Background

As part of the curriculum renewal program, Macquarie University has determined a set of Graduate Capabilities that will distinguish the Macquarie graduate and prepare students for the challenges they will face in a rapidly changing and uncertain world. The exploration and development of these capabilities will occur both within the curriculum, and in extra-curricula activities such as Student Exchange, Study Abroad or volunteering, as available to students and encouraged by the university. It is the integration of student experiences both in and out of the classroom that will ultimately determine the extent of student progress in developing these capabilities.

The framework described in the White Paper places the broad list of capabilities within a set of guiding principles. These principles can be used to identify the capabilities with key characteristics that Macquarie University seeks to engender in students (Scholarship, Ethical Practice, Engagement and Sustainability). Further, the framework provides for the constructive alignment of curriculum with both the guiding principles and the graduate capabilities by situating student learning experiences at its core. This “layered” approach is consistent with good practice as advocated by Barrie (2004).

The university wide curriculum renewal process affords a unique opportunity to re-examine the fundamentals of what the curriculum is trying to achieve. Focus on graduate capabilities as part of the process will enable and encourage consideration of how the curriculum overall, and how individual units and programs within it can contribute to fostering development of these capabilities.

Rationale

Many Australian universities have a defined set of “Graduate Attributes” or “Graduate Capabilities”. Research has demonstrated that embedding of these attributes or capabilities in day-to-day teaching has been “sporadic, patchy” or “lumpy” (Hughes, 2008). Harvey & Kamvounias (2008) describe the “success of embedding attributes” (or capabilities) as “extremely elusive”. Although the reasons vary, in many instances difficulties occur because “academics often do not share understandings of the terms used” or “how graduate attributes can or cannot be integrated into the curriculum” (Harvey & Kamvounias, 2008, p. 34).

There are three key challenges in establishing Graduate Capabilities at the core of the curriculum. These are:

- interpreting the guiding principles and graduate capabilities in terms that are meaningful and relevant to academics in different disciplines. This needs to occur at the faculty, discipline and/or program level;
- embedding graduate capabilities in the curriculum at unit and program level through constructive alignment of curriculum elements (learning outcomes, learning experiences and assessment tasks);
- demonstrating that our units and programs provide students with opportunities to develop the desired graduate capabilities.

Embedding graduate capabilities necessitates a process of interpreting and translating each of the capabilities into a discipline specific context, which assists in developing a shared understanding within the same discipline. These might need further refinement at the program level.
Bowden et al. (2000) go further in a set of principles for curriculum development related to graduate attributes, with the statement that “The development, practice and assessment of [capabilities] is most effectively achieved within the context of discipline knowledge.” It is therefore vital that the learning and teaching of graduate capabilities occurs at the program and especially at the unit level if there is to be any degree of success in embedding the capabilities in everyday learning experiences.

One of the advantages of focusing on graduate capabilities as a defining part of the curriculum is that it affords the opportunity to establish the alignment of graduate capabilities with learning outcomes, teaching and learning activities and assessment tasks to make a more unified approach. This stage can be most effectively accomplished at the unit level, the focal point of the embedding process.

It is neither possible, nor desirable for all graduate capabilities to be developed in every unit. Some units by their very subject matter or teaching methods will lend themselves to developing some capabilities more than others. It is, however, necessary that all students have the opportunity to develop all the capabilities during their candidacy. Each program will need an overview and a unified plan to ensure these opportunities are available. This will entail a mapping process to chart the development opportunities available to students.

