are a compilation to provide a general overview of post-completion project trajectories.

Interviews with project leaders who had produced particularly salient resources for the task of assuring learning outcomes, confirmed our observations about the overall value of the OLT funding for these projects. As we expected, the projects whose leaders we interviewed had impact beyond the project per se. Interviewees reported that this was evident in institutional support, in some cases, by the deans councils, uptake within other universities and by professional bodies; and references to the project in national and international conferences. In some cases it was acknowledged that Australia had led the way within the discipline, ahead of UK and US counterparts. In one discipline the project stimulated formation of an ongoing Asia Pacific Education Collaboration. This potential international leadership role, in some disciplines, is addressed in Recommendation 4 where it is suggested that OLT could consider incorporating into its funding priorities the option to extend successful national projects into the international arena. Projects that provide opportunities to seek international consensus on carefully specified issues in assuring learning outcomes and standards would need to be circumscribed and carefully vetted but, if well conceived, prepared and led could offer significant national benefit.

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[46] http://achievementmatters.com.au/overview/

Other benefits reported were the opportunity afforded by the teamwork and networking for participants and project leaders to debate differences of opinion and to refine and expand their thinking on the topic. It was noted, however, that it is important not to underestimate the time needed for effective teams to form. A couple of interviewees mentioned the need for team members to know each other well enough to anticipate the need for more time to reach satisfactory resolution on complex issues. It was also observed that development of effective ongoing networks cannot be achieved effectively in the space of a year and that it takes longer to connect with a community. To some extent this longer term development of a community of interest around the project topic is facilitated by the invitations extended by new project leaders to past project leaders in cognate areas, to participate in project advisory or reference groups and committees.

Interviews also confirmed our observations from the reports themselves about the conditions necessary for leveraging the full benefit from resources produced by OLT projects. The vast majority of project leaders meet their commitments for short term dissemination and distribution of reports and resources from their projects. There is, however, a recognition that more could be done if there were support beyond the funding period. For example, a couple of interviewees commented that development of a good interactive website needs better research and expertise than may be available to one project or fellow. Another commented that they had underestimated the complicated technical aspects of establishing and maintaining the database at the core of their project and had no satisfactory plans for ensuring it is kept up to date beyond the goodwill of individuals.

The shelf life of reports, resources and websites is limited and needs ongoing follow up which is beyond the resources available to busy academics once they are re-immersed in their day to day responsibilities or have moved to a different role or institution. In the context where there is a strong and committed deans council this support has been forthcoming through faculty subscription which has the twofold benefit of ensuring national engagement as well as ensuring accountability. An interviewee involved in such ongoing support commented that because support is at faculty and deans' level it engages with the broader higher education sector and acts as a platform for cross-dissemination and cross-disciplinary collaboration. Associate Deans networks at this level can identify 'hot topics' and commission or suggest further projects.

Centres or groups supported by deans councils are also a mechanism for sharing good practice, publicising teaching and learning projects and resources, commissioning reports into important issues for the discipline and connecting teaching and learning leaders. Such centres can establish a resource directory or database to assist users to find resources that it curates rather than "holds". This is beneficial for discipline specific resources but a directory that could cross discipline areas would be beneficial for more generic topics such as development and use of capstone courses, or as in one project, models for codes of conduct or memoranda of understanding for cross-institutional benchmarking practice. All of the project leaders that we interviewed could see the potential for other disciplines to gain insights form their work but were aware that mechanisms did not really exist for academics outside their discipline to be aware of what they had done and to access it.

One of the interviewees suggested that the ability to share project achievements is limited by the inability, with the time and resources available, to take developments into the next logical phase of research and testing that would prove utility for a wider audience and find an outlet in the broader academic literature. This would more effectively provide the "evidence-base" that the sector needs to guide its advancement in assuring the quality of learning outcomes. This issue is addressed in Recommendation 1 and deserves some consideration at the level of OLT funding policy. For example, a category of funding specifically earmarked for empirical testing of initiatives and resources that have been developed in previous projects could be considered.

Chapter 4 Recommendations for future work

The most salient conclusion from this review is that the funding provided for the academic standards agenda has been extremely productive, with considerable reach and spin off projects beyond the projects funded by OLT and its predecessors.

The following recommendations are derived from our observations of the gaps and opportunities in the extensive and valuable work that has been done related to the assurance of learning outcomes and standards.

4.1 Recommendations

Recommendation 1:

Funding for future projects in the area of assuring learning outcomes and standards should encourage focus on developing and researching, and in some cases testing:
- 1.1 feasible and scalable methods for ensuring inter-institutional comparability of course learning outcomes and standards;
- 1.2 capturing multiple learning outcomes and standards in capstone integrative tasks;
- 1.3 harmonisation between external assurance of learning outcomes and standards with professional and disciplinary accreditation systems.
- 1.4 use of learning outcome assessment data for self-improvement as well as quality assurance purposes;
- 1.5 methods for collaboration between networks of public and private higher education providers for the purposes of external referencing;
- 1.6 approaches to ensure students understand the standards;
- 1.7 external assurance of learning for post bachelor qualifications particularly coursework masters degrees, embedded 4 year honours degrees and their distinctiveness from 3 year bachelors degrees;
- 1.8 external assurance of learning for research degrees

Recommendation 2:

Although it is desirable to encourage diversity in the formulation of course learning outcomes and TLOs, their use as reference points and exemplars, could be enhanced by their compilation into an edited database, annotated as to date of development and review. The OLT could provide the managed repository with deans councils and networks taking responsibility for reviewing and updating TLOs.

Recommendation 3:

Acknowledge the essential role of networks in defining learning outcomes and standards, sourcing exemplars to develop good practice guides, developing benchmarking skills, harnessing collaboration between academics and practitioners, and developing discipline-relevant methods for inter-institutional comparability of course learning outcomes and standards. Evidence confirms that peak bodies (eg. deans councils and groups of higher education providers) are well placed to establish, resource and provide leadership for such networks, especially if seed funding is available to initiate the process.

Recommendation 4:

OLT as an agency continue to expand its international collaboration with similar international agencies such as HEA and Ako Aotearoa and develop systematic approaches to sharing good practice particularly when it comes to external assurance of learning outcomes and standards. This may even entail consideration of incorporation, into funding priorities, of the option to extend successful national projects into the international arena.

Recommendation 5:
Considerable effort needs to be expended in improving accessibility, currency and technical sophistication of the many useful tools that projects are developing. This could be addressed in a number of ways, some of which are outlined in the note below. However we recommend that OLT commission a project to address the issues specifically.

