

Learning outcomes for Masters (Coursework) and Masters (Extended) programs

Purpose

The purpose of this paper is to set out some principles for articulating the learning outcomes of various forms of coursework masters degrees. By learning outcomes for a course, we mean statements of graduate capability, including knowledge and skills acquired during a course. We regard learning outcomes as equivalent to graduate attributes. The proposed principles are intended to ensure that each of our masters programs has well specified learning outcomes and that the attainment of these learning outcomes by graduating students is established through a clearly articulated set of subject-level objectives and assessment tasks. The principles are also intended to ensure that the learning outcomes for each masters program include those specified for the relevant qualification type of the recently revised Australian Qualifications Framework (AQF).

Rationale

A number of factors point to the value of developing more explicit course-level learning outcomes for coursework masters programs as well as a clear set of principles for ensuring that course designs are able to deliver them.

Good practice. The first is that a clear statement of learning outcomes is good practice and of value to all stakeholders, including prospective students, current students, graduates, employers and other tertiary institutions. For example, learning outcomes can be included on the Australian Higher Education Graduation Statement (AHEGS) and thereby assist employers and other institutions to appraise the nature and level of preparation of graduates and hence assess level of preparation for work and/or further study. With a clear set of defensible learning outcomes, such appraisals can be made at the level of the course rather than the individual student, thereby enhancing the mobility of graduates. It is also noteworthy that AUQA requested the embedding of graduate attributes (i.e. assurance of stated learning outcomes) for the courses they reviewed in 2010.

The revised AQF. The second is that the change in character of the AQF from a set of guidelines for Australian qualifications to a set of qualifications standards inevitably imposes a requirement to demonstrate that courses have been designed to achieve the learning outcomes required for any particular qualification type. All institutions will be required to comply with the AQF by January 1, 2015. It should be noted that reference to AQF awards occurs in several Commonwealth acts, including the HESA and ESOS Acts, and the new TEQSA legislation.

In addition to other learning outcomes, the AQF now requires that all graduates of Masters degrees acquire “knowledge of research principles and methods applicable to a field of work and/or learning” and are able “demonstrate the application of knowledge and skills to plan and execute a substantial research-based project, capstone experience or piece of scholarship”. For the Masters (Extended) qualifications, it is also required that graduates have gained an “extended understanding of recent developments in a discipline or its professional practice” and have undertaken “some independent research”.

As for all qualification types, the AQF specifies that all Masters degree qualifications must be designed and accredited to enable graduates to demonstrate the learning outcomes specified in the criteria and descriptors for the relevant qualification type, and that although some learning outcomes may have more emphasis than others in different qualifications, it must be the case that

all “are evident in each qualification accredited as this type”. It is therefore important that the University be able to demonstrate how each of its Masters (Coursework) and Masters (Extended) degrees meets these learning outcome requirements.

Distinctive learning outcomes for professional graduate programs. A third reason for developing more explicit learning outcomes is that they will lead to a clear and defensible account of how the learning outcomes for professional-entry programs now offered at the graduate level compare with, and differ from, those of professional-entry programs offered at undergraduate level. This is important for conveying clear messages to prospective and current students and other stakeholders.

Professional accreditation. Fourth, many accrediting authorities require a specific set of learning outcomes for course accreditation purposes. It is therefore helpful if the course learning outcomes unambiguously include those required for accreditation and can be explicitly mapped to curriculum components and assessment tasks.

Research pathways. Fifth, in a research intensive University, it is important to be clear about the nature and availability of research pathways. As a result, it is important that the learning outcomes of any masters program indicate whether a research pathway is included as a core requirement.

Relationship to existing University of Melbourne graduate attributes. Finally, the University adopted a general set of graduate attributes in 2006 and it is important to clarify how the learning outcomes for each graduate course reflect (or possibly, in some cases, do not reflect) these graduate attributes. Each of the New Generation Degrees is required to achieve these graduate attributes and, where possible and appropriate, each graduate program should extend and build on these attributes. It is nonetheless recognised that some specialised masters programs may not cover the entire set of these attributes. For any particular graduate program, however, the way in which the University graduate attributes are reflected in the program’s learning outcomes should be clear.