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<th>Step in the Process</th>
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<td><strong>Step 1. Define graduate capability statements for program level implementation</strong></td>
<td>Working group from relevant department, discipline or program.</td>
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<td>- Translation of Graduate Capabilities into a faculty and/or discipline and/or program specific context by members of faculty or department or program directors (including as many members of teaching staff as possible)</td>
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<td>- Break down each Graduate Capability into developmental levels if applicable</td>
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| **Step 2. Map graduate capabilities at program level** | Unit convenors in conjunction with program directors and Heads of Department |
| - Map graduate capabilities at unit level | |
| - Identify those that are taught/assessed implicitly | |
| - Identify those that are taught/assessed explicitly | |
| - Combine unit information into a program summary or map | |

| **Step 3. Analyze the map of the program from step 2 for gaps** | Program directors, unit convenors, Heads of Department, Associate Deans of Teaching and Learning |
| - Identify units for gap filling | |
| - Identify existing teaching and assessment strategies or develop additional strategies that could be used to fill the gap | |

| **Step 4. Implement changes at unit and program level if necessary** | As above |

| **Step 5. Document Graduate Capabilities explicitly:** | Unit convenors |
| - in unit outlines e.g. learning outcomes and assessment tasks (Note: in some instances this will mean only amending to make the implicit explicit) | |
| - in program descriptions. | |

| **Step 6. Plan a regular cycle of review and evaluation** | Program directors, Heads of Department, Associate Deans of Teaching and Learning |

Fig. 1 Adapted from Chapman (2004)
Process

Figure 1 outlines a plan to facilitate effective implementation across campus.

Interpreting the graduate capabilities for a discipline specific context is a necessary starting point for the process. This may be as simple as defining the meaning within a discipline e.g. What exactly does “Creativity and Innovation” mean in a science context, or in law? Are there particular facets of this capability that are peculiar to a discipline, or are expressed differently in a discipline? The graduate capabilities could also be interpreted in terms of “indicators”, i.e. what behaviours, outcomes or attitudes will indicate that the graduate capability has been or is being developed? The translation phase, if done well, will inform the curriculum development, as it will facilitate development of robust learning outcomes, teaching and learning activities that will support realisation of the capabilities in students, and the most appropriate methods of assessment.

Graduate capabilities are rarely attained in a single unit, or even in a single year. Bowden et al. (2000, p. 3) maintain: “The achievement of a desired capability involves a process by which the particular quality or characteristic is acquired over time, with a consequent capacity to manifest the capability with increasing consistency, complexity and sophistication.” In some programs, and for some capabilities it may be desirable to determine stages in the development of each capability and plan teaching accordingly. It is often not a simple process, however, as students attain these levels at different times, and this may unnecessarily complicate the process. In some programs it may be a better strategy to start with the translation phase and to determine the developmental stages at a later date when staff are more comfortable with the way the capabilities play out in their programs and units.

Mapping graduate capabilities in its essence is a simple process of identifying where graduate capabilities are actively taught, practised and assessed in the program. This will provide a “Profile of Opportunity” (Bowden et al., 2000) which outlines where in the program students are able to develop the graduate capabilities. This might include mapping of learning outcomes intended for units in the program, or of teaching and learning activities provided or of assessment tasks that test the development of the capabilities. Mapping at a program level will provide teaching staff with the diagnostic means to identify gaps in development opportunities, so that they can be remedied. These maps will also ultimately provide a “Profile of Student Experience” where students are able to chart their own progress, and plan for the future.

Explicit documentation of the graduate capabilities in the unit guide is an essential part of making the embedding transparent to staff, students and stakeholders outside of the university.

Resources

The Learning and Teaching Centre’s working parties on Graduate Capabilities and Curriculum Mapping are currently developing resources to assist with the translation phase of this process. Analysis of programs is underway to identify strengths and weaknesses in current unit guides. Research to date shows that the Graduate Capabilities are being covered in many programs, but this is often poorly articulated. The Learning and Teaching Centre, in concert with the Graduate Capabilities and Curriculum Mapping working parties, will work together with faculties in 2008 and 2009 to assist with the interpreting and embedding phase of this plan.

Work is also underway on a design brief for a computerised Curriculum Mapping tool to assist with diagnosing gaps, planning and analysis as well as reporting functions.
References


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