Notes to recommendation 5:
In our review we noted several gaps relating to project resources and tools. First, it is not uncommon to find links to project resources disabled. A dedicated server could be considered to facilitate maintenance of links and mobility of project resources when systems change or project leaders are relocated. We are mindful of the fact that something along these lines but more sophisticated was tried without sustained success by ALTC (ALTC Exchange). Second, valuable tools developed in the course of individual OLT-funded projects are not always widely accessible. Furthermore, the key attributes of new tools are not always clearly identified. This limits the ability of other scholars to use or extend tools developed under a project unless they have some personal connection or network to the developer of the tool in question. These tools are valuable intellectual property that cannot produce a return on investment unless there is a sustainable infrastructure for their maintenance, accessibility and promotion. This is not realistically achievable by individual academics or project teams after the project funding has ceased and project leaders have moved on. In addition to its present practice of commissioning Good Practice Reports that review prior funded work, and maintaining a web presence for past project reports, one partial solution OLT might consider adding is an "editorial filter" to identify, review, extract and maintain a repository of useful tools developed in the course of many projects. Panels could be convened periodically to review the repository and ensure its ongoing relevance. While these tools should not be lost, it is important to also emphasise the potential downsides of encouraging a 'cottage industry' of tool development for reporting, assessment and calibration. Past experience has shown that once a market and demand for this sort of product is established more cost effective tools become available in the near term from commercial providers who bear the responsibility for updating and upgrading. It is notoriously difficult for a 'home grown' software product to be maintained once the initial enthusiast who developed it has moved on. Hence we recommend that a specific project be commissioned to examine the most effective way to achieve these ends.

Appendix A – Inventory of discipline threshold learning outcomes [47]

Caveat – This list may not be exhaustive as a number of other groups are believed to be working on similar TLOs outside the purview of OLT.

Project No	Learning Outcomes statements	AQF level	URL	Comment
Architecture				
ALTC Discipline Scholar Savage	Architecture Learning & Teaching Academic Standards Statement	9	http://www.olt.gov.au/resource-architecture-learning-and-teaching-academic-standards-statement-2011	Academic standards covering programs of study for a Master of Architecture degree. These standards were developed as part of a demonstration project funded by the Australian Government in 2010-11 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline.
Building and Construction				
ALTC Discipline Scholar Newton	Building	7	http://www.olt.gov.au/resource-building-and-construction-learning-and-teaching-academic-standards-statement-2011	The learning outcome statements developed describe the minimum or threshold learning outcomes that all graduates of an Australian bachelor award in building and construction are expected to have met or exceeded. These standards were developed as part of a demonstration project funded by the Australian Government in 2010-11 and facilitated by the Australian Learning and Teaching Council. Academic

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[47] TLOs are also known as discipline standards, competencies or learning standards. Further information on others developed outside the scope of OLT can be found at http://disciplinestandards.pbworks.com/

				institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline. The Building and Construction Academic Standards Statement covers the key themes of: knowledge, judgement, self-development, communication, innovation and engagement.
Business				
ALTC Discipline Scholar Freeman	Accounting	7 9	http://www.olt.gov.au/resource-accounting-ltas-statement-altc-2010	Academic standards covering programs of study for a bachelor degree with a major in accounting and a coursework master degree. These standards were developed as part of a demonstration project funded by the Australian Government in 2010 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline.
2012 Fellow Guest	Economics	7 9	www.economicslearningstandards.com.	Threshold Learning Outcomes and Standards Statement for Economics A follow up project is proposed to develop a pool of assessment items categorised under the Learning Outcomes in the statement. A website will be developed along the lines of the website for a similar resource in the United Kingdom: https://economicsnetwork.ac.uk/qnbank/
2013 Fellow Brimble	Financial Planning	N/A	N/A	Aims to develop standards for Work-Integrated learning aligned with National Financial Planning Curriculum and Accreditation Framework
ID13-3101	Tourism, hospitality and events	7 9	https://sites.google.com/site/tourismandhospitalitystandard/approach-and-methodology	The project aims to produce a set of nationally agreed and clearly articulated Threshold Learning Outcomes (TLOs) for Tourism Hospitality and Events education in Higher Education courses at Australian Qualifications Framework (AQF) Levels 7 (undergraduate) and 9 (coursework masters).

				This includes consideration of pathway systems facilitating successful transition from VE to HE, with the prime focus on TLOs in Level 7 and 9 courses. The project website provides a summary of the project and invitation to educators, graduates, industry and students to participate.
ABDC	Marketing	7 9	http://www.abdc.edu.au/pages/marketing-learning-standards.html	*Academic Standards for Marketing Degrees in the Australian Higher Education Context* was developed under the auspices of the Australian business Deans Council with some funding from an OLT Network grant. The statement includes threshold learning outcomes for both bachelor and coursework masters degrees.
ABDC	Finance	7 9	http://www.abdc.edu.au/pages/finance-learning-standards.html	*Academic Standards for Finance Degrees in the Australian Higher Education Context* is due for completion in September 2014. It has been developed under the auspices of the Australian business Deans Council with some funding from an OLT Network grant. The statement includes threshold learning outcomes for both bachelor and coursework masters degrees.
Creative & Performing Arts				
ALTC Discipline Scholar Holmes	Creative & Performing Arts Learning & Teaching Academic Standards Statement	7 9	http://www.olt.gov.au/resource-creative-performing-arts-ltas-statement-altc-2010	Academic standards covering programs of study for bachelor and coursework masters degrees in creative writing; dance; drama and performance; music and sound; screen and media; and visual art. These standards were developed as part of a demonstration project funded by the Australian Government in 2010 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline.

Engineering & ICT				
ALTC Joint Discipline Scholars Cameron & Hadgraft	Engineering and ICT Learning & Teaching Academic Standards Statement	7	http://www.olt.gov.au/resource-engineering-ict-ltas-statement-altc-2010	Academic standards covering programs of study for a bachelor degree with a major in engineering or ICT. These standards were developed as part of a demonstration project funded by the Australian Government in 2010 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline.
PP8-844	Engineers Australia competencies revised	7	www.olt.gov.au/project-curriculum-specification-support-uts-2008	The section of the report on Revision of Stage 1 competencies (Theme 3) provides a comprehensive overview of processes and outcomes that could be helpful to other professions wishing to align professional and academic standards and international benchmarks. The competencies focus on outcomes that "should provoke educators to question the depth and breadth of their curricula and its (sic) assessment. Funds were committed by the deans Council to support workshops on curriculum mapping to the revised standards.
PP9-1280	Environmental engineering	7	www.olt.gov.au/project-dyd-defining-your-discipline-usq-2009.	The Environmental Engineering Framework (March 2013) and User Guide are available for download from the project website. The framework provides a useful model and description of the process that can be adapted
Law				
ALTC Discipline Scholar	Bachelor of Laws Learning & Teaching Academic Standards	7	http://www.olt.gov.au/resource-law-ltas-statement-altc-2010	Academic standards covering programs of study for a Bachelor of Laws degree. These standards were developed as part of a demonstration project funded by the Australian