Proposed principles

For the reasons set out above, the following principles are proposed for Masters (Coursework) and Masters (Extended) programs. The first eight set out general principles for the learning outcomes of Masters programs, while the last three set out explicit requirements for learning outcomes, including research components, of Masters programs.

1. Each University of Melbourne Masters course should specify a set of learning outcomes (or graduate attributes);
2. The learning outcomes for each Masters course must incorporate AQF learning outcomes relevant to its qualification type;
3. Where possible and appropriate, the University’s general graduate attributes¹ should be reflected in the course learning outcomes of each Masters course and, for all Masters courses, the form and extent to which these general University attributes are reflected in course-level learning outcomes should be clear;
4. Course-level learning outcomes for all Masters courses should be linked explicitly to an articulation of subject-level learning outcomes or objectives;
5. Subject assessments should be designed to ensure that every student is required to demonstrate subject-level learning outcomes or objectives and, hence, via the articulation above, course-level learning outcomes;
6. Where relevant, course- and subject-level learning outcomes should articulate intended connections among theory, research and practice;

¹ <http://www.unimelb.edu.au/about/attributes.html>

7. Methods for advancing scholarship in the relevant field of study should be included among course-level learning outcomes for all Masters courses;
8. Where a research pathway is included as a core program requirement in a Masters course, learning outcomes should include a demonstrated capacity to undertake research training;
9. All Masters (Extended) programs should include as learning outcomes the capacity to plan and execute a research project or piece of independent scholarship;
10. All Masters (Coursework) programs should offer an optional RHD pathway unless an exemption is approved by the Academic Board;
11. All Masters (Coursework) and Masters (Extended) programs must include a capstone component (described further below) that is designed to meet the AQF learning outcome to “demonstrate the application of knowledge and skills to plan and execute a substantial research-based project, capstone experience or piece of scholarship”.

The capstone component

The term “capstone” can be interpreted in a number of distinct ways. The 2006 Curriculum Commission report characterised a capstone experience in the final year of an undergraduate degree as an experience offering “both disciplinary and cohort coherence and a bridge between undergraduate experience and what lies beyond”². As this characterisation suggests, integration of disciplinary knowledge and skills is arguably a core characteristic of the capstone experience, though there is variation in the extent to which that integration is focussed primarily on the body of knowledge and skills that constitute the discipline itself or on the application of disciplinary knowledge or skills in research, practical or work-related contexts. There is variation, in other words, in the degree to which the capstone experience focuses on providing culminating disciplinary coherence or on serving as a bridge to “what lies beyond”. These variations are also discussed in the helpful guide prepared by Holdsworth, Watty and Davies (1999).³

More generally, practice in the design of capstone subjects or experiences here at the University of Melbourne and elsewhere can be distinguished by the extent to which it emphasises:

- Integration at the level of a *discipline* or at *whole-of-course* level and, in the latter case, whether there is a focus specifically on interdisciplinary integration or on integration of more generic skills in practical contexts;
- Integration through application of knowledge and skills to a *research question* in the discipline (e.g. via a research or applied project) or to *work-based practice or problems*;
- Formative opportunities to *develop* integration of knowledge and skills, or summative opportunities to *demonstrate* the integration of knowledge and skills; and
- Compilation of a *portfolio* providing evidence of students’ developing integration of knowledge and skills, and *oral and/or written presentation* of a major piece of scholarship or project work.