Kift	Statement			Government in 2010 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline.
Kift & subcommittee of Associate Deans Law Network	Juris Doctor Threshold Learning Outcomes	9	http://www.cald.asn.au/education	Adaptation of the LLB TLOs to ensure they reflected the AQF requirements for a Masters degree (Extended) qualification. The TLOs were endorsed by the Council of Australian Law Deans in March 2012
Health				
ALTC Joint Discipline Scholars Henderson & O'Keefe	Learning & Teaching Standards Statement for Health Medicine & Veterinary Science		http://www.olt.gov.au/standards/disciplines/HMVS	The broad area of health, medicine and veterinary science encompasses a complex, inter-related range of discipline bodies concerned with the identification, management, and amelioration of factors that impact upon the health and general wellbeing of the living, be it human or animal. This includes an understanding of and ability to identify and act upon the social, cultural, physical, biological, environmental, and psychological factors that impact both positively and negatively on the attainment and maintenance of health, its treatment, and monitoring
SI11-2117	Competency focused learning outcomes and exemplar standards in Pharmacy	7	http://www.olt.gov.au/project-discipline-networkaustralian-pharmacy-network-learning-outcomes-pharmacy-curriculum-2011	No report of SI11 – 2117 available on OLT website which was updated on 28 February 2014. However, the report of PP8-923 appears to subsume it. The Pharmacylearning.edu.au website provides a comprehensive set of graduate learning outcomes each of which is expanded into exemplar "standards" which in this case take the form of a descriptor of knowledge, behaviour or skills each of which is exemplified by sample tasks. The website provides a Graduated Descriptors for Competencies Tool which is a guide for assessing pharmacy students' progress towards achieving the competencies relevant to their experiential placements.
PP8-923	Outcomes-based planning, graduated descriptors and quality indicators for pharmacy experiential placements		www.pharmacylearning.edu.au http://pharmacylearning.edu.au/competency-graduated-descriptors	

				A powerpoint presentation for training students and/or preceptors in the use of the Tool is also provided.
PP10-1769	Academic standards statements for public health nutrition	7	www.olt.gov.au/project-curriculum-renewal-public-health-nutrition-2010 www.research.uow.edu.au/criphn/index.html	The set of Academic Standards for Public Health Nutrition curriculum in Australia, based on the competencies developed through the Delphi process, were refined and launched at a professional workshop at the International Congress of Dietetics, Sydney, September 2012. The Academic Standards are available on the project website research.uow.edu.au/criphn/index.html.
DS7-622	Safeguarding Australians: mapping the strengths, challenges and gaps toward sustainable improvements in learning outcomes from diverse models of OHS education	N/A	http://www.olt.gov.au/resource-safeguarding-australians-mapping-strengths-challenges-and-gaps-toward-sustainable-improveme	The project was essentially a research project aimed at identifying ways to enhance OHS training. As such it informs the profession and academics and an Academy of OHS Education and Research was formed as a result of the project. However, it has not yet reached a stage where transferable knowledge or tools would inform a wider audience.
Humanities and Social Sciences				
ALTC Discipline Scholar Heath	Education Learning & Teaching Academic Standards Statement	7 9	http://www.olt.gov.au/resource-education-learning-and-teaching-academic-standards-statement-2011	These Threshold Learning Outcomes cover the degrees of Master of Education (both coursework and research), Master of Teaching and other specialist masters degrees in education offered by Australian Higher Education Providers (HEPs) that meet the Australian Qualification Framework (AQF) specifications for Level 9 qualifications. These standards were developed as part of a demonstration project funded by the Australian Government in 2010-11 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, and graduates participated in the development of minimum threshold learning outcomes

				for the discipline.
ALTC Discipline Scholar Hay	History Learning & Teaching Academic Standards Statement	7	http://www.olt.gov.au/resource-history-ltas-statement-altc-2010	Academic standards covering programs of study for a bachelor degree with a major in history. These standards were developed as part of a demonstration project funded by the Australian Government in 2010 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline.
ALTC Discipline Scholar Hay	Geography Learning & Teaching Academic Standards Statement	7	http://www.olt.gov.au/resource-geography-ltas-statement-altc-2010	Academic standards covering programs of study for a bachelor degree with a major in geography. These standards were developed as part of a demonstration project funded by the Australian Government in 2010 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline.
TASA	Sociology standards statement		http://www.tasa.org.au/what-is-sociology/threashold-learning-outcomes-for-sociology/	The Australian Sociological Association (TASA) as the peak body for Sociology in Australia was tasked with developing Threshold Learning Outcomes (TLOs), or minimum standards, for graduates of Australian undergraduate Sociology degrees. A consultation document with a call for feedback was first circulated in January 2012. The final Threshold Learning Outcomes for Sociology document was officially launched at the 2012 AGM. TASA sought advice from the ALTC LTAS Discipline Scholars.
ANZ Assoc of Theologic al Schools	Theology		http://www.anzats.edu.au/threshold_outcomes.html	ANZATS sought the advice of the ALTC LTAS project in designing their TLOs.
PP10-1812	Threshold Learning Outcomes for History Project title:	7 9	http://www.olt.gov.au/project-after-standards-engaging-and-embedding-historys-standards-using-international-best-practice-	A trial accreditation was performed to demonstrate that students graduating with a major in history had met the discipline-derived Threshold Learning Outcomes. The AHA could then use the tool based on the trial to manage an accreditation process. The lessons learned from this

	After standards: engaging and embedding history's standards using international best practice to inform curriculum development			process are critically discussed on pp40 – 44. It was concluded that the "institution of a standards-based environment in History could be achieved in the easiest and least burdensome way by using a rubric rather than introducing standardised testing. The rubric is provided in Appendix C of the report.
Si11-2124	Threshold Learning Outcomes for Journalism, Media & Communications	7	http://www.jeaa.org.au/research/222/ http://www.jeaa.org.au/research/223	The Journalism Education Association of Australia's website describes the formation and functions of the Journalism, Media and Communications Network and the process of developing the Journalism TLOs. There is a link to the draft TLOs from the website but the final TLOs have not yet been published.
2012 Fellow Cranney	National Standards for Psychological Literacy and Global Citizenship	7	www.psychologicalliteracy.com	The report outlines a set of outcomes and standards for psychological literacy and global citizenship which should be achieved by psychology graduates who will not be proceeding to psychology as a profession.
		Science		
ALTC Joint Discipline Scholars Jones and Yates	Learning & Teaching Academic Standards Statements	7	http://www.olt.gov.au/resource-learning-and-teaching-academic-standards-science-2011	Academic standards covering programs of study for graduates of bachelor degrees in science (not specifically the Bachelor of Science). These standards were developed as part of a demonstration project funded by the Australian Government in 2010-11 and facilitated by the Australian Learning and Teaching Council. Academic institutions and teachers, professional bodies, accreditation bodies, employers and graduates participated in the development of minimum threshold learning outcomes for the discipline. The focus of these statements is the chemistry and mathematics disciplines.
SI11-2127	Australian Mathematical Sciences Learning and Teaching	7	http://amslat.edu.au/	Standards Statement and Threshold Learning Outcomes published on the AMSLaTNet website (July 23, 2013). The Mathematical Sciences Standards Statement contains a

	Network (AMSLaTNet) TLOs aligned with Science TLOs			statement of the Mathematical Sciences Standards expressed in the form of Threshold Learning Outcomes, and finally, descriptive notes that provide a framework for understanding, interpreting, and applying the TLOs in practice. In conjunction with the Science Standards Statement [1], the document provides a foundation for the evaluation of current mathematics and/or statistics Bachelor degree courses, and for future curriculum development, *particularly* where those degree courses sit as majors in a Bachelor of Science (or equivalent).
	Physics Standards Statement Physics network of ACDS, November 2012	7	http://www.acds.edu.au/tlcentre/networks/discipline-networks/	Draft TLOs and Development Several discipline networks have recently developed draft Threshold Learning Outcomes (TLOs). These can be accessed from the links below: Biology Draft TLOs and Development Biomedical Science Draft TLOs and Development Chemistry Draft TLOs and Development Mathematical Sciences Draft TLOs and Development Physics Draft TLOs and Development
	Development of Chemistry TLOs aligned with the LTAS Science TLOs Chemnet	7	http://www.acds.edu.au/tlcentre/networks/discipline-networks/ www.chemnet.edu.au	
SI11-2119	Development of Biomedical TLOs aligned with the LTAS Science TLOs and Biology TLOs	7	http://www.acds.edu.au/tlcentre/networks/discipline-networks/ www.cubenet.org.au	
SI11-2122	Development of Biology TLOs aligned with the LTAS Science TLOs	7	http://www.acds.edu.au/tlcentre/networks/discipline-networks/ https://sites.google.com/site/vibenet101/ www.vibenet.edu.au	
ID13-2982	Adaptation of the LTAS TLOs for Science to the	7	Report not yet available www.olt.gov.au/project-consensus-	The project will develop a National Academic Standards Statement for Agriculture, aligned with the Science Standards Statement, which will encompass:

	specialist Agriculture discipline		approach-defining-standards-learning-outcomes-and-informing-curricula-design-agric http://www.agltas.edu.au/wp-content/uploads/2014/04/AgLTAS-statement-final-9-April-20141.pdf	1) The nature and extent of the Agriculture discipline; and 2) Threshold Learning Outcomes for Agriculture National consensus will be achieved through consultation with academics, students and industry stakeholders and piloted across four Australian universities.
ID13-2819	Standards statement for environment and sustainability On behalf of Australian Council of Environmental deans and Directors (ACEDD)	7	http://www.olt.gov.au/project-learning-and-teaching-academic-standards-ltas-environment-and-environmental-sustainability-2 http://acedd.org.au/2013/08/ltas-project-for-environment-and-environmental-sustainability/	Develop a Learning and Teaching Academic Standards (LTAS) Statement for Environment and Environmental Sustainability on behalf of the Australian Council of Environmental Deans and Directors. This will be achieved through a widely consultative process to ensure the Statement is strongly supported by broad agreement amongst environment disciplines, and complements other LTAS Statements for courses with which it will co-apply. (Posted August 26, 2013).

Appendix B – Inventory of networks formed to support assurance of learning outcomes and standards

Project no.	Network	URL	Stated Purpose	Comment
SI11-2124	Journalism, Media and Communication	http://jeaa.org.au/research/218/ https://www.facebook.com/aussiejomec	This project seeks to establish and develop a sustainable network of discipline scholars in the fields of journalism, media and communication (JoMeC). The key objectives of the network are: • To review and benchmark pedagogical elements of journalism, media and communication courses in Australia. • To liaise with ALTC discipline scholars and develop an online learning and teaching hub for discipline scholars in journalism, media and communication to centralise relevant pedagogical, technological and organisational infrastructure and resources to support learning and teaching leadership and excellence in	Web page updated 8 January 2014 No published report. Details of the work of the network and the homepage are published on the website of the Journalism Education Association of Australia.

			Australia. • To develop systemic discipline standards for undergraduate and postgraduate courses in Australia that encompass journalism, media and communication, and thereby to sustain and improve learning and teaching. • To enable JoMeC to advocate for learning and teaching: and to develop leadership capacity and offer expertise in addressing national higher education priorities.	
SI11-2127	Australian Pharmacy Network: learning outcomes for pharmacy curriculum	www.pharmacylearning.edu.au	To develop learning outcomes and exemplar standards	Achieved sector-wide agreement among academics, students and the Australian Pharmacy Council Ltd with the Council committing to ensuring that the work of the network is embedded in future iterations of the accreditation process.
2013 Fellow Johnson	Changing the game in Science and Mathematics Higher Education Australian Council of Deans of Science Teaching and Learning Centre	www.acds.edu.au/tlcentre	The ACDS TL Centre is a national initiative whose charter is to influence and support faculties of Science to improve learning outcomes across science and mathematics courses. The centre has 3 core activities: the website, learning and teaching meetings and ACDS learning and teaching projects.	The Centre consists of a network of Associate Deans Learning and Teaching in Science and enables shared perspectives on curriculum reform. In October 2013 following 9 months of operation the ACDS expressed its strong support with a unanimous vote to increase the centre's funding for 2014.

ACDS	ACDS Teaching and Learning Centre Discipline networks	http://www.acds.edu.au/tlcentre/networks/ http://www.acds.edu.au/tlcentre/networks/discipline-networks/ http://samnetaustralia.blogspot.com.au/p/about.html	Peer networks are crucial for curriculum development and support in science and mathematics. Discipline networks have recently been established to bring together academics focussed on learning and teaching in major and foundation disciplines: chemistry, biology, physics, maths and biomedical science. Learning and teaching projects are also supported by the Science and Mathematics network of Australian University Educators, which is a leadership development network, SaMnet. Draft TLOs have been developed by these networks, some with the support of OLT funding. Standards statements following the model developed by the ALTC LTAS project are in the process of being developed.	The Australian Council of Deans of Science has taken a crucial role in developing networks of discipline based teaching and learning enthusiasts who are developing discipline based TLOs and eventually standards in disciplines which for the most part do not have formal professional accreditation processes. This is an excellent model for other discipline groupings to follow. This is also an excellent base on which to build the logical next steps for benchmarking and monitoring achievement of learning outcomes and continuous quality improvement.
SI11-2127	Australian Mathematical Sciences Learning & Teaching Network	http://www.olt.gov.au/project-discipline-networkaustralian-mathematical-sciences-learning-and-teaching-network-2011 http://amslat.edu.au/	AMSLaTNet is proposed as a network to support and advance learning and teaching in Australian mathematical sciences (comprising applied and pure mathematics, statistics and operations research).	Maths TLOs and a Maths Standards Statement have been developed based on the Science TLOs
SI11-2120	Law Associate Deans network	http://www.lawteachnetwork.org/index.html http://www.lawteachnet	The purpose of the Law Associate Deans Network, which comprises the Associate Deans (ADs) (or equivalent) of Australian Law Schools, is to promote collaborative approaches to	This project has identified core curriculum principles necessary to design and deliver successful capstone experiences for final year students. Each of these principles has been expanded