The revised AQF requires that each of our masters degrees is designed in such a way that graduates can demonstrate the application of knowledge and skills “to plan and execute a substantial research-based project, capstone experience or piece of scholarship”. It is proposed in the principles above that each Coursework (Masters) and Coursework (Extended) degrees should include a capstone component. What constitutes the capstone component will depend on the purpose of the coursework award, including its broad focus as a professional entry (or ‘first professional’), professional development or research-track coursework degree. Indeed, many existing University of Melbourne Masters courses already have a requirement for a substantial capstone component. In

² The Melbourne Model Report of the Curriculum Commission, 2006, p. 7

³ See: http://www.cshe.unimelb.edu.au/resources_teach/curriculum_design/docs/Capstone_Guide_09.pdf

the case of research-track masters (Coursework) degrees, for example, the requirement for a 25 point or more research component is essential if the degree is to serve as a pathway to the PhD; in these cases, the requirement in question is already met by current degree design requirements. For professional entry or “first professional” degrees, 25 points or more of integrative work-based placement, internship or practicum is a common requirement. For other degrees, the situation is arguably less clear, and these will need to be reviewed on a case-by-case basis.

Table 1 sets out some possible forms and purposes of the capstone component and hence of the required “project, work, research or capstone experience” for masters degrees; others can be added as a result of further discussion on the nature of a suitable “research-based project, capstone experience or piece of scholarship” within a particular context. It is implicit in the table that the capstone component is 25 points or more, though it is recognised that 12.5 points of the overall capstone component may be preparatory for another subject in which the “research-based project, capstone experience or piece of scholarship” is primarily embedded. Thus, it is quite acceptable for the 25 points or more to be spread across multiple subjects. In some cases, one or more subjects may serve as required preparation (and hence as pre-requisite(s)) for others and subjects need not be offered in consecutive semesters; indeed, one or more might be offered early in the course; and one or more towards the end. It is also not required that all students complete the same capstone subjects; rather, a course may have multiple capstone streams, with each student being required to complete one or more such streams. In the case of some specialised professional development Masters programs, such as the Master of Laws, a number of elective subjects may require a “research-based project, capstone experience or piece of scholarship” and hence a large number of subject combinations can serve as a capstone component of 25 points or more.

The advantage of construing the capstone component as 25 points rather than as a single 12.5 point subject is that the overall component then ensures both: (a) a sound level of preparation and skill development for the “research-based project, capstone experience or piece of scholarship” that constitutes a core AQF learning outcome; and (b) a “research-based project, capstone experience or piece of scholarship” that is substantial, being of 12.5 points or more.

Research pathways

The movement of a number of professional-entry programs from undergraduate to graduate level calls for some reconsideration of research pathways in those professional domains. In a number of cases, research pathways have been built into the graduate level program design as core or optional requirements; in other cases, research pathways appear to be absent. It is important that there is a clear pathway into research training in each field of study.

The Academic Board has stipulated through the Research Higher Degree Committee (RHDC) the types of research experiences that are relevant to preparation for a PhD. Specifically:

Applicants are normally required to have completed a research project/component that accounts for at least 25% of their year's work at fourth-year or at masters level. Graduates of certain professional degrees at the University of Melbourne, including MBBS, BVSc, LLB, BPhysio and BEng, BDentSc are deemed to have met this requirement. In the absence of the final year research component, other evidence may be provided as to a student's ability to undertake research.⁴

It is therefore proposed that there should be a possible pathway to the PhD in all coursework masters programs, that is, an optional or core research component of at least 25 points (or other

⁴ <http://www.gradresearch.unimelb.edu.au/current/phd/bk/admission.html#standards>

alternative pathway approved by RHDC). In some cases, an exemption to this requirement may be approved by the Academic Board on the basis of an argued case.

Table 1. Some possible forms and purposes of capstone components of 25 points or more.