		work.org/resources.html http://www.lawteachnetwork.org/reading.html#general www.lawcapstoneexperience.com/ https://wiki.qut.edu.au/display/capstone/Home	teaching and learning in Australian legal education. The network intends to lead, encourage and document good practice in learning and teaching in the discipline of Law and to create processes and strategies to sustain the network as a subcommittee of the Council of Australian Law Deans	upon in a set of 'Notes on the Principles', which highlight the relevant research and include quotes from the project data. The Notes on each of the principles are contained in the Toolkit available on the project website.
	Australian Business Deans Council	http://www.abdc.edu.au/pages/learning-standards.html	Report not yet released	This has led to a strong coordinated approach resulting in TLOs being developed for other business disciplines (eg. marketing). The Network is leading a follow-on collaborative project - Achievement Matters - that benchmarks achieved learning from outcomes against the accounting learning standards.
	Peer Review Network	http://www.utas.edu.au/student-evaluation-review-and-reporting-unit/nprn	The Peer Review Network aims (1) to provide a forum for university and other providers to share and disseminate good practice in the external peer review of assessment across different contexts; (2) to identify key academics experienced in external peer review of assessment, and (3) to provide professional learning opportunities for academics and benchmarking partners.	This work began in August 2014 with a series of workshops and culminates in a national forum, which is hoped to continue in the future.

Appendix C – Inventory of tools & resources for assuring learning outcomes and standards

Project	Discipline	Tool	URL (active at March 2014)	Comment
			Benchmarking	
SP10-1843	Multi disciplinary	Policy, practice, templates and user guides for inter-institutional peer review	www.uws.edu.au/latstandards	The user guide and handbook is concise, well written and comprises templates and models for peer review and policies for inter-institutional peer review and moderation that are easy to adapt or follow.
PP8-955	Speech Pathology	COMPASS Online benchmarking tool and database	A Handbook explaining the use of the system is available on http://www.olt.gov.au/resource-establishing-infrastructure-and-collaborative-processes-cross-institutional-benchmarking-st A Demonstration Benchmarking COMPASS Database is available for interested viewers on http://benchmarking.portal.com.au/	The database articulates with the Speech Pathology of Australia's COMPASS online which is used by speech pathology courses to manage student clinical practicums and conduct and record competency-based student assessments. Assessment scores are automatically harvested from COMPASS Online and aggregated and benchmarked with the COMPASS database. This safeguards student and university confidentiality and requires no staff time to prepare and submit data.
PP6-28	Physiotherapy	Assessment of Physiotherapy Practice instrument	The resource comprises the Assessment of Physiotherapy Practice Clinical Education Resource Manual and a DVD. The Resource Manual contains a comprehensive description of the APP instrument including	**The Assessment of Physiotherapy Practice instrument (APP)** is a standardised clinical assessment tool with rigorous field testing behind its development. The APP has been endorsed by the Council of Physiotherapy Deans of Australia and New Zealand (CPDANZ), which has strongly recommended its use in university entry level

			desirable professional behaviours and practical performance targets which make up the performance indicators for each of the 20 items as well as detailed guidance for scoring of each item. The DVD cannot be used as a stand-alone resource. It is provided to support clinical educators in applying the APP and/or for training in assessment using the APP. http://www.olt.gov.au/project-development-clinical-assessment-2006	courses in Australasia. The APP is listed as a validated tool for the assessment of student clinical competence by the Australian Physiotherapy Council in *Accreditation of Entry Level Physiotherapy Programs -- A Manual for Universities*. The APP is now used in the majority of accredited entry level physiotherapy courses throughout Australasia. Because of its standardisation and wide adoption in Australasia, there is significant potential for the APP to be used for benchmarking purposes and for comparison of assessment outcomes in various courses. The process of development and subsequent implementation also offer a useful model for other professional disciplines.
Wilkinson, D, NTSF 2014	Medicine	Nationwide collaborative assessment of Australian medical students. From concept towards implementation 2014	www.som.uq.edu.au/nationwide-collaborative-assessment http://www.olt.gov.au/resource-collaborative-assessment-medical-students	The process undertaken by the medical schools is a model that can be followed by other professions. Achieving agreement on shared standards and assessment is a significant accomplishment. The ultimate governance and funding by a committee of the peak body Medical Deans of Australia and New Zealand is an important indicator of sustainability. The process allows for a common element of rigorous standardised assessment alongside the flexibility for each school to pursue and assess its own unique "brand" of medical education. Partnerships with international peak bodies such as the National Board of Medical Examiners in the US and he Medical Schools Council-Assessment Alliance in the UK will ensure international benchmarking of standards.

LE11-1896	Teacher education	Building leadership with the sessional staff standards framework	BLASST Benchmarking Interactive Tool www.blasst.edu.au www.olt.gov.au/project-building-leadership-sessional-staff-standards-framework-2011.	The acronym used for the outcomes is BLASST (Benchmarking Leadership and Standards for Sessional Teaching). The BLASST Sessional Staff Standards Framework establishes criteria and standards by which to evaluate current practice in quality learning and teaching, and in management and administrative policy, procedures and systems affecting Sessional Staff. It is transferable to other disciplines
			Assessment of Learning Outcomes	
SP10-1869	Medicine	Developing the foundation for a national assessment of medical student learning outcomes, 2012	www.olt.gov.au/project-developing-foundation-national-assessment-medical-student-learning-outcomes-2010 The AMAC Assessment Framework is available at http://www.acer.edu.au/documents/AMAC_Framework_May_2012.pdf	The framework articulates the learning outcomes to be attained by medical students after completing their regular medical training. It provides a structured conceptual understanding of the areas to be assessed. The framework provides substantive foundations for subsequent development, along with technical and practical considerations of what would be appropriate and feasible to assess. The current version was completed in mid 2012. Currently it consists solely of MCQs but it is noted that the potential exists for a broader range of assessment types eg OSCEs to be developed in the future.
PP6-26	Speech Pathology	COMPASS a competency based assessment tool to establish internal benchmarks of student performance	http://www.olt.gov.au/project-benchmarking-clinical-learning-speech-pathology-sydney-2006	The project succeeded in achieving the embedding of COMPASS™ into clinical education curricula. Courses were supported to use the measurement functionality of COMPASS™ (a competency based assessment tool) to establish internal benchmarks of student performance.
PP6-28	Physiotherapy	Assessment of	http://www.olt.gov.au/project-	The Assessment of Physiotherapy Practice

| | | Physiotherapy Practice Instrument (APP) | development-clinical-assessment-2006 | instrument (APP) is a standardised clinical assessment tool with rigorous field testing behind its development. The APP has been endorsed by the Council of Physiotherapy Deans of Australia and New Zealand (CPDANZ) which has strongly recommended its use in university entry level courses in Australasia. The APP is listed as a validated tool for the assessment of student clinical competence by the Australian Physiotherapy Council in its Accreditation of Entry Level Physiotherapy Courses -- A Manual for Universities. The APP is now used in the majority of accredited entry level physiotherapy courses throughout Australasia.

The resource comprises the Assessment of Physiotherapy Practice Clinical Education Resource Manual and a DVD. The Resource Manual contains a comprehensive description of the APP instrument including desirable professional behaviours and practical performance targets which make up the performance indicators for each of the 20 items as well as detailed guidance for scoring of each item. |
| PP10-1812 | History | Assessment rubric for TLOs in History | http://www.olt.gov.au/project-after-standards-engaging-and-embedding-historys-standards-using-international-best-practice- | The project provides a description of the methodology for modelling and evaluating a system for auditing the TLOs against individual course outcomes with the aspirational aim of the Australian History Association designing and implementing a course accreditation system for the discipline. This could be a model for other disciplines that do not have professional accreditation requirements but that nevertheless wish to address national consistency in standards informed by the international context.

The appendices to the report provide survey instruments and rubrics that could be adapted by other disciplines doing similar projects. |

PP10-1801	Creative Arts	Examining Doctorates in the Creative Arts: A Guide	www.creativedocexams.org.au	Very useful guide for examiners outlining standards and a checklist of best practice.
ID11-2026	Nutrition & Dietetics	A resource for training assessors in assessment of professional competencies	www.olt.gov.au/project-professional-competence-standards-learning-outcomes-and-assessment-designing-valid-strategy-	A resource, Competency Assessment in Nutrition and Dietetics was developed to support assessors in best-practice competency-based assessment. Experienced assessors produced a list of 47 competency statements and their respective recommended assessment settings to provide direction for assessors and planners of curricula and placements.
ID11-2021	Architecture	Online toolkit for experiential activities and assessments	experientiallearninginplanning.com.au	Each case study in the toolkit is a very readable and practical description of a suggested experiential learning event. The case studies include suggestions for activities, the underlying principles for experiential learning, examples of assessments, student feedback on the experience and ideas for further enhancing the experience. This is a user friendly resource for teachers who are planning meaningful and effective experiential activities.
PP7-320	Society and culture – multi disciplinary	Quality assessment: linking assessment tasks and teaching outcomes in the social sciences	www.olt.gov.au/project-quality-assessment-linking-assessment-uon-2007.	The key outcome of this project for higher education is the Quality Assessment Framework and Guide for its use. This tool is clear, practical and provides detailed instructions, exemplars, checklists and guides for use in coding assessment tasks and analysing student work. The project report provides details on the development and use of the coding process in higher education. The four items that comprise the authentic achievement scales measure: (i) the extent to which students demonstrate

				disciplinary depth; (ii) the depth of their analysis; (iii) the richness of their communication; and (iv) the extent to which students' work recognises the problematic nature of knowledge. The tool used to judge assessment task quality enables feedback to be provided to academics in such a way that evidence, in the form of assessment tasks already developed and implemented, is used as the starting point for quality task development and an investigation of what counts as quality student achievement.
SP10-1856	Health	Harmonising higher education and professional quality assurance processes for the assessment of learning outcomes in health	http://www.olt.gov.au/resource-harmonising-higher-education-professional-quality-assurance-assessment-health	A framework for incorporating professional accreditation and AQF standards into assessment blueprinting/mapping in health care disciplines. A guide to support implementation of the framework. The guide provides examples of learning outcome assessment levels in relation to AQF for each accreditation standard within a single TLO category for a range of health disciplines
PP8-923	Health	Pharmacy - competency graduated descriptors tool for self-assessment and feedback	http://www.olt.gov.au/project-outcomesbased-planning-graduated-acu-national-2008	A competency graduated descriptors tool for self-assessment and feedback in relation to early and late stage placement students. Recommended for use prior to meeting with preceptors.
ID11-1913	Accounting	Model for external peer review of learning outcome data	http://www.olt.gov.au/project-achievement-matters-external-peer-review-accounting-learning-and-teaching-academic-standards	This project was initiated by the Australian Business Deans Council. To mid 2013 three rounds of live external peer review of learning outcome data across AQF levels 7 and 8 had been reported and six calibration workshops had been conducted. SPARK^{PLUS} was found to be an efficient tool for

				collecting reviewers' pre-workshop ratings and rationale.
PP7-322	Business	Graduate Attributes - an approach to internal moderation of assessments using the tool ReView	http://www.olt.gov.au/resource-facilitating-staff-student-uts-2009	The project offers an approach to internal moderation of assessments using the tool ReView that might be more broadly applicable as a benchmarking tool. ReView is a tool that provides students with criteria-based tutor feedback on assessment tasks as well as opportunities for self-assessment online. It is particularly instructive in that the tool can also be used by students as a self-assessment exercise which then aids their understanding of the graduate attributes themselves. Similarly staff were enabled to learn from the process.
Curriculum and course design				
PP10-1603	Clinical legal education (CLE)	Best practices in CLE	http://www.olt.gov.au/project-strengthening-australian-legal-ed-clinical-experiences-monash-2010	Pages 48 – 66 of the Final Report describe best practices for CLE under seven themes derived from the audit of current practice. Those themes cover the theoretical and practical dimensions of designing a clinical course at best practice level. For each theme there is a brief contextual statement, one or more statements of principle and to assist law schools and clinical supervisors to understand particular best practices there are specific examples provided.
PP9-1374	Law	Curriculum renewal and capstone design resource and toolkit	https://wiki.qut.edu.au/display/capstone/Toolkit	The web resource resulting from this project is an excellent example of an online resource for curriculum renewal. It provides links to useful national and international resources as well as practical advice for curriculum design. It features examples of capstone units, templates for subject outlines and course design, subject models and general principles. It is easily adaptable for other disciplines.

SI11-2120	Law	Good Practice Guides for Law TLOs 1-6	http://www.lawteachnetwork.org/resources.html	The Law Associate Deans' Network has distributed Good Practice Guides on the six Law TLOs to all Australian Law Schools and published them on the Network website. Useful website to refer to for examples of cross-institutional collaboration in teaching and learning.
ALTC TLOs for Science	Science	Good Practice Guides for Science TLOs 1-5	http://www.olt.gov.au/resource-learning-and-teaching-academic-standards-science-2011 http://www.acds.edu.au/tlcentre/	These guides provide an excellent model for other disciplines and discipline groups. Each guide includes current examples of the TLOs in action in Australian university science degrees. The case studies are accompanied by a short review of relevant published literature and pointers to useful sources for background, new ideas and resources. The Good Practice Guides will be an excellent resource for science academics and will stimulate curriculum innovation.
G17-636	Multi disciplinary	Studio teaching online resource	(www.studioteaching.org)	The online resource toolkit was produced to inform and reinvigorate practice and includes: (a) best/good practice indicator; (b) roles of teacher/practitioner, student, industry/profession; (c) checklist for designing a learning environment; (d) analysis/commentary on assessment/ feedback approaches; and (e) learning environment evaluation criteria Volume 4 of the Final Report provides case studies of effective practice – it is a readable and very useful resource for academics wishing to engage with new ideas in studio practice or indeed any practical based classroom work. It offers comments not only on what and how to provide the learning experiences but also on critical questions such as sustainability.