Form of project, work, research or capstone experience	Purpose
25 point research project (may be accompanied by separate subject(s) in research methods)	An opportunity to integrate knowledge and research skills to address a research question; Pathway to the PhD
12.5 point research methods subject; 12.5 point research subject	An opportunity to acquire research methods skills and integrate knowledge and research skills to address a research question
25 points or more of internship, work experience, placement or practicum	An opportunity to apply knowledge and skills to solve problems that arise in practical settings and professional contexts and develop an integrated understanding of knowledge and practice Often a professional accreditation requirement
12.5 points of applied research methods plus 12.5 points or more of practicum	An opportunity to develop an understanding of the development of evidence-based practice and to apply evidence-based methods in practical settings
12.5 points of domain-specific research skills plus 12.5 points or more of scholarship or applied research	An opportunity to acquire advanced research skills and to apply those skills through a sustained piece of scholarship.
Two or more 12.5 point subjects requiring scholarship or applied research	Multiple opportunities to develop knowledge and skills through sustained pieces of scholarship
25 point subject on an applied problem or research topic, in the form of a team project	An opportunity to acquire the skills to lead and/or work in a team to address practical or research problems and hence to integrate knowledge and skills with more generic communication, interpersonal and leadership skills
25 point individual design project	An opportunity to apply knowledge and skills to a practical design problem
25 point subject for the production of creative works and/or creative or skilled performance	An opportunity to integrate knowledge and production skills in creation of a work or performance
12.5 point practical skills subject; 12.5 point subject for the production of creative works and/or creative or skilled performance	An opportunity to develop specific practical skills and integrate them with other knowledge and skills in the creation of a work or performance

Recommendations

It is recommended that:

Recommendation 1. The following eleven principles be adopted for learning outcomes for all Masters (Coursework) and Masters (Extended) degrees:

1. Each University of Melbourne Masters course should specify a set of learning outcomes (or graduate attributes);
2. The learning outcomes for each Masters course must incorporate AQF learning outcomes relevant to its qualification type;
3. Where possible and appropriate, the University's general graduate attributes⁵ should be reflected in the course learning outcomes of each Masters course and, for all Masters courses, the form and extent to which these general University attributes are reflected in course-level learning outcomes should be clear;
4. Course-level learning outcomes for all Masters courses should be linked explicitly to an articulation of subject-level learning outcomes or objectives;
5. Subject assessments should be designed to ensure that every student is required to demonstrate subject-level learning outcomes or objectives and, hence, via the articulation above, course-level learning outcomes;
6. Where relevant, course- and subject-level learning outcomes should articulate intended connections among theory, research and practice;
7. Methods for advancing scholarship in the relevant field of study should be included among course-level learning outcomes for all Masters courses;
8. Where a research pathway is included as a core program requirement in a Masters course, learning outcomes should include a demonstrated capacity to undertake research training;
9. All Masters (Extended) programs should include as learning outcomes the capacity to plan and execute a research project or piece of independent scholarship;
10. All Masters (Coursework) programs should offer an optional RHD pathway unless an exemption is approved by the Academic Board;
11. All Masters (Coursework) and Masters (Extended) programs must include a capstone component (described further below) that is designed to meet the AQF learning outcome to "demonstrate the application of knowledge and skills to plan and execute a substantial research-based project, capstone experience or piece of scholarship".

Recommendation 2. All Masters degree programs approved prior to the end of 2011 should report by December 2013 to the Academic Programs Committee on:

- A set of learning outcomes for the degree consistent with the principles set out above;
- An articulation of the links between subject- and course-level learning outcomes;
- An assurance that subject-level outcomes are required to be demonstrated through subject-level assessments;
- The nature of the required capstone component(s) as well as the nature of optional or required research training pathways.

Recommendation 3. Applications for approval of all masters programs from January 1, 2012 must include:

- A set of learning outcomes for the degree consistent with the principles set out above;
- An articulation of the links between subject- and course-level learning outcomes;
- An assurance that subject-level outcomes are required to be demonstrated through subject-level assessments;
- The nature of the required capstone component(s) as well as the nature of optional or required research training pathways.

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⁵ <http://www.unimelb.edu.au/about/attributes.html>