PP10-1774	Occupational therapy	Creating student-focused web-learning resources to support the development of and provide evidence of occupational therapy students' graduating competencies	www.otca.net.au	Website created: Occupational Therapy Competencies Australia that comprises: resource stimuli to support competency development; • a competency evidencing mechanism mapped to and grounded in the 2010 Australian Minimum Competency Standards for New Graduate Occupational Therapists • (ACSOT) (OTA), which students use to self-assess, record, track and evidence their competence and which practice educators/lecturers use to verify student competence; and • an ePortfolio where students can upload, record, store and track competency attained . • The project website is a good resource that could act as a model for others in other disciplines.
ID11-1925 Subsumes CG7-378	Not disciplinary based	Applying quality principles to Australian university transnational teaching and learning	www.transnationalquality.curtin.edu.au	Website available as a reference for those involved in transnational courses. It provides a set of principles for universities to follow in ensuring offshore courses adhere to quality principles. These were last updated in 2009. The website also provides a set of workshop materials that could be useful for others intending to conduct CPD workshops for their staff.
PP10-1646	Business	Capstone Courses in Undergraduate Business Degrees: A Good Practice Guide.	www.businesscapstones.edu.au	The Guide provides information, guidance, case studies and ideas for introducing, designing, teaching and assessing capstone courses. It also covers some of the pedagogical theories that are useful in designing and delivering a capstone course

				A website designed around the content in the Guide allows download of the whole guide or sections of it
SP10-1862	Business	Hunters and gatherers: strategies for curriculum mapping and data collection for assuring learning	www.assuringlearning.com	Important focus was on identifying good practice for curriculum mapping and data collection in Assurance of Learning (part of AACSB process) - a hands-on resource kit was developed.. The report identifies and reviews three most useful curriculum mapping tools (pp51 – 53: SOS tool (developed at UTS Business School); C2010 (developed by Curtin) and JISC Designstudio. The report also identifies three useful tools for data collection: ReView (developed at UTS); ELumen; and SPARK^{Plus}.

Appendix D – List of projects unfinished or unpublished at time of review (March – April 2014)

Project	Discipline	Topic	URL (active at March 2014)	Comment
		Assessment of Learning Outcomes		
ID11-2066	Creative and performing arts	An approach to aligning assessment with threshold learning outcomes in the creative and performing arts	Report not yet available www.olt.gov.au/project-approach-aligning-assessment-threshold-learning-outcomes-creative-and-performing-arts-2011	No frameworks or reports have yet been published but the project website carries a report of presentations at a Symposium held in July 2013 and attended by 45 delegates from five countries
ID12-2495	Engineering	Assessing final year engineering projects: ensuring learning and teaching standards and AQF Level 8 outcomes	www.olt.gov.au/project-assessing-final-year-engineering-projects-fyeps-ensuring-learning-and-teaching-standards-	Web page last updated 17 December 2012. No report available
PP10-1817	Education	Assessing professional teaching standards in practicum using digital technologies with Indigenous and non-Indigenous pre-service teachers.	www.olt.gov.au/project-assessing-professional-teaching-standards-practicum-using-digital-technologies-indigenous-an	Web page last updated 19 December 2013. No report yet published.
ID12-2255	Mathematics	Developing a shared understanding of	http://www.olt.gov.au/project-developing-shared-	No reported outcomes. Website last updated 15 January 2014

		assessment criteria and standards for undergraduate mathematics	understanding-assessment-criteria-and-standards-undergraduate-mathematics-	The project aims to influence assessment practices in mathematics departments, to move away from idiosyncratic marking and grading approaches that favour procedural mastery towards practices that measure the quality of all aspects of student work against external anchors ensuring comparability of standards within and across mathematics departments. To this end, the project will result in agreed definitions of mathematics assessment criteria and standards expressed in terms of rubrics, and exemplars that demonstrate how judgements are made in the marking process. Together, these will provide a reference framework and toolkit to support tertiary educators in the development of quality assessment standards and criteria.
		Curriculum and Course Design		
PP10-1741	Health	Curriculum renewal and inter-professional health education: establishing capabilities, outcomes and standards	www.olt.gov.au/project-curriculum-renewal-and-interprofessional-health-education-establishing-capabilities-outcomes.	Reports not available at time of review
2012 Fellow Arkoudis	English language	Embedding English language learning in higher education curricula	http://www.olt.gov.au/olt-national-senior-teaching-fellow-sophie-arkoudis	Handbook not published at time of review
ID13-2924	Education	BRiTE: keeping cool by building resilience in teacher education	http://keepingcool.edu.au/ www.olt.gov.au/project-keeping-cool-embedding-resiliency-murdoch-	The information on this project's page was updated 16 July, 2013. Report and outcomes not available at time of review

2013 Fellow Lee	Cross-disciplinary	Capstone curriculum across disciplines: synthesising theory, practice and policy to provide practical tools for curriculum design	http://www.olt.gov.au/olt-national-senior-teaching-fellow-nicolette-lee	Outcomes not available at time of review.
ID11-2069	Health – paramedics	Standards and quality indicators for best practice in paramedic and inter-professional experiential practica	http://www.emcat.biz/ALTCGrant.	No report yet published. OLT webpage last updated 14 January 2014. The project website indicates that it is still at the data collection stage.
ID12-2470	Humanities and Social Sciences	Renewing first year curricula for social sciences and humanities in the context of discipline threshold standards	www.olt.gov.au/project-renewing-first-year-curricula-social-sciences-and-humanities-context-discipline-threshold-st	No report is available at time of review. The web page was last updated on 17 December 2012
ID13-2982	Agriculture	A consensus approach to defining standards for learning outcomes and informing curricula design for agriculture	http://www.olt.gov.au/project-consensus-approach-defining-standards-learning-outcomes-and-informing-curricula-design-agric	Website last updated 9 July 2013. No report published at time of review
PP10-1612	Youth work	Australian youth work education: curriculum renewal and a model for sustainability for niche professions	http://www.olt.gov.au/project-australian-youth-work-education-curriculum-renewal-ecu-2010	Website last updated 13 December 2013 No report available at time of review
2012 Fellow Parsell	Non-disciplinary	Standards for online learning	http://www.olt.gov.au/olt-national-teaching-fellow-mitch-parsell	Website last updated 11 September, 2013. No report available at time of review.

SD13-2944	Non-disciplinary	A creativity skills MOOC for Australian coursework masters students	www.olt.gov.au/project-creativity-skills-mooc-australian-coursework-masters-students-	Website last updated 18 July, 2013 No report available at time of review.

Appendix E – List of interview questions

Interview questions

1. Now that some time has elapsed since you completed, what is your impression of the 2-3 most important (in terms of impact) outcomes of the project, fellowship or network? Why?

2. What would you have done differently?

3. Have you applied for follow up funding from any source - if so what? If not, where would you like to take the project from here if more funding was available?

4. Have any outcomes of the project, fellowship or network been taken up by a peak body (eg. professional body or deans council) or other discipline or similar? In what way?

5. To what extent are the resources you developed being used by others and how do you know they are being used?

6. What could be done to make the applicability and availability of the resources more widespread?

Appendix F – External peer review models for coursework degrees

	Quality Verification System	Inter-Institutional Review Project	Achievement Matters Accounting Project	UK External Examiner System
Intent	1. Quality assurance 2. Quality enhancement	1. Quality assurance 2. Quality enhancement	1. Quality assurance 2. Quality enhancement	1. Quality assurance 2. Quality enhancement
Authority	Institutional	Institutional	Disciplinary	Institutional
Discipline focus	Multiple disciplines across universities in one mission group	Multiple disciplines across multiple university mission groups	Single discipline across multiple higher education institution mission groups	All higher education institutions
Method: key points of similarity and difference	• de-identified unit materials provided to peer reviewer • stratified sample of graded assessments (maximum 5 items per 5 grade bands) • grades provided • peer reviewer verifies (or disagrees with) grade allocated by home university on 25 items • peer reviewer recruited with demonstrated understanding of academic standards in similar universities • university group benchmarking (Group of Eight) (Go8) already • judgements based on comparable Go8 standards • ongoing system for bachelor degrees, in fourth year of operation in 2014	• blind peer review, de-identified unit materials using feedback form • stratified assessment samples (1 item per 4 grade bands) • all grades removed • peer reviewer grades 4 items of work using home university criteria • judgements in the context of external reference points (eg discipline standards, Australian Qualifications Framework) but these are not made explicit • two year project for bachelor degrees completed in 2013	• double-blind peer review, de-identified assessment samples and input materials • assessment items sampled randomly from all grades for tasks evidencing published discipline standards • all grades, markings, identifiers removed • two peer reviewers rate task and if valid rate 5 items of work • reviewers explicitly guided to use nationally agreed published discipline threshold standards in judgements • in groups prior to review, calibration occurs to achieve consensus on assessment design validity and items (not) meeting published standards • practitioner participation in calibration • professional bodies participation in governance • four year project for bachelor and coursework masters completing in 2014	• external examiner reviews assessments on multiple later units in discipline • external examiner sometimes verifies proposed exams and may propose changes • while all graded assessments and dissertations available after exams, examiner samples all grade bands • examiner verifies marks, grades and award class allocated by home university and can propose class-wide changes before institution confirms • based on prior UK institutional experience • institution coordinates examiners • examiners may be practitioners • national system, embedded in culture and process explicitly articulated by regulator (QAA) in code 1
Unit and mode of comparison or benchmark	• two final year units of study level, ideally one capstone • grade verified not re-marked • implicit Go8 bachelor standards (HD, D, C, P, F)	• one unit of study level • assessment items re-marked (re-graded) • implicit national bachelors standards (D, C, P and F) but using home criteria	• selected tasks aligned to published discipline standards (from multiple final units of study) explicitly rated for validity against published national standards • assessment items re-marked against explicit national standards (ie. continuum not meeting to meeting threshold standard) • home criteria prompt but not summative	• multiple coursework units of study and dissertations in discipline • assessment items reviewed in context of overall grading for award class • implicit national standard (I, 2i, 2ii, 3, F) benchmarked to prior experience informed by various standards and requirements
Sampling	• stratified random sampling of assessments from final year students in selected unit of study, preferably a capstone • 5% (max 5) per grade band • maximum 25 items from large classes	• stratified random sampling of assessments from final year students in selected unit of study • 1 item per grade band for one assessment task (total of 4 items)	• institution nominates final-year task that best demonstrates published discipline standards, project manager nominates random sample for review • tasks typically cover multiple discipline standards • 5 random assessment items sampled	• all graded coursework assessments from multiple units of study and dissertations available but typically stratified sampling • no minimum or maximum sampled but external examiner typically considers all Firsts and Fails

	Quality Verification System	Inter-Institutional Review Project	Achievement Matters Accounting Project	UK External Examiner System
Peer reviewers	• one academic reviewer per discipline • specified as Level D or above (not always) • Go8 secretariat selects and assigns randomly from a panel • paid an honorarium	• two partner institutions review same material • reviewers to be experienced in the discipline, not sessional staff, preferably unit coordinator • blind assignment of reviewers by project officer • unpaid	• two reviewers with substantial experience and third if first two disagree • one home academic also reviews (often different to original coordinator/grader) • all reviewers calibrated to national standard, with practitioner participation in calibration workshops • blind assignment of reviewers, once calibrated, by project manager • unpaid	• one external examiner per discipline (e.g. BA Accounting) although sometimes narrower (e.g. Financial Accounting & Taxation Law sub-disciplines) or broader (e.g. award) • recruited within or beyond academia by institution via established networks • tenure typically 4 years (plus 1 year extension option) • examiners limited to two institutions
Basis of comparison	• teaching and learning standards reviewed through guided feedback form – feedback on unit content, assessment design, criteria	• teaching standards reviewed through user guide and feedback form – feedback on unit content, assessment design, criteria • learning standards reviewed – grades allocated by two partners for the purposes of comparison, with rationale	• teaching and learning standards reviewed through online feedback form with justification and recommendations benchmarked to published standards • rating allocated by two, unknown, calibrated external reviewers and one calibrated reviewer from home institution • third external reviewer moderates consensus if first two disagree on rating assessment task validity or an item of student work meeting standard	• examiner judgement on achievement and comparable standards based on prior UK institutional experience implicitly informed by thresholds in published national qualifications frameworks, benchmark statements and requirements of any professional, statutory or regulatory body • general comments on unit content, assessment design, criteria
Result of comparison	• teaching and learning standards reviewed against targeted questions • grades verified or not – distribution of agree/too high/too low per grade level • no impact on student grades • reviewer makes overall judgement as appropriate/ some risks/ immediate action	• home university receives graded assessment items and feedback on teaching standards from two partner universities/peers on 4 items of work • no impact on student grades • identity remains unknown unless partners agree to discuss outcomes	• home university receives feedback in report (and online) on tasks from three peers, and if tasks valid, grades and feedback on 5 items of work • feedback in context of meeting or exceeding published discipline standards • no impact on student grades • identities remains unknown • peer reviewers conduct home calibration events using national project exemplars	• external examiner recommends action for band or cohort if disagreement exceeds approximately 10% sampled • external examiner attends exam board where any recommendation for overall grade changes considered • external examiner completes a formal report that includes a question about national comparison of results and a question if adequate responses to previous external examiner comments

Mark Freeman (updated 17 July 2014) adapted from Krause, K., Scott, G., Aubin, K., Alexander, H., Angelo, T., Campbell, S., Carroll, M., Deane, E., Nulty, D., Pattison, P., Probert, B., Sachs, J., Solomonides, I., Vaughan, S. (2013). *Assuring final year subject and program achievement standards through inter-institutional peer review and moderation*. Available online: