

## *Report*

# How to Engage with a Graduate Outcomes' Agenda: A Guide for Tertiary Education Institutions

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**Publishers:**

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This project was supported through the Ako Aotearoa National Project Fund 2011, in the Research and Implementation Projects funding stream.

More information is available at <http://ako.aotearoa.ac.nz/graduate-outcomes>

**Published:**

July 2013  
ISBN: 978-1-927292-54-8



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# Executive Summary

Graduate outcomes (GOs) is an umbrella term we use to cover a range of outcomes related to the knowledge, skills and values that are acquired through higher education. Graduate outcomes encompass both graduate attributes (GAs) and graduate profiles (GPs). In this paper we use the term 'graduate attribute' (GA) to refer to a single attribute, while we call a set of graduate attributes a 'graduate profile' (GP), and this profile may be at the institutional level (GPI) or specific to the programme (GPP).

With the Bologna Process in Europe, Lumina USA and developments in the Australian higher education sector, there has been widespread international interest and activity to embed GOs in curricula in tertiary education institutions. Aotearoa New Zealand has lagged behind the international agenda, although in recent years, through New Zealand Qualifications Authority processes, non-university tertiary education organisations have had an increasing focus on graduate outcomes. Past research has shown that while institutions may have policies for GOs, these policies may not necessarily be translated into practice.

The overarching aim of our research was to explore how higher education institutions in Aotearoa New Zealand are engaged with graduate outcomes. Our three specific research questions were to:

1. identify current policy and practice regarding GOs in higher education institutions in Aotearoa New Zealand
2. identify indicators of the impact (benefit) on students and staff of good practices relating to GOs
3. determine the necessary conditions and possible strategies for the effective development of policies and practices regarding GOs.

To address the research questions a mixed methods approach (Cresswell, 2003) was used with both quantitative and qualitative methods. There were three phases of the research:

- A stocktake across the higher education sector involving a survey and interviews with academic leaders of teaching and learning. Fourteen (out of 29) institutions completed the survey and ten interviews with leaders of teaching and learning were conducted. The survey and interviews investigated, at an institutional level, the planning for GOs, systems for embedding GOs in curricula, delivery of GOs, assessment of GOs, evaluation of GOs, and professional development support for embedding GOs. Descriptive statistics, tabulation and graphs were used to analyse quantitative data, while Thomas' (2006) general inductive approach was used to analyse qualitative data to draw out the main themes.
- The collection of eight cases of good practice of embedding GOs in degree programmes across four institutions:
  - AUT University – Tourism and Physiotherapy
  - Christchurch Polytechnic Institute of Technology – Broadcasting Communications and Applied Science
  - University of Otago – Music and Oral Health
  - Victoria University of Wellington – Design Innovation and Marketing.

For each case, data were collected using surveys and interviews or focus groups with students and staff. The focus of data gathering was how programmes were planning for GOs, how GOs were linked to learning outcomes, how GOs and assessment were linked, staff awareness of GOs, student awareness of GOs, and monitoring of GOs. Case-study data

were analysed to provide some background on the curriculum renewal process, how GOs were translated into the curriculum, and staff and student experiences of GOs.

- A synthesis of findings across the stocktake and case-study data. First we used some principles of Maturity Modelling (Marshall & Mitchell, 2003) to elucidate engagement of institutions with a GO agenda, and of our cases for embedding GOs. Second we did a thematic analysis to draw out the main enablers for engagement with GOs. We also were able to extract indicators of the impact of engagement with a GO agenda on students and staff, as well as explaining the benefits to both groups of such engagement.

The key findings are given in relation to each research question.

### *1. Policy and practice regarding GOs*

The focus on and concern with GOs was patchy across the polytechnic and university sector. That is, there are areas where GO engagement is strong, and other areas where there is less evidence of engagement. In general, polytechnics were more engaged in this agenda than the universities. The main reasons for the stronger engagement in the polytechnics may have been due to the influence of the NZQA and the teaching-focused culture. Conversely, the focus of the universities was less with the GO agenda and more on research. These foci likely reflect the key roles of the two sectors. However, a focus on research by universities does not mean they should neglect engaging with a GO agenda, and indeed, many are well engaged with such an agenda.

Institutions with strong engagement with GOs demonstrated strong senior leadership in the area and the necessary enabling structures. Institutions with a less well-developed GO agenda tended to lack central leadership, focused resources, and appropriate supporting structures in the GO area. Instead, they often relied on individuals as champions. There was better engagement by higher education institutions with the planning, systems and delivery of GOs, but much weaker engagement with assessment and evaluation of GOs and professional development support for GOs.

### *2. Benefit to staff and students of engagement with GOs and indicators of impact*

It was clear from our analysis that any engagement with GOs was beneficial for both students and staff. The very act of having to think about GOs was found to be developmental, shifting thinking about the purpose of higher education and the nature of the particular degree being studied or taught. Through engagement with a GO agenda, students were more aware of what knowledge, skills and values were being fostered, how their courses were structured to achieve a graduate profile, and what employment and educational pathways were available. In our study many students reported a lack of knowledge about GOs, and yet they wanted to know about them to inform their choice of courses, their study and future opportunities. For staff, engagement with a GO agenda promoted collegiality and efficiency, and encouraged them to think deeply about their teaching.

Indicators of the impact of engagement with a GO agenda for students included:

- students being aware of a graduate profile for their programme
- students seeing strong links between the graduate profile and the learning outcomes and assessment in their courses
- students tracking their progress towards attaining the graduate profile
- students knowing a range of employment options resulting from their degree
- students being aware of further educational pathways

Indicators of the impact of engagement with a GO agenda for lecturing staff included:

- a sound understanding of the graduate profile for their programme

- holding a ‘translation’ or an ‘enabling’ conception (Barrie, 2006) of graduate attributes, so that academics feel some responsibility to foster attributes in their students
- having clear links between the graduate profile and the learning outcomes and assessment in their courses
- assisting students to track their progress towards attaining the graduate profile
- ensuring that students know about the employment options resulting from their degree
- ensuring that students are aware of further educational pathways.

### 3. *Enablers for engagement with GOs*

Five key enablers for engagement with the GO agenda were identified:

- External drivers*: forces to which institutions were required to respond or that they perceived they were responding, or should respond
- Structural and procedural enablers*: those that facilitated or engaged staff and communities within the institution to become aware of or work towards change in practice in regard to GOs
- Developmental enablers*: those that assisted staff/groups/departments to introduce and develop GOs and embed them in curricula, or undertake some curriculum development
- Achievement enablers*: those that were concerned with how students are assisted to achieve a GP
- Contextual enablers*: generic institutional and/or individual cultural/affective qualities that crossed the four enablers described above and made them more or less effective.

Moreover, a framework was proposed to show how these enablers are related, as well as a range of strategies for each level: institutional, programme, lecturer and student.

There are some limitations to our study. We had hoped for a more comprehensive stocktake across the higher education sector reporting on engagement with GOs for universities, polytechnics and wānanga. However, we only gained a 48 *per cent* response rate to our survey and we did not get any wānanga participating, so we are unable to comment on their level of engagement with GOs. In collecting data for our stocktake we targeted leaders of teaching and learner centres, but ideally it would have been useful to get responses from senior managers as well. In selecting our case studies of good practice, we had hoped for wide disciplinary coverage but our cases were dominated by vocational courses. Although we used similar protocols of data collection across the cases, inevitably there is some variability in how data were collected and analysed.

Given our findings and the limitations of our study, useful avenues for future research include gaining data from wānanga on engagement with GOs and seeking more cases of good practice from humanities and science programmes. Our research has shown that strong leadership from senior management is crucial to achieving strong engagement with a GO agenda. We did not collect any data from senior managers so further research should be conducted with this group, given their importance in curriculum renewal processes. Finally, our data hinted at a strong relation between orientations to higher education and conceptions of graduate attributes in students, and this relation could be further investigated.

Our report concludes with a set of recommendations for institutions seeking to better engage with a GO agenda. The key recommendations are to:

- promote a culture within the institution that values teaching
- take advantage of external drivers where possible, as these are a powerful enabler
- ensure that a careful balance is struck between GOs desired by external agencies and those desired by the institution; ideally a graduate profile should blend both sets of outcomes



- consider instigating curriculum renewal with a focus on GOs, especially when external drivers are lacking. The focus of curriculum renewal should be seen as a means to improve student learning, not driven by compliance
- ensure that any curriculum renewal processes include strong leadership from senior management, departmental and programme levels; the assistance of academic or educational developers in facilitating conversations about GOs and teaching towards them; ownership of the process by the teaching staff; the development of a contextualised graduate profile for the programme; a focus on generating learning outcomes and assessment well aligned with the graduate profile; and allowing at least a couple of years for curriculum renewal to occur
- ensure that structural and procedural enablers are in place to assist with a GO agenda including changing roles of committees to ensure oversight and promotion of GOs, instigating policies and plans that include graduate profiles, giving staff designated authority to implement policy, monitoring of attainment of GOs, and having strong links between structures and processes
- ensure that developmental enablers are in place. Key aspects of this include being clear about the institutional role and relation to GPs, providing academic development support, and allowing sufficient time for change – at least a couple of years
- ensure attention is paid to achievement enablers. This could include assisting students to track their attainment of GOs through an institutionally supported ePortfolio framework or the advice and mentoring of students.

In conjunction with this full report we have developed a Guide, summarising key findings to assist institutions to engage with GOs (Spronken-Smith *et al.*, 2013a). Alongside the Guide we have also developed three toolkits that provide advice and instruments respectively for senior managers, heads of departments and programme directors, and lecturers, to assist them in engaging with GOs (Spronken-Smith *et al.*, 2013b-d).

# Chapter 1: Introduction

Graduate outcomes (GOs) is an umbrella term we use to cover a range of outcomes related to the knowledge, skills and values that are acquired through higher education. Graduate outcomes encompass both graduate attributes (GAs) and graduate profiles (GPs). In this paper we use the term 'graduate attribute' (GA) to refer to a single attribute, while we call a set of graduate attributes a 'graduate profile' (GP), and this profile may be at the institutional level (GPI) or specific to the programme (GPP). Figure 1.1 shows the relations between GOs, GPs and GAs. While the framing of our study is at the broader level of GOs, at times we switch to focus on GAs, especially for the literature review, since this phrase is more commonly used.

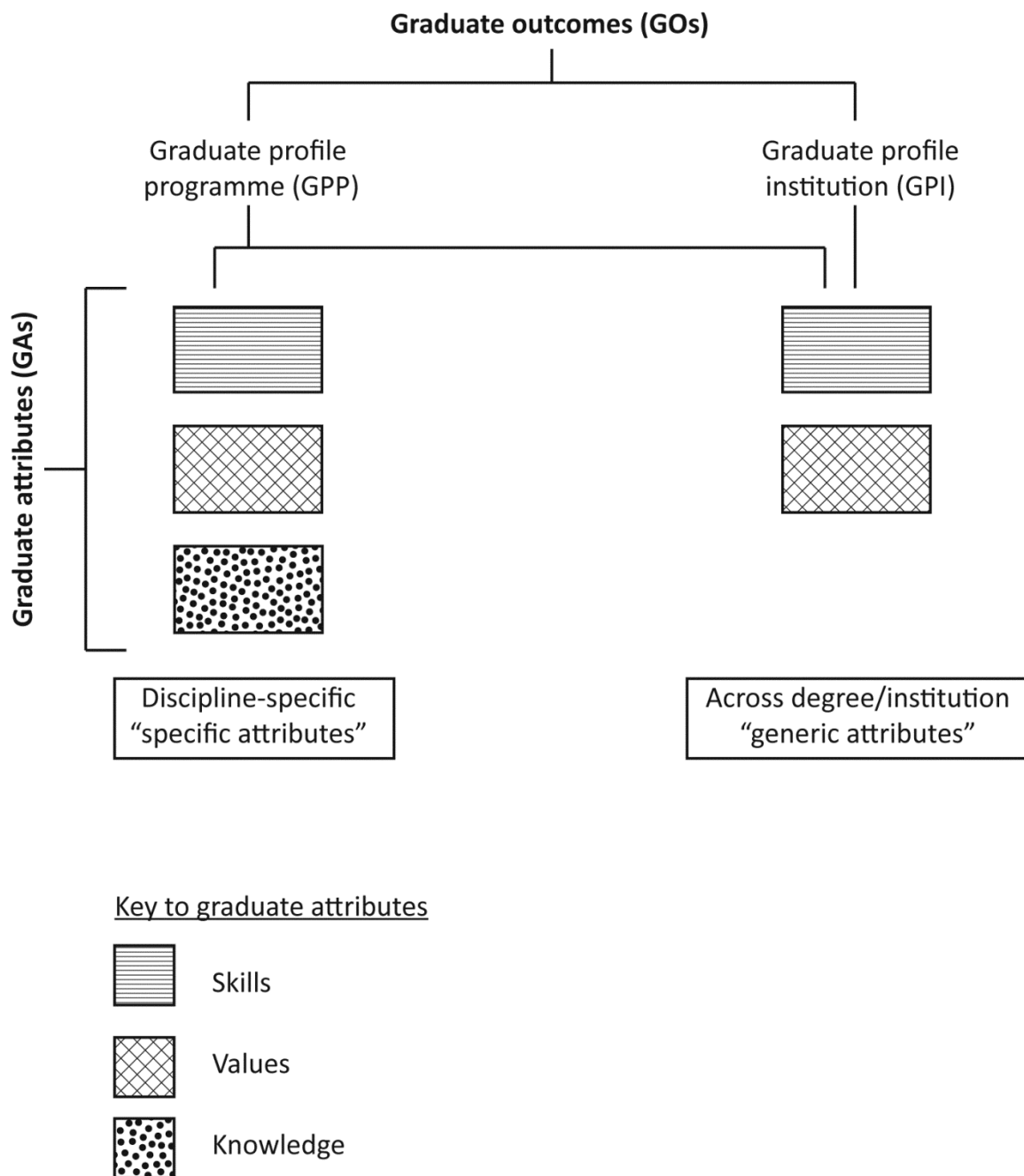
In Europe and Australia GOs are not only recognised as a critical requirement of a modern tertiary curriculum (de la Harpe *et al.*, 2009) but they also dominate higher education sector agendas. In the Northern Hemisphere developments have been driven by: the 1999 Bologna Declaration (The European Higher Education Area, 1999); the Tuning Project (see Gonzalez and Wagenaar, 2006), which was prompted by the former, and consequential funding. In Australia GO-led curriculum renewal has been mandated by government policy.

There is growing evidence that GO development is most likely to be achieved if outcomes are explicitly embedded in curricula and assessment (Barrie, 2004; Hughes and Barrie, 2010). At its best, GO-led curriculum renewal involves deep and systematic revision in which sets of outcome statements and employment characteristics are identified, aligned with teaching and assessment practices, and communicated to learners (*e.g.* Barrie, Hughes & Smith, 2009; Bath *et al.*, 2004). But practices vary, as do understandings of the meanings of attributes among academics. Whether or not current curriculum development practices are able to generate and sustain effective sets of learning outcome statements is also questionable (Barrie, 2006).

In the higher education sector, New Zealand may lag behind these global developments in both research and practice. Moreover, sector change is known to be difficult to achieve (Hughes & Barrie, 2010). The pedagogical complexities of designing for, teaching, and assessing GOs in existing curricula, are well recognised (de la Harpe *et al.*, 2009; DEST, 2002 cited in Hughes & Barrie, 2010). The empirical exploration of current policies and practices in our research constitutes a first step in aligning the New Zealand higher education sector with the more rapid changes that are evident elsewhere.

Our project explores the current policies and practices regarding GOs in higher education institutions in Aotearoa New Zealand. The underlying rationale and long-term goal is to instigate change by encouraging higher education institutions to engage more deeply with the GO agenda, identify and implement necessary curriculum revision, and so enhance the educational experience of learners.

This report continues by first providing a synthesis of current research on GOs in Chapter 2, and then, in Chapter 3 describing the research approach and methods used to collect and analyse data. The results are presented in chapters 4 to 6, with a synthesis of findings in Chapter 7.



**Figure 1.1: Definitions of graduate outcomes, profiles and attributes that we adopt in this report.**

Note: 'Graduate outcomes' (GOs) is used as an umbrella term to encompass graduate profiles (GPs) that in turn encompass sets of graduate attributes (GAs), consisting of knowledge, skills and values. The number and nature of GAs will vary between institutions and programmes.

# Chapter 2: Background Literature

## 2.1 Introduction

The aim of this chapter is to provide a research backdrop to the current study. Reviews of literature on graduate outcomes (GOs), albeit with different foci, are numerous (*e.g.* Barrie, 2006; Barrie, Hughes, & Smith, 2009; Bennett, Dunne, & Carré, 1999; Hager, 2006). What they make evident is the confusing complexity of the area and the different conflating factors. Analysis of the literature suggests that the confusion and also the variety in treatment of GOs at all levels – international, national, institutional and programme – are due in part to the fact that the area is informed by a plethora of knowledge domains and influences ranging widely across education, politics, history, economics, sociology and science (to name a few). Furthermore, in 2004 Barrie and Prosser argued that both literature and educational conferences typically focused on practice, reports of practice, or evaluation of projects. The theoretical or conceptual aspects were missing “despite many reports of practice pointing to this missing conceptual base” (p. 243, 244). Later Barrie, Hughes and Smith (2009, p. 6) commented that “though graduate attributes have been enshrined in educational policy and embraced for their promotional and marketing potential, the sector has produced little convincing evidence of authentic curriculum integration or of impact on student learning.”

In the following sections we explore: the meanings associated with GOs and some of the roots of possible confusion; the importance of beliefs and interpretations in the treatment of GOs; factors that influence or drive the GO agenda; implementation of GOs within an institution; and possible factors that constrain their implementation. In this review we mainly use the phrase graduate attributes (GAs) rather than GOs, since terminology using GAs is more prevalent in the literature.

## 2.2 A diversity of meanings

One issue that possibly contributes to the confusion mentioned above is the diversity of meanings associated with all aspects of GOs throughout the international tertiary sector. A number of authors have commented on differences in: the term that is used (*e.g.* Badcock, Pattison, & Harris, 2010; Barrie, 2006); how GAs are defined (Clanchy & Ballard, 1995); how they are understood (Barrie, 2006); the interpretation of specific GAs across disciplines (Jones, 2009a & b); who has responsibility for developing them (Clanchy & Ballard, 1995); and how they should be implemented and taught. Curtis and McKenzie (2001) noted that often the same term was used to convey different conceptions or alternatively, different terms were used to communicate the same concept. So adjectives such as *core*, *key*, *generic* or *essential* were used interchangeably with nouns such as *skills*, *competencies*, *capabilities* and *attributes*. In the last two decades words like ‘skills’ and ‘competencies’ have been used extensively. Questioning the rhetoric of the 1990s, Clanchy and Ballard (1995, p. 157) asked: “Is ‘intellectual curiosity’ a ‘skill’? Is ‘intellectual rigour’ a ‘personal attribute’? Is ‘ethical practice’ a ‘value’ (as distinct from a behaviour)? Why is ‘integrity’ not a ‘personal attribute’? Is ‘problem-solving’ a ‘quality’? Is the recognition that ‘knowledge is provisional’ a ‘skill’, or is it an understanding or attitude?” Since 1995, little has changed excepting that a wider range of terminology is now in use, such as *graduate capacities*, *personal transferable skills*, *learning outcomes* (older than some of the above but in continued use), and *employability skills*. For instance, the use of the term ‘key competencies’ in Germany (see Schaeper, 2009) resembles to a great extent the use of ‘graduate attributes’ in Australasia. Indeed, and specifically in terms of lifelong learning, Pitman and Broomhall (2009) ask if GAs are conceptually the same as generic skills. This question reflects the issue inherent in Clanchy and Ballard’s (1995) distinction between competency and competencies, and Cummings, Ho and Bunic’s (1997) use of ‘qualities’ over ‘competencies’. Often words like skill are used in the secondary and tertiary vocational sectors, and

words like attributes and qualities are used in the university sectors. Pitman and Broomhall (2009, p. 447) argue that this shift from the use of the term *generic skills* to that of GAs in universities is significant. These differences have been rationalised in several ways. For instance, more developed performances and more complex tasks that may be associated with university education cannot be atomised into discrete skills or competencies (Curtis & McKenzie, 2001). Moreover, words like *attributes*, *qualities*, or *characteristics* imply a more qualitative, holistic interpretation that is applicable to persons rather than skills. Given that some ‘skills’ are attitudinal or products of life experiences, Hager, Holland and Beckett, (2002, p. 1) argued that “a term such as ‘attribute’ is probably a better descriptor of the collection of qualities that together constitute ‘generic skills’”. In this review we use the word ‘attribute’ to describe single graduate outcomes and we adopt the word ‘profile’ to apply to a collection of attributes (see Figure 1.1).

From the late 1990s onwards, important distinctions were made in the literature between core and generic skills. Bennett *et al.* (1999) argued that the term *core skills* had a number of contested meanings. They used the word *core* to refer specifically to disciplinary skills. In contrast, *generic* meant “skills which can support study in any discipline, and which can potentially be transferred to a range of contexts, in higher education or the workplace” (p. 76). We too use the term ‘generic’ to apply across disciplines. We use the word ‘specific’ to apply to programme attributes.

### 2.2.1 Historical derivation of meanings

One possible reason for the diversity outlined above is that conceptually the modern meaning of the term ‘graduate attributes’ has its roots in the evolution of higher education, and educational theory and practices that span more than a century. Concern with learning objectives began early in the last century in the United States with the work of John Dewey (Ewell, 2007). The work of Bloom and colleagues (1956) saw the start of specific descriptions of behaviours as educational objectives in the form of taxonomies. Originally, these objectives were used to describe the outcomes desired by a teacher from a particular teaching episode. The emergence of the behavioural movement saw an increasing focus on what the student could do. From the 1970s, educational research, which had been dominated by behaviourism and cognition, started to broaden in scope to include more social and experiential perspectives. A focus on students’ competencies began in teacher education in the 1960s/70s (Bowden & Marton, 1998) but only became influential in the tertiary sector in the 1990s. In this decade the foundations were laid worldwide for the introduction of degree and curriculum frameworks that supported the explicit identification of graduate outcomes. In Australia several significant reports and policies prioritised the linkages between education and employment (this influence as a driver of the GAs agenda is discussed later in the chapter). The Mayer Report (1992), which elaborated the concept of *key competencies*, was said to signal a significant shift in ideology in higher education in Australia (Clanchy & Ballard, 1995).

These developments mirrored those in other countries particularly the UK and Europe with DeSeCo (Definition and Selection of Competencies) driven by the Organisation for Economic Co-operation and Development (OECD) (Mogensen & Schnack, 2010). At government and policy levels, these movements reflected a growing emphasis on the outcomes of education rather than the processes of being educated. So, despite a growing focus on student-centred teaching (*e.g.* Kember, 1997), and more recently, the means by which students/graduates achieve such outcomes, such as those that promote authentic assessment (*e.g.* Trevitta & Stocks, 2012) and action competence (*e.g.* Mogensen & Schnack, 2010), within the sector the way in which the outcomes of a tertiary education developed has tended to be unquestioned. It was assumed that something occurred implicitly as a result of a course or programme of study (Bowden *et al.*, 2000).

## 2.3 Definitions of graduate outcomes

From early 1990 to mid-2000, and in parallel with the developments outlined above, a series of definitions of outcomes associated with graduates appeared in the literature. Despite their Australian origin, the definitions reflect the international ideological shifts in development of higher education over this time. They varied from those that were vague and narrowly focused to more specific descriptions, from simple references of specific skills to ideas about clusters of qualities, temporally from immediate application to employment and life, and the degree to which they can be transferred from context to context. The influence of the Australasian Higher Education Council (HEC) (1992) policy statement is evident in most of them. Graduate attributes are the:

...skills, personal attributes, and values which should be acquired by all graduates regardless of their discipline or field of study. In other words, they should represent the central achievements of higher education as a process. They will be introduced and refined in a subject-related context – indeed, it is only through the study of a body of knowledge that they can be acquired – but they will also enable the graduate to transfer skills between contexts. ...They include such qualities as critical thinking, intellectual curiosity, problem-solving, logical and independent thought, effective communication and related skills in identifying, assessing and managing information; personal attributes such as intellectual rigour, creativity and imagination; and values such as ethical practice, integrity and tolerance. (HEC, 1992, p. 20, 22)

Bowden *et al.* (2000) extended the HEC definition by including two key ideas: “graduate attributes are the qualities, skills and understandings a university community *agrees* its students would desirably develop during their time at the institution and, consequently, shape the contribution they are able to make to their profession and as a citizen” (p. 3, italics our emphasis), and “these attributes include but go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as *agents of social good* in an *unknown future*” (p. 1, italics our emphasis). Using this definition, Hager *et al.* (2002) and Barrie (2006) made a specific distinction between generic and discipline specific skills. According to Barrie (2006, p. 217) generic GAs are “the skills, knowledge and abilities of university graduates, beyond disciplinary content knowledge, which are applicable to a range of contexts and are acquired as a result of completing any undergraduate degree”. Barrie argued that “they should represent the core achievements of a university education”. Later, he and colleagues extended this definition adopting earlier notions:

Graduate attributes are an orienting statement of education outcomes used to inform curriculum design and the provision of learning experiences at a university...They are descriptions of the core abilities and values a university community agrees all its graduates should develop as a result of successfully completing their university studies (Barrie *et al.*, 2009, p. 1)

Bowden *et al.* (2000, referring to Nunan, 1999) identified four main sets of GAs:

- those pertaining to disciplinary knowledge and skills
- those pertaining to criticality – thinking, analysing, problem solving, synthesising, applying, communicating and evaluating
- global citizenship, social responsibility and leadership
- employability.

Walsh and Kotzee (2010, p. 37-38) emphasised the links between gradueness, employability, and the ability of the country to compete globally: “the common qualities that graduates...have that prepares them for graduate level work, or even for work as-such.” A more recent statement of GAs is that they “articulate an institution’s vision of the students they wish to develop, and the

knowledge, values and dispositions they wish to impart” (Bosanquet, Winchester-Seeto, & Rowe, 2012, p. 74).

More recently, definitions of GAs have been the subject of further analysis. For example, Bridgstock (2009) suggested that Bowden *et al.*'s (2000) definition assumed two kinds of attributes: those relating to how an individual contributes to and is engaged in society as a citizen, and those relating to obtaining and maintaining employment to contribute to economic productivity. Likewise, in their analysis of the literature, Bosanquet, Winchester-Seeto & Rowe (2010, p. 2) identified four main purposes of GAs: “employability; lifelong learning; preparing for an uncertain future; and acting for social the good”. They suggested that such purposes are often listed uncritically in government and institutional documents. In their comparative analysis of the changes over fifteen years of statements for graduate attribute frameworks in Australian universities, they found another three constructs that have emerged in the last five years: *adapting to change*, *promoting change* and *community leadership*. These constructs reflect other debates. For example, Barnett (2006) questioned the suitability of the term ‘graduate attribute’. Graduates of the 21<sup>st</sup> century face a world that is characterised by increasing change and uncertainty. Barnett argued that “the fundamental educational problem of a changing world is neither one of knowledge nor of skills but is one of *being*” (p. 51). He suggested substituting the word *attribute* with *character* though that too posed problems. He proposed that there needs to be a fundamental shift in which higher education does not reject concerns with “knowledge or with skills...but place[s] at its centre a new concern with being” (p. 51).

Despite these definitions and challenges, there is little theory or research that supports the use of specific or groups of particular attributes. Barrie (2004, p. 1) notes “the atheoretical lists of popular skills”, Schaeper (2009) argued a similar point, and Bridgstock (2009, p. 32) observed that although all Australian universities have their own “unique” lists of GAs, little research has been conducted in the way of synthesis or evaluation. Yet, in an analysis of publically available documents about GAs, Pitman and Broomhall (2009) found that 37 of 38 Australian universities refer to or discuss the importance of GAs, and of the 38, 34 provided detailed statements about the attributes. They identified 25 distinct attributes. The most cited attributes were *communication skills* (98%), *interpersonal skills* (82%), *problem-solving skills* (71%), *mastery of disciplinary knowledge* (71%), and *awareness and respect for others* (71%). There were far fewer references to *research skills* (6%), and *awareness of and sensitivity to indigenous culture* (9%). Differences in the prioritising of particular attributes reflected the type of institution. For example, GO8 universities (oldest with strong liberal arts focus) emphasised *behaving ethically* (86%), while *awareness and respect for others* was emphasised (89%) in new generation universities (more diverse intake and established since 1970).

## 2.4 Misunderstandings, assumptions, issues and beliefs about graduate outcomes

The different descriptions and diverse language used to describe GOs provide ample evidence of the diversity of understandings or misunderstandings that exist. Hager (2006, p. 18) suggests that there are five common misunderstandings about GAs. He used metaphor to argue that generic attributes:

1. “are viewed as *discrete or atomic entities*” that stand alone and so they can be acquired and transferred as single entities; as in the metaphor of the mind as a container that can be filled up
2. are learned quickly as a “one-off event” and finished
3. are acquired by individuals and the learning is located within individuals – GA policies and programmes focus on the individual. Yet Hager argues that many GAs are essentially social, *e.g.* communication

4. can be easily recognised and therefore measured. Hager argues that some generic attributes are tacit but the idea of measurement may have originated from early work in the competence movement. This notion of GAs conflates performance with attribute or capability. Performance is measureable but a person's capabilities may not be. So policies should separate the two
5. can be easily described (p. 18).

It should be noted that the first two misunderstandings align with those identified as conceptions of 'transfer' in teaching and learning in research adopting an experiential perspective. Hager's (2006) list of common misunderstandings draw attention to some key ideas and theoretical issues that seem to have been lost in the GO agenda. He argues that learning is a process but thinking of GAs in terms of acquisition suggests learning has a product, that is, the learner acquires the "right characteristics" (p. 22). There is strong evidence that much of the literature on GOs tends to be written in this way. Hager also argues that generic attributes tend to be inter-related and holistic. They are socially acquired so the individual is not a good unit of analysis. They are situated in a particular context so the idea of generic may be redundant. And, generic attributes are developed through life so seeing the graduate as an endpoint is not useful. He uses Rogoff's (1995) three planes of activity: apprenticeship, guided participation, and participatory appropriation to argue that the workplace also has responsibility for development of GAs. In the literature this aspect of attribute development is often forgotten. The notion that GAs may have an end point aligns with the 'learning as product' view; that it is complete. Views that 'learning is lifelong' and 'learning as product' are in conflict.

The short summary of Hager's (2006) work draws on wide-ranging educational research. More specifically, in literature that focuses on experiences, there is strong evidence that teachers' or students' approaches to learning are strongly related to how teaching and/or learning and the associated task is conceptualised (e.g. Prosser & Trigwell, 1999). Based on this research from an experiential perspective, Barrie (2006) argued that a similar relation is likely to exist between academics' beliefs or understandings about GAs and the ways in which they engaged with them in their curricula.

In an interview study with 15 academics from different disciplines, Barrie identified four different ways in which academics understand GAs. Two of the conceptions were additive in that university study adds to the students' existing skill base:

- A *precursory* conception assumes that students already possess the required generic attributes for successful study (e.g. basic written English proficiency) before they enter university and there is no relationship between what the teachers do (or perceive they should do) and how these attributes are developed. Discipline knowledge is perceived to be separate from generic attributes.
- A *complementary* conception assumes that generic attributes are an outcome of a university education but they are separate and secondary to the acquisition of disciplinary knowledge (e.g. essay-writing skills for constructing an argument that could complement technical science skills).

Barrie called the other two conceptions transformative:

- A *translation* conception assumes that generic attributes assist the graduate to use or apply discipline knowledge and translate in in unfamiliar situations (e.g. communication of science results to a science audience using technical laboratory report writing skills).
- An *enabling* conception of GAs assumes a complex relation of abilities and aptitudes that enable scholarly learning and the creation of new knowledge. Barrie's study focused on attributes at a general level and found little contextual influence.



Later Jones (2009a) explored the gap between how academics in five different disciplines conceived three key GAs (critical thinking, problem solving, and communication) and their teaching practices. She reported strong contextual influences associated with discipline epistemology in both the way GAs were developed and taught (Jones, 2009b). Each of these key attributes was interpreted and prioritised differently but they were often assumed to be implicit in the having of discipline knowledge. For example, in History, criticality is valued, and an historian thinks critically and students who are becoming historians learn to think critically in the course of that becoming, so generic attributes are considered quite separately. In one sense, this view aligns well with Barrie's (2006) *complementary* conception of generic attributes. Yet the students are learning to be critical through knowledge of the discipline. Jones' (2009b) summary is shown in Table 2.1. The table also illustrates some preferred ways of teaching that may be akin to Shulman's (2005) signature pedagogies. This link has only recently been explored in the literature (*e.g.* Spronken-Smith, 2013).

Reflecting the relational argument posed above, Bosanquet *et al.* (2010) argued that institutional values, beliefs and assumptions about higher education are often implicit in their policy documents. They conducted a word-frequency count and thematic analysis of publically available documents (see section 2.3) of 13 universities in three time periods (1996–2000; 2001–2005; and 2006–2009). They found that some 'skills' such as communication, information literacy, ICT, creativity and innovation and critical judgment remained current in all three time periods. They noted that these 'skills' aligned with those recognised as generic by Pitman and Broomhall (2009). In contrast, others either increased in usage (*e.g.* discipline-specific skills; interdisciplinarity; research; problem solving; planning management skills; global citizenship; sustainability; adapting to change; promotion of change; cultural competence; and cultural diversity) or decreased (*e.g.* professional practices; independence; and social justice). They observed that some of the terms that showed a decline may have been replaced by other terms. The word-frequency analysis showed an interesting shift from a focus on words such as oral, and logical, in the first time slice, to a skills-based language in the second. They found three foci in this middle time slice reflecting the individual, lifelong learning and action. In the third time slice this changed to a focus on environment and sustainability, community, and imperative and obligation. Unsurprisingly, but confirming other research, Bosanquet *et al.* (2010. p. 10) argued that four themes are evident across the time periods: employability, lifelong learning, uncertain future, and social good.

In summary, literature relating to the meaning of terms used to describe GOs, the evolving definitions, and the conceptions of GOs that are evident in research relating to individual academics and institutional documents, reflect the historical changes in educational research, but also institutional development, and the subsequent responses of institutions to their external environment. The influences that prompt such responses are the topic of the next section.

**Table 2.1: Conceptualisations of three key attributes across five disciplines**

(Source: Jones, 2009b, p. 89)

<b>Discipline</b>	<b>Critical thinking</b>	<b>Problem solving</b>	<b>Communication</b>
<b>History</b>	Examining evidence and context; discussing complexities and ambiguities; awareness of gaps and silences; awareness of political and ideological dimensions; questioning received wisdom.	Exploring causality; management skills: time, groups, projects, research.	Written – essay central form of assessment; some class discussion, presentation, debates.
<b>Physics</b>	Examining rigour, accuracy and uncertainty, predictive powers; examining assumptions; discussion of areas of debate, uncertainty, the frontiers of knowledge.	Closed and open-ended problems; well and ill-structured problems; hypothesis development testing (solved either numerically or analytically); use of mathematics as a tool of analysis; checking of accuracy, rigour.	Not the central form of assessment; laboratory reports, posters, assignments; some oral presentations.
<b>Economics</b>	Understood in the same way as problem solving.	Use of economic tools; application of theory to practical or policy issues.	Not the central form of assessment; some essays, assignments.
<b>Law</b>	Examination of argument, evidence, logic; examination of assumptions; awareness of social context; awareness of ethical issues; questioning of received wisdom.	Closely related to critical thinking; responding to hypothetical or ‘real world’ problems; concerned with outcomes and application; some concern with professional skills – dealing with clients, understanding of professional role.	Written – essays, assignments; oral communication is considered important but is not systematically included in teaching and assessment.
<b>Medicine</b>	Clinical reasoning; use of evidence-based medicine; awareness of ethical issues; professional reflection; questioning received wisdom.	Clinical reasoning; diagnostic and therapeutic skills; communication skills; based on deductive and/or pattern-based thinking; requires contextual understanding.	Oral communication is central to assessment – clinical skills, part of problem solving; clinical communication is overly taught; written communication – some assignments, essays, research reports.

## 2.5 Influences or drivers that support engagement with graduate outcomes in the curriculum

One particular interest in our study was an identification of influences or enablers that enhanced engagement with GOs across institutions. In this section we briefly refer to some of the global drivers such as aspects of socio-political reform and the Bologna Process, and the ensuing responses to such forces.

In the 1990s, the global groundswell of neo-liberalism and related political/economic agendas, and in particular a concern with quality, took the focus on educational outcomes beyond the classroom and programme to the institution and the external environment, thus creating the conditions for significant change. In the UK, Dearing (1997) was commissioned to prepare a series of reports reviewing the future of higher education. Dearing argued that since the 1960s, the development of higher education in the UK had been subjected to a series of external challenges and that such challenges would become even more influential in the future. He referred specifically to the technological and political forces driving economies worldwide. Accordingly, he proposed that “the aim of higher education [in the UK] should be to sustain a learning society [with four main purposes]:

- to inspire and enable individuals to develop their capabilities to the highest potential levels throughout life, so that they grow intellectually, are well equipped for work, can contribute effectively to society and achieve personal fulfilment;
- to increase knowledge and understanding for their own sake and to foster their application to the benefit of the economy and society;
- to serve the needs of an adaptable, sustainable, knowledge-based economy at local, regional and national levels;
- to play a major role in shaping a democratic, civilised, inclusive society.” (Dearing, 1997, item 23).

At the same time, in Europe, there were issues about the comparability of education systems. But underlying these initiatives was a more general concern about national prosperity and development (see Barrie, 2006; Bologna Declaration, 1999). To address these concerns, in 1999 European education ministers met in Bologna, Italy, with a key outcome being a declaration that aimed to establish a European Higher Education Area by the year 2010 by means of ‘harmonization’ (Dale, 2008) of the disparate systems of higher education in the region. Part of the ‘Bologna Process’, as it became known, was to promote cooperation in ensuring quality via the development of comparable criteria and assessment methodologies for collegiate learning. Out of the Bologna Process came a joint quality initiative that led to the generation of the so-called ‘Dublin descriptors’, which were a framework of comparable and compatible qualifications for higher education systems (Kehm, 2010)

Following on from the Bologna Process was the ‘Tuning Project’ (González & Wagenaar, 2003), which, in line with the harmonisation theme of Bologna, was to ‘tune’ structures in Europe with the aim of aligning curricular structures, programmes and teaching and to integrate quality standards into these. Each course, degree or programme had a set of learning outcomes specified and there was a planned shift from teacher-centred to student-centred approaches. It was in this tuning process that the details of how graduates might be equipped for work was able to be mapped out through learning outcomes and curricular experiences. The Tuning Project was initiated in Europe and then late in 2008 the Lumina Foundation began ‘Tuning USA’ – working with institutions in three states (Indiana, Minnesota and Utah) to draft learning outcomes and map these into the curriculum (see Adelman, 2008a & b; Adelman *et al.*, 2011). The Bologna Process strongly influenced these developments. Commenting on what could be learned from the process in the USA, Adelman

(2008a, p. 24) wrote: “The primary story of all our work on the Bologna Process is about providing students with clear indications of what their paths through higher education look like, what levels of knowledge and skills will qualify them for degrees, and what their degrees mean.”

As part of the drive to develop ‘human capital’ to meet the needs of the new ‘knowledge economy’, another important driver at all levels of the tertiary sector has been employability (Bridgstock, 2009; Curtis & McKenzie, 2001). Indeed, while the purpose of the Bologna Process was to create a ‘coherent’ European higher education, Schaeper (2009, citing Schick, 2005) argued that many people considered employability to be the most important objective of the Bologna reform and a comparative degrees framework was a way to achieve that. Moreover, in Europe, there is an explicit expectation that higher education institutions promote employability. As the Bologna Process was getting underway in the northern hemisphere, there was concern by employers and researchers worldwide that the post-secondary sector was not producing graduates who were equipped for work. Higher education was perceived to be failing to meet the demands of employers, governments and the economic conditions (Bennett *et al.*, 1999).

In Australia, there was a series of reports that were very critical of university preparation of graduates for the workplace (*e.g.* Hager *et al.*, 2002). In the Mayer Report (1992, p. ix) key competencies were defined as:

[e]ssential for effective participation in the emerging patterns of work and work organisation. They focus on the capacity to apply knowledge and skills in an integrated way to work situations. Key competencies are generic in that they apply to work generally rather than being specific to work in particular occupations or industries.

Similarly, in the UK, Dearing (1997) recommended that higher education institutions develop programme specifications that included ‘stopping-off points’ and expected outcomes identifying knowledge and understandings, key skills (such as communication, numeracy, information technology, and learning how to learn), cognitive skills (such as critical analysis), and subject-specific skills. Nevertheless, initiatives such as the Mayer report and the emphasis on generic skills also attracted criticism (*e.g.* Bridgstock, 2009; Clanchy & Ballard, 1995). Like Barnett (2006), Bridgstock argued that the rapidly changing world, and the world of work, required more than generic attributes: “generic skill development is an inadequate answer to the question of graduate employability” (Bridgstock 2009, p. 32). There was an increasing emphasis on the need for graduates who were able to think and learn, and who were flexible and adaptable (Fallows & Steven, 2000; Bennett *et al.*, 1999). Employers’ views of the desirable qualities of graduates were evident in the literature (see Harvey & Green, 1993; HEC, 1992; Yorke & Harvey, 2005). Other influences that paralleled these global shifts included rapidly changing technologies and subsequent knowledge access and growth. Governments responded by changing the performance criteria for funding to base it on “demonstrable graduate outcomes” (Bridgstock, 2009), especially UK, Australia and Canada and in some sectors in Aotearoa New Zealand.

The reports mentioned above gave rise to the development of frameworks that became drivers themselves. During the last two decades, there has been a great deal of research on graduate outcomes (GOs) particularly associated with Australia (*e.g.* Barrie 2004, Barrie *et al.*, 2009; Bath *et al.*, 2004; de la Harpe *et al.*, 2000; Pitman & Broomhall, 2009), much of which was calling for a systematic approach to embed GAs across curricula, in order to realise desired graduate profiles (GPs). Subsequently, the Australian Qualifications Framework (AQF) oversaw the development of a national policy for regulated qualifications in Australian education and training that involved minimum outcomes for subjects and qualifications (AQF, 2011); this policy was approved in 2011. At the institutional level, Bosanquet *et al.*, (2012) identified nine influences that may determine the choice of GAs: higher education institutions, student expectations, business and industry, academic,

government, interest and lobby groups, community values, attitudes and needs, major world and local events, and educational theory and philosophy. Several examples are readily available. For instance, though the influence of national accreditation concerning the professions has been evident for many years (e.g. the Australian Psychology Accreditation Council (APAC) and the Institute of Professional Engineers New Zealand (IPENZ)), international accreditation is a more recent trend and is becoming a significant driver of the GA agenda in universities in Australasia.

In Aotearoa New Zealand, the move to embed graduate outcomes in curricula has been relatively recent. In 2008 the New Zealand Qualifications Authority (NZQA) began a 'Targeted Review of Qualifications at Levels 1–6' in order to "ensure that New Zealand qualifications were useful and relevant to current and future learners, employers and other stakeholders" (NZQA, 2013). The result was the development of a New Zealand Qualifications Framework (NZQF), which requires all qualifications that are quality assured to specify graduate outcomes, which include three elements:

- **graduate profiles** that identify the expected learning outcomes of a qualification. This is captured in notions of what a learner will know and understand and be able to do when they achieve the qualification
- **education pathways** that identify other qualifications that a graduate could enrol into after completing this qualification. Where qualifications are standalone, and do not prepare graduates for further study, the outcome statement should make this clear
- **employment pathways** or contributions to the community that identify the areas in which a graduate may be qualified to work, or the contribution they may make to their community (NZQA, 2011, p. 7).

The Education Act was amended in August 2011. The amendments required all quality-assured qualifications in New Zealand to be listed on the NZQF and gave NZQA the power to make rules covering all qualifications listed – both university and non-university. Transition arrangements mean that by the end of 2015 all qualifications listed on the NZQF must meet the relevant new listing requirements, which include specifying graduate outcomes.

Thus there is a legislated requirement for degree-granting institutions in Aotearoa New Zealand to specify graduate outcomes that include GPs, and educational and employment pathways. While NZQA administers quality assurance for all non-university tertiary education organisations, Universities New Zealand is responsible for quality assuring all universities, and approves qualifications developed by them. The Committee on University Academic Programmes (CUAP) oversees approval and reviews of new programmes. They must now ensure that university qualifications specify graduate outcomes in the format required for NZQF.

## 2.6 Implementing graduate outcomes

The evolution of the GO movement has led to complex issues associated with their development, teaching and assessment (Badcock, *et al.*, 2010). Jones (2009a, p. 188) found a typology of barriers to implementing Gas, including:

- *Epistemological* – if attributes are generic they are not part of disciplinary knowledge, so they are not taught or assessed OR they are part of an understanding of the discipline and so will be developed as an understanding of the discipline develops
- *Cultural* – not understood as one of the central roles of the teacher so not embedded
- *Intrinsic* – GAs are complex and difficult to define
- *Pedagogical* – lack of understanding regarding the nature of attributes, a lack of experience of, or confidence in, teaching them

- *Structural* – large classes, teaching of generic attributes not actively supported by departments, top-down implementation, lack of time, emphasis on research rather than teaching (Jones, 2009a).

In their large survey of 1064 academic staff, de la Harpe *et al.* (2009, p. 54) identified ‘obstacles’ that could constrain engagement with GAs in their teaching. They included: “skill in teaching and learning”, “time and resources”, “curriculum relevance”, “student lack of readiness”, and “lack of support and bureaucracy”. These authors (2009, p. 21–23) also reported that academic staff who were positive about GAs belonged to one of three possible belief profiles: GA enthusiast (socially oriented with concern for students, employers, communities and society and likely to engage at all levels); GA agreeable (focused on issues and balance within discipline and subject, engagement dependent upon relevance to these aspects); and GA sponsor (focus on selling point for stakeholders, and attraction of students). Those that were negative or unsure were ‘sceptics’ (understood GAs as separate from discipline and were likely to remain unengaged – see also Barrie 2006). Campbell *et al.* (2009, p. 599), commenting on engineering undergraduate education, also drew attention to the challenge exerted by traditional conceptions of the engineering curriculum and of GAs, stating that it was “a challenge to integrate these professional outcomes in engineering programs in a manner that prepares students for the professional complexities of their careers”. So how can these constraints be overcome?

Although there is much reported about implementing GAs at the programme level (see below), there is a paucity of research on implementation at the institutional level. Sharp and Sparrow (2002) listed 11 factors necessary for successful implementation. These included: giving a high priority to GO initiatives; needing at least two years to implement; customisation of GAs within disciplines; leadership through a task force; change embedded in course review and development process; case studies being a useful mechanism for progress; implementation to focus on a few GAs rather than all at once; the need for professional development support; and serious engagement with the teaching and learning process.

Barrie *et al.* (2009) conducted a large National Graduate Attributes Project (National GAP) across 39 Australian universities. It identified eight systemic determinants for achieving GAs (Figure 2.1). At the base of the pyramid is ‘Conceptualisation’. According to Barrie (2006, see section 2.4), our understanding of the meaning of terms like *graduate attribute* will influence how we write policy, design curriculum, and approach the development of GAs. Variation in conceptions means that it is difficult to get a uniform approach to engagement with GAs across an institution. So the first exercise in any curriculum exercise is to obtain some common understandings of the different aspects of the activity. Barrie *et al.* (2009, p. 19) provided a series of illustrative examples of practice. They implied the need for extensive institution-wide conversations about the meaning of GAs (key and specific), why they were important, and whose responsibility it was to implement them.

The next tier in Barrie *et al.*’s pyramid was ‘Stakeholders’, including academic leaders and teachers, institutional marketing units, employers, professional associations, institutional and national quality-assurance agencies, and past, present and future university students and their families. These groups vary in how influential they are likely to be in shaping degree programmes. For example, for programmes with a vocational orientation, professional associations are a particularly influential stakeholder group because of the importance of accreditation as a gateway to a student’s future employment. Hughes and Barrie (2010) noted that there was a possible tension between vocational needs and more transformational aspirations by academics.

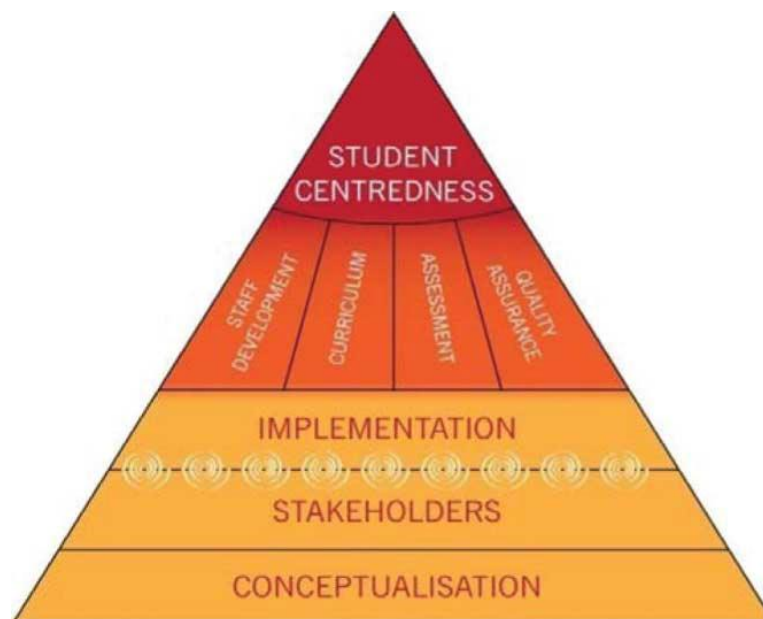
The ‘Implementation’ part of the pyramid encompasses a series of key elements including:

- staff development, which was seen as essential to support staff in any GA initiatives. Given varying conceptions of GAs, it is important for academic developers to get at the underlying assumptions of assessment and learning
- curriculum, where a whole-of-programme approach is advocated to ensure GAs are mapped throughout the programme
- assessment, which is seen as crucial to embedding GAs. Assessment must be well aligned with desired GAs, giving consideration to authenticity and the development of metacognitive abilities associated with lifelong learning
- quality assurance including multiple and complementary forms of data such as curriculum maps, student survey perceptions of their development of graduate attributes, and actual data from assessment and self- and peer-assessment tasks. Hughes and Barrie commented that “these possibilities remain largely underutilized” (2010, p. 331) and are one of the most significant drivers for effective implementation (Barrie *et al.*, 2009).

Finally, at the top of the pyramid is ‘Student-centredness’, whereby Hughes and Barrie (2010, p. 331) propose that:

...the greatest limitation of current practice is that graduate attributes are often assessed for rather than with students. The best intentions of GA assessment plans can fail to be realised if students are not made aware of these aspirations and if they are not actively engaged as partners in the assessment process.

Hughes and Barrie (2010) argued that all eight of these determinants must be addressed as a whole if change is to occur.



**Figure 2.1: The systemic determinants of achieving GAs**

(Source: Barrie, Hughes & Smith, 2009, p. 12)

Reports of implementation at the curriculum level are evident in many disciplines: accounting (Willcoxson, *et al.* 2010); psychology (e.g. Cranney *et al.*, 2009); engineering (Badcock, *et al.*, 2010; Campbell *et al.*, 2009); and business (Briguglio, 2007), to name a few. A recurring theme in

implementing GAs is that of curriculum mapping (e.g. Bath *et al.*, 2004; Spencer, Riddle, & Knewstubb, 2011; Willcoxson *et al.*, 2010). Spencer *et al.* (2011, p. 3) commented on the diversity of depth and breadth in the uses of curriculum mapping. They provided an analysis of the depth of different approaches using English's (1978) categories – the “declared, taught, and learned curriculum” – and looking at the foci of the developers. They also found a fourth category, “assessed”. In terms of breadth, they noted differences in focus ranging from subjects to whole curricula and a greater use of mapping in professionally accredited programmes such as medicine and education. According to Willcoxson *et al.* (2010), mapping involves taking each graduate attribute and associated learning outcomes and mapping them throughout the curriculum, paper by paper, to determine where they appear and how they are taught and assessed. Through this process, any gaps in teaching (and assessing) towards GAs can be determined, as well as identifying any overlaps that may occur either intentionally or unintentionally. Spencer *et al.* (2010, p. 4) described a curriculum-mapping exercise with the Faculty of Law and Management, using five stages: initial consultations with discipline academics; defining GAs; document-based data collection; coffee chats; and data analysis. The article provides a useful tool for those attempting curriculum development. Nevertheless, as Bath *et al.* (2004) caution, mapping is useful but is not the sole answer. They emphasise the need for academics to engage critically in planning, acting, reviewing and reflecting on how GAs are incorporated in the curriculum. Engaging in critically reflective practice about all stages of implementation is part of being a ‘community of practice’ (Lave & Wenger, 1991), which is likely to help those involved overcome the barriers identified above. The research of Barrie (2006) and Hughes and Barrie (2010) also suggest that an important initial step in implementation at both the institutional and programme levels is some careful consultation and education about the specific meanings of attributes, profiles, engagement, monitoring and evaluation. This may reduce the diversity of interpretations mentioned earlier. It may also be important to ensure that the rationales for regular and systematic evaluation cycles are understood and valued.

## 2.7 Summary

In this chapter we have looked at the meanings associated with GOs and some of the roots of possible confusion; the importance of beliefs and interpretations in the treatment of GOs; factors that influence or drive the GO agenda; and the implementation of GOs within an institution, and possible factors that constrain their implementation. Nearly a decade ago, Barrie and Prosser (2004) commented that discussion of generic attributes typically focused on practice, as in evaluations or reports or comparisons of initiatives at curriculum or institutional level. They argued, however, that there was little research or critical commentary on the theoretical or conceptual basis for such practice. Since they made that statement there has been significantly more research on GOs (e.g. Barrie *et al.*, 2009; Hager, 2006; Pitman & Broomhall, 2009). But there are still gaps. For example, there is a paucity of research on how students or academic leaders understand GOs. There has been very little investigation of the overall effect of the major initiatives concerning curriculum renewal.

One prompt for our research was Barrie's (2006, p. 216) statement:

the extent to which the rhetoric of [institutional] statements actually represents a shared understanding of the outcomes of a university education is a matter of conjecture. The extent to which present day university teaching and learning processes actually develop such outcomes in graduates is even more contestable.

Behind the GO agenda in Europe, the US and Australia is a great deal of funding, commitment and general agreement that GOs are important, but is this the case in Aotearoa New Zealand? We believe that New Zealand may lag behind these global developments in both research and practice. It is only recently through the ‘Targeted Review of Qualifications at Levels 1–6’ by NZQA (2010) that



there has been a focus on GOs. Indeed, under the New Zealand Qualifications Framework, all degrees must specify GOs that include a GP and educational and employment pathways. Whilst non-university tertiary education organisations have been working with a GO agenda through NZQA, it is a new requirement for universities. So, policy is now in place but what is the practice? There is a lack of research discussing whether higher education institutions in Aotearoa New Zealand provide such outcome statements, and if and how these might be translated into the curriculum. Thus, our research explores how higher education institutions in Aotearoa New Zealand are engaged with graduate outcomes. Specifically we seek to:

1. identify current policy and practice regarding GOs in higher education institutions in Aotearoa New Zealand
2. identify indicators of the impact (benefit) on students and staff of good practices relating to GOs
3. determine the necessary conditions and possible strategies for the effective development of policies and practices regarding GOs.

The next chapter describes the research approach and methods used to address these questions.

# Chapter 3: Research Approach and Methods

## 3.1 Overview of research approach

To address the research questions a mixed methods approach (after Cresswell, 2003) was adopted with quantitative and qualitative methods. As shown in Table 3.1, this research approach involved three phases:

1. A stocktake across the higher education sector
2. The collection of cases of good practice
3. A synthesis of findings.

The stocktake was targeted at leaders of teaching and learning centres and aimed to identify institutional policies and practices regarding engagement with graduate outcomes (GOs), thus enabling the identification of what factors would enable the effective development of GOs. The cases of good practice allowed for exploration of policy and practice at the programme level, thus involving perceptions and experiences of both teaching staff and students. The case studies of good practice addressed all three research objectives by enabling the identification of policies and practices that promote engagement with GOs, elucidating indicators of the impact of effective engagement on learners, and allowing for identification of factors that promote the effective development of GOs. The third and final phase involved synthesising findings to address all three research objectives.

Ethical approval was obtained for the overall study from the University of Otago, as well as approval for case-study research in the respective institutions. In the account of research methods that follows, each phase is tackled in turn, describing methods of data collection and analyses.

**Table 3.1: Phases of the research design**

Research objectives	Phase 1: Stocktake	Phase 2: Case studies of good practice	Phase 3: Synthesis of findings
Identify current policy and practice regarding GOs in higher education institutions in Aotearoa New Zealand	✓	✓	✓
Identify indicators of the impact (benefit) on students and staff of good practices relating to GOs		✓	✓
Determine the necessary conditions and possible strategies for the effective development of policies and practices regarding GOs.	✓	✓	✓

## 3.2 Research methods

### 3.2.1 Phase 1: Stocktake

To determine how higher education institutions are currently engaging with the GO agenda, we undertook a stocktake across the 29 higher education institutions within Aotearoa New Zealand. The purpose of the stocktake was not to gain a comprehensive understanding of the current state of play regarding engagement with GOs, but rather to be an exploratory analysis of current policies and practices regarding GOs. The stocktake had two parts: an online survey, and interviews with academic leaders of teaching and learning.

First we administered an online survey (Appendix A) to 29 higher education institutions within Aotearoa New Zealand, including eight universities, three wānanga and 18 polytechnic institutes. An email letter of invitation was sent to the 29 leaders of educational development units (or equivalent) with follow-up email reminders sent at appropriate intervals. The leaders of teaching and learning centres were targeted as participants because they tend to have a very good grasp of institutional policies and practices and are often charged with enacting institutional initiatives for curriculum renewal.

Sixteen leaders responded, although two responses were incomplete. Fourteen institutions completed the survey, giving a response rate of 48 *per cent*, but not all respondents answered every question. Of the 14, half were universities, giving a very good representation from this sector (7/8 or 88%), a lower representation from the polytechnic sector (7/18 or 39%), and, unfortunately, there was no representation from wānanga.

The survey was divided into six sections:

1. Institutional characteristics
2. Presence of GOs (GAs, GPIs, GPPs) in the institution
3. Development of GOs in the institution
4. Use of GOs in the institution
5. Measurement of GOs in the institution
6. Overall engagement with GOs.

The respondents were sometimes unsure of policies and practices across the institution, but gave their best estimate of the development and use of GOs within the institution. The leaders were also careful to say that often their views were personal rather than necessarily representing those held across the institution. Nevertheless, it is often the leaders of teaching and learning centres who enact the policies and who have a good grasp of institutional politics, so they are key people to gain data from regarding GO policy and practice. However, we must be circumspect if wanting to extrapolate results from this group more widely across an institution.

Second, we conducted follow-up interviews with leaders of teaching and learning centres as well as a few senior academic leaders in four universities and five polytechnics, to further explore how the institutions were engaging with GOs. Interviews were conducted by phone and were recorded. The audio files were transcribed verbatim and sent to participants for checking. To ensure anonymity of institutions, each is coded as P (polytechnic) or U (university) and given a number.

Survey data were tabulated and graphed. The freeform comments from the survey data and the interview transcripts were analysed using Thomas's (2006) general inductive approach. This

approach involves first finding themes in relation to the research objectives and secondly determining other themes that are apparent in these data.

### 3.2.1 Phase 2: Cases of good practice

In each of the four participating institutions – Auckland University of Technology (hereafter referred to as AUT University), Christchurch Polytechnic Institute of Technology, the University of Otago and Victoria University of Wellington – two cases of good practice were purposively selected. The selection criteria included:

- a mix of vocational, science and humanities degree programmes
- good practice evidenced when the graduate profile is embedded within the curriculum, and the attributes are assessed and evaluated.

However, we recognised that practice was likely to be variable and that it could be especially difficult to find cases in sciences and humanities. This is because there is a lack of external drivers for many science and humanities programmes to consider GOs, particularly in universities. Thus we broadened the criteria to allow for cases where programmes were seeking to embed GOs, and focus on processes used to bring about this change.

The cases selected in each institution are given in Table 3.2. Whilst it was relatively easy to find cases in vocational programmes, we struggled to get cases in science and humanities. Thus the cases are biased towards more vocational programmes.

**Table 3.2: Case studies of engagement with graduate outcomes**

<b>AUT University</b>	<b>Christchurch Polytechnic Institute of Technology</b>	<b>University of Otago</b>	<b>Victoria University of Wellington</b>
Bachelor of Health Science (Physiotherapy)	Bachelor of Applied Science	Bachelor of Music	Bachelor of Commerce (Marketing)
Bachelor of Tourism Studies	Bachelor of Broadcasting Communications	Bachelor of Oral Health	Bachelor of Design Innovation

Data relating to each case were generated through surveys, interviews and focus groups with staff and students, as well as degree and course documentation. The focus of data collection was exploring how GOs were understood and used in the curriculum. The design of the survey was informed by background literature as well as the results from Phase 1. Similar protocols of data collection were applied to all eight cases to allow comparability of data across cases. The survey for staff is given in Appendix B and the survey for students in Appendix C. The interview questions for staff and students are in Appendices D and E respectively. The overarching focus of these surveys, interviews and focus groups was to determine:

- What constitutes GOs in the context of the case?
- Why and how do the departments and programmes use GOs in the construction of their curricula?

- Is there access to institutional support for the implementation of GOs, and if so, what is the nature of the support?
- How do students understand GOs and do they track their progress as they achieve them?
- Do students and staff perceive any benefit from the implementation of GOs?

The interviews and focus groups were recorded and the audio files were transcribed verbatim. In terms of data analyses, in the first instance, each case was treated as a single unit. Survey data were tabulated and interview and focus group transcripts were analysed using Thomas's (2006) general inductive approach described earlier. Thus cases were grounded in their specific contexts and constructed through an inductive approach resulting in the identification of within-case themes.

### **3.2.1 Phase 3: Synthesis of findings**

In this phase of the research a synthesis of findings was conducted across the various data sources. Two main forms of synthesis were undertaken. First, to assess the level of engagement with GOs we drew on the concept of 'e-Learning Maturity Modelling (eMM)' (see Marshall & Mitchell, 2003), which evolved from the Capability Maturity Model (Paulk *et al.*, 1993) and SPICE (Software Process Improvement and Capability dEtermination, El Emam *et al.*, 1998). The Maturity Model is premised on the notion that for an institution to be effective in a particular area of work, it must be engaged in processes that are reproducible and sustainable. To apply the model, the facets contributing to engagement are teased out and analysed separately. In our synthesis we applied the Maturity Model in two ways:

1. To compare engagement with GOs across higher education institutions. In this analysis we determined six indicators of engagement: planning for GOs; systems to embed GOs; delivery of GOs; assessment of GOs; evaluation of attainment of GOs; and professional development support for GOs.
2. To compare embedding of GAs in curricula across our eight cases of good practice. In this analysis we also had six indicators for embedding: planning for GAs; links between GAs and learning outcomes; links between GAs and assessment; staff awareness of GAs, student awareness of GAs; and monitoring of attainment of GAs.

We used a five-point colour rating to indicate, in a qualitative sense, the level of engagement or embedding, ranging from dark blue to indicate very strong engagement/embedding through to light blue for very weak engagement/embedding.

The second part of our synthesis involved analysing the Maturity Modelling detailed above, as well as drawing on themes emerging from the stocktake survey, interviews with leaders and case-study data. We were seeking themes that cut across institutions and cases, and wanted to determine at which levels (institutional, programme, lecturer or student) they were occurring. Moreover, the analysis enabled us to identify indicators of the impact (benefit) on students and staff of good practices relating to GOs.

These two analyses allowed us to identify and describe the necessary conditions and possible strategies for the effective development of policies and practices regarding GOs.

## **3.3 Summary**

To explore how higher education institutions in Aotearoa New Zealand are engaged with GOs, our research uses a mixed methodology approach. We have three phases of research design: a stocktake survey across the higher education sector as well as interviews with leaders of teaching

and learning centres and a few other academic leaders; the collection of eight cases studies of programmes where GOs are either well embedded or where there is curriculum renewal underway to embed them; and a synthesis of findings across all data sources. The next chapter reports the first set of results from the stocktake survey to discuss the use of GOs in higher education institutions in Aotearoa New Zealand.

# Chapter 4: The Use of Graduate Outcomes in Higher Education Institutions

## 4.1 Introduction

In this chapter we present findings from the stocktake survey that was completed by 14 institutions across the tertiary sector in Aotearoa New Zealand. In reporting the findings, because not all respondents answered every question, there is some variability in sample sizes – this is indicated in the figure captions. Moreover, for many questions, more than one answer was possible. Please bear this in mind when reading this chapter. First, we give the characteristics of the institutions that responded and in section 4.3 we consider the presence and policies for graduate outcomes (GOs) in these institutions. In section 4.4 we describe how GOs were developed, and in section 4.5 we examine how they are used within the institutions. In section 4.6 we report on measurement and monitoring of GOs, and finally, in section 4.7, we discuss overall views on GOs.

## 4.2 Institutional characteristics

Half of the survey respondents were from universities and half were from polytechnics. Of the 14 institutions, five (all universities) identified as having a very strong research intensity, three with strong, four with reasonable, and one each for weak and very weak (Figure 4.1). Regarding teaching culture, three identified as having a very strong teaching culture (two polytechnics and one university), five have a strong teaching culture (all polytechnics), four a reasonable teaching culture (all universities), and two universities said they had a weak teaching culture.

## 4.3 Graduate outcomes in institutions: Presence and policies

One of the 14 institutions did not offer degree programmes, but rather it offered two-year diplomas that articulated to degrees with a partner university. Of the 13 degree-granting institutions, three universities had an institutional graduate profile (GPI), 12 institutions had graduate profiles for all degree programmes (*i.e.* GPPs) and one had graduate profiles for some degrees. Of the 14 institutions, 10 had lists of generic attributes or outcomes, seven had subject-specific attributes, four included education pathways, five included employment pathways, and two included contribution to the community.

### 4.3.1 Types of graduate outcomes

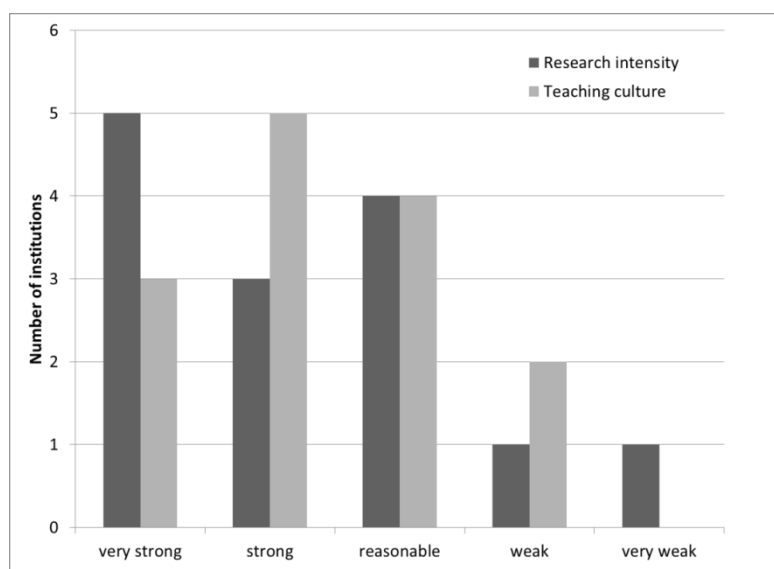
A range of outcomes was identified by institutions for their graduates. These included a graduate being:

- a global citizen
- a critical thinker
- a life-long learner
- an independent learner
- a scholar
- a leader
- caring, well-rounded and creative
- connected and ready for the workplace.

As one respondent commented:

...graduates will have acquired increased general and specific knowledge; a global perspective; information seeking and analysis capability; research; and presentation skills...graduates will have developed self-esteem and experience to contribute to the unique dual heritage of Aotearoa New Zealand (P2).

Three polytechnics and one university valued distinctiveness so that their graduates stand out from the crowd.



**Figure 4.1: Self-rating of the strength of the research and teaching culture at the participating institutions (n=14)**

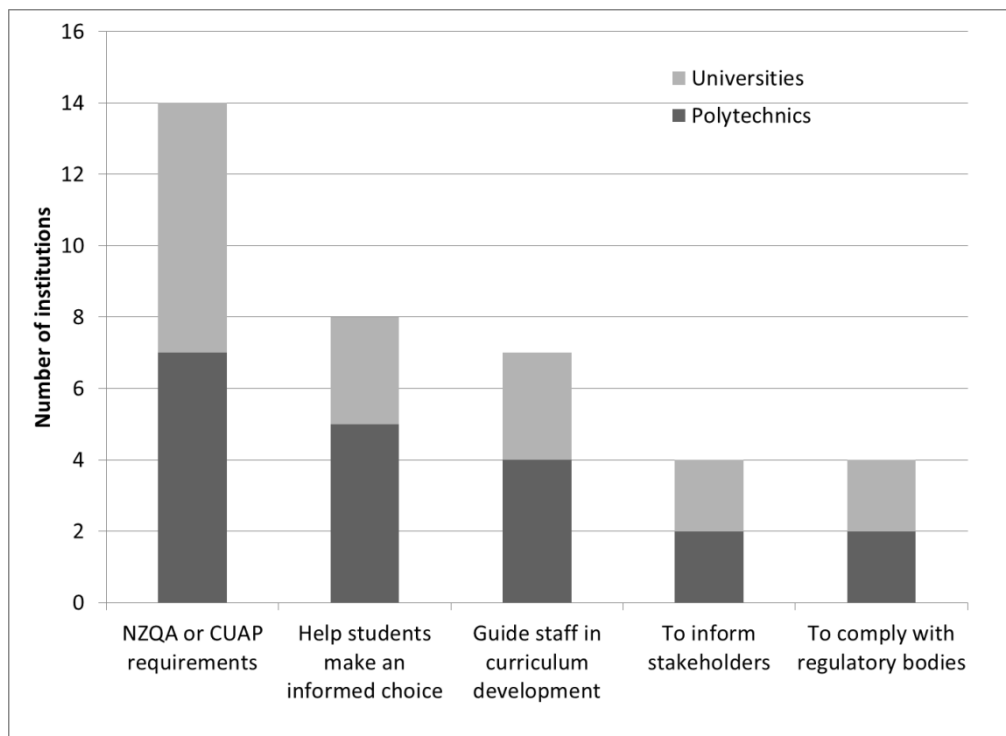
### 4.3.2 Reason for having graduate outcomes

When asked why their institution has graduate outcomes, all said they had them because of either NZQA or CUAP requirements (Figure 4.2). Moreover, eight said they had them to help students making an informed choice in regard to their qualification and career (P3, P4, P5, P6, P7 and U2, U5, U6), and also to help and direct staff in their teaching and curriculum development (P3, P4, P5, P6 and U1, U4, U6). Stakeholders were another important reason for having graduate outcomes (P2, P3 and U4, U6), with one commenting, “It is a commitment to our bicultural focus; a commitment to the community; and knowledge of soft skills that the employers want” (P2). Governance and good practice were the motivators for two universities (U4 and U6) to include GPPs and also to help prioritise academic staff resources. The need to comply with national regulatory bodies was another motivator (P5, P6 and U3, U6) as illustrated by the comment “I suspect we have them because of compliance issues” (U3).

When asked whether there had been any recent strategic shifts in the institutional ‘game plan’ that might prioritise GOs, five said there had been (P2, P4, P5 and U2, U6). Such shifts though might be indirect, as illustrated by this comment:

...not specifically or directly. However, indirectly there is an increasing emphasis on examining graduate attributes from the perspective of the contribution that graduates make to our communities in ways economic; social and otherwise. This is producing an imperative for greater inclusion of graduate attributes in organisational thinking and strategy (P1).





**Figure 4.2: Reasons given for why the institution has graduate outcomes (n=14).**

Note: NZQA is the New Zealand Qualifications Authority and CUAP is the Committee on Universities Academic Programmes.

## 4.4 Development of graduate outcomes

Six institutions (P2, P4, P5 and U2, U4, U6) said they had developed an institutional graduate profile (GPI) of generic graduate attributes as an institutional initiative. For example, the respondent from U4 commented, “The generic attributes were developed by Council and announced to the university as part of a previous university strategic plan.” A couple of institutions (P4 and P5) said it was also a grass-roots initiative, being led by educational developers who were promoting the use of outcomes as a core element of good learning design.

For the 13 degree-granting institutions, eight reported developing graduate profiles for their qualifications because of an NZQA requirement, and four reported it was a CUAP requirement. Thus, there was a strong element of having GPPs for compliance reasons for accrediting bodies. For example, the respondent from P3 commented, “Graduate profiles have always been required as part of qualification development activity and this information has been required by ITPQ/NZQA.” However, many institutions also have them to help ensure students’ preparedness and others saw them as a key element of programme design. Although knowing they were fundamental to sound design, there was a recognition that much work still needed to be done in many institutions to embed them. This is illustrated at U1, where the respondent commented:

I would imagine that it was in recognition of the need to synchronise the whole programme. To be honest; links between the Grad Profile, the curriculum design,; LOs and assessment are still an area that our unit has to do a lot of work with staff on. Some don't seem even to have encountered the concept before, let alone be able to articulate the reasons for it.

Five institutions (P2, P3, P4, U1, U7) said they had a framework for the development of GOs, whilst another commented, “No – it was a fraught process. In revising of graduate profile a working group with representation across the university was tasked with this. At programme level, lecturers develop them, often in response to professional bodies” (U6). In terms of the specific processes, some institutions used a mixture of course teams and working parties, while at others the GOs were developed by committees of academic stakeholders. Sometimes academic developers were brought on board to assist with the process and in other cases they were developed through seminars with accrediting bodies (such as Commerce with AACSB). In many cases professional bodies or other community stakeholders were involved in the development of GPPs, particularly when a qualification was being developed in response to a specific need from an organisation. For example, the respondent from P4 said:

Under the new Tertiary Review of Qualifications over the next five years all stakeholders including industry and staff in the ITP sector from representative institutions will progressively work on all sub-degree level programmes; especially those covered by Unit Standards.

In the universities, for more vocationally oriented programmes in Engineering, Business, Education Law and Health Sciences, there was close liaison with accrediting bodies in the development of GPs.

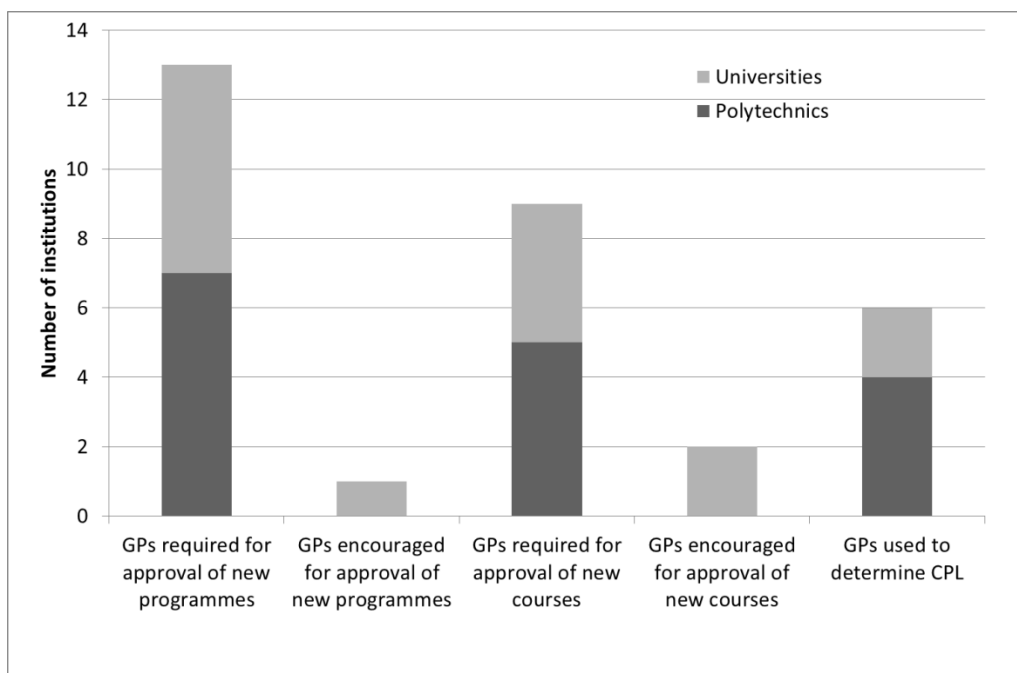
## 4.5 Use of graduate outcomes in the institution

Graduate outcomes are used for a range of purposes in higher education institutions. Figures 4.3 to 4.5 show the various uses of GOs with further detail provided in Appendix F. The use was categorised into administrative, pedagogical and other uses, but note there may be some overlap in categories. For example, although GPs may be required for programme approval, the reason for this is firmly grounded in a desire for sound pedagogical design of the programme.

Figure 4.3 shows the administrative use of GOs. In all institutions GPs were required in the documentation for approval of new programmes. Most institutions also required them in the documentation for approval of new courses and six institutions used them to determine accreditation of prior learning.

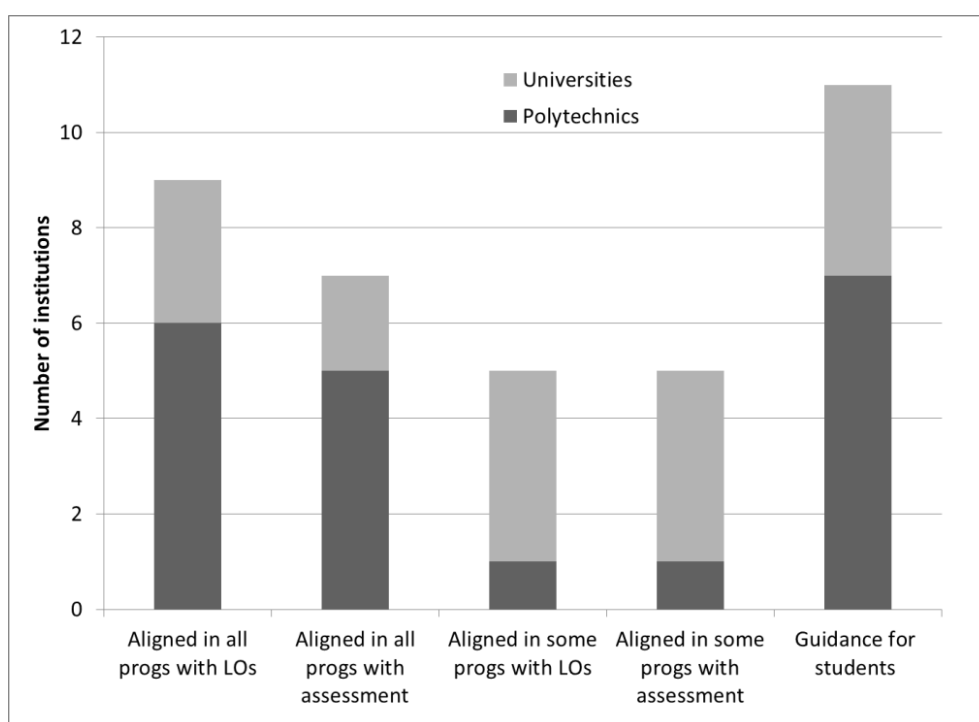
Figure 4.4 shows the use of GOs for pedagogical purposes in the institutions. At the sub-programme level (*i.e.* for courses and modules), it is the GAs that are the relevant graduate descriptor. In the polytechnics six out of the seven reported GAs as being mapped throughout their programmes and intentionally aligned with learning outcomes, and five said they were also aligned with assessment. For the universities, three said GAs were mapped throughout their programmes and intentionally aligned with learning outcomes, with two commenting that GAs were also aligned with assessment. However, four universities reported that GAs were mapped throughout *some* degree programmes and only three said they were also aligned with assessment in *some* programmes. Eleven institutions reported using GAs to provide guidance for students regarding the attributes they should acquire.

Figure 4.5 shows the use of GOs for other purposes. In most institutions GOs provide guidance for employers and other stakeholders about the attributes of graduates as well as being used for quality assurance purposes. Nine institutions also reported using them for quality enhancement purposes, and in five institutions they are also used to inform extra-curricular activities. Two polytechnics reported also using them for marketing purposes.



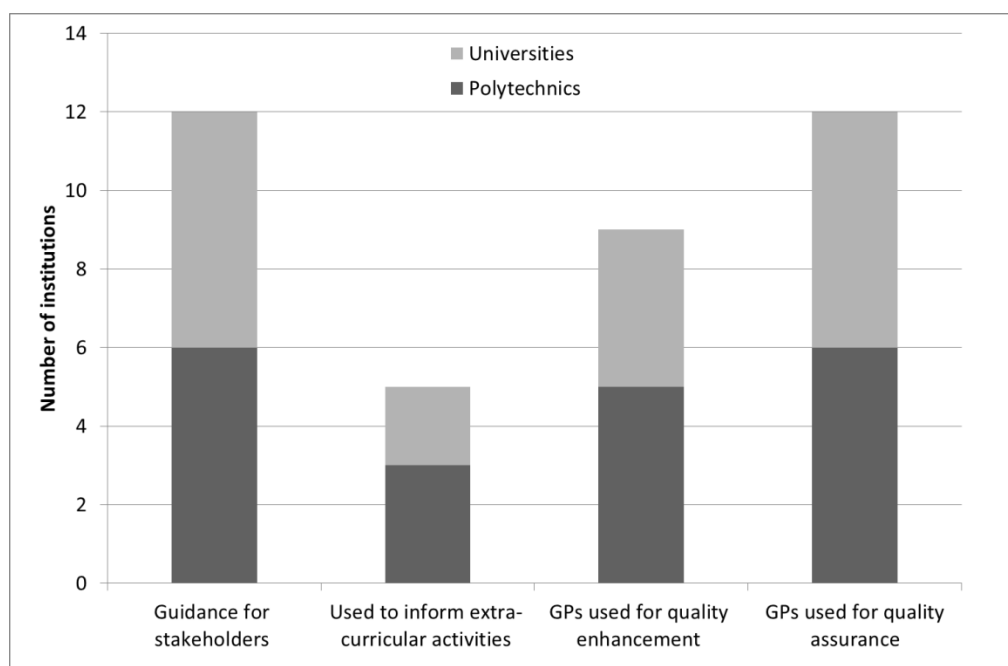
**Figure 4.3: The use of graduate outcomes (GOs) for administrative purposes (n=13)**

Note: Further detail is provided in Table F.1. GP is graduate profile.



**Figure 4.4: The use of graduate outcomes (GOs) for pedagogical purposes (n=13)**

Note: LOs are learning outcomes. Further detail is provided in Table F.2.



**Figure 4.5: The use of graduate outcomes (GOs) for other purposes (n=13)**

Note: GP is graduate profile. Further detail is provided in Table F.3.

#### 4.5.1 Link to policies

Out of the 15 institutions 10 responded, with eight saying GOs were linked to policies (P2, P3, P5, P7 and U1, U3, U4, U7), while one university and one polytechnic said they were not. Some examples given of GO inclusion in policies were programme portfolios, the institutional teaching and learning plan, and programme development, approval and accreditation policies. However, there was also recognition that while GOs may feature in policies, staff may not put these into practice. For example, one respondent said, “I don’t in all honesty think that most teaching staff ‘promote’ the concept of graduate profiles albeit that they most often will have mapped and re-articulated graduate attributes in accordance with their discipline” (U3).

In only three institutions (P1, P2 and U2), teaching and learning awards emphasised engagement with GOs. However, in institutions where this was not a criterion, there was recognition that such engagement was part of good teaching practice. For example, one respondent commented, “There is no emphasis but staff making links with them would receive a positive response from the committee” (U4).

#### 4.5.2 Support for staff engagement with graduate outcomes

In terms of informing managers and leaders about GOs, programme development processes were the main vehicle as well as an expectation that such leaders were expected to read policies. Most institutions informed their teaching staff of GOs through the processes of programme development, while four polytechnics (P1, P4, P5, P6) and three universities (U1, U5, U6) also used workshops and two others (P3, P6) ran specific courses. One university respondent commented on the process:

The ones who attend our workshops are inducted into the synchronicity of the whole deal. The ones who don't attend may well be inducted through their departments and faculties; but we still find ignorance of the process and importance of graduate

profiles when we work with staff; including some who have been here a good while (U1).

Another university respondent (U6) commented on how the process could be very patchy.

Seven institutions said they provided professional development support specifically for engagement with GOs, while two others provided generic support. Such support was typically provided by educational developers, professional development bodies, and senior academics. Five institutions said no professional development support was in place to promote the use of GAs in curricula.

Despite many institutions having policies for GOs, there was recognition though that staff can be remiss about reading and enacting policies.

### **4.5.3 Support for student engagement with graduate outcomes**

Most institutions said they inform students about GOs through student handbooks, which are given to students at enrolment, but like staff, it cannot be assumed that students will read this material. Thus, there are usually other mechanisms put in place to inform students of GOs, although the widespread use of a range of such means is not guaranteed. For example, U7 said:

This is impossible to characterise for the entire University. Some students, in some programmes, will be provided with more information in these areas, such as through pre-employment briefings or capstone courses or experiences. Others will have very little engagement or recognition of anything outside course-by-course learning objectives and outcomes.

So, as well as handbooks, other methods include teachers discussing GOs as part of their courses, institutional induction processes, student learning and career advisors, and discussions with employers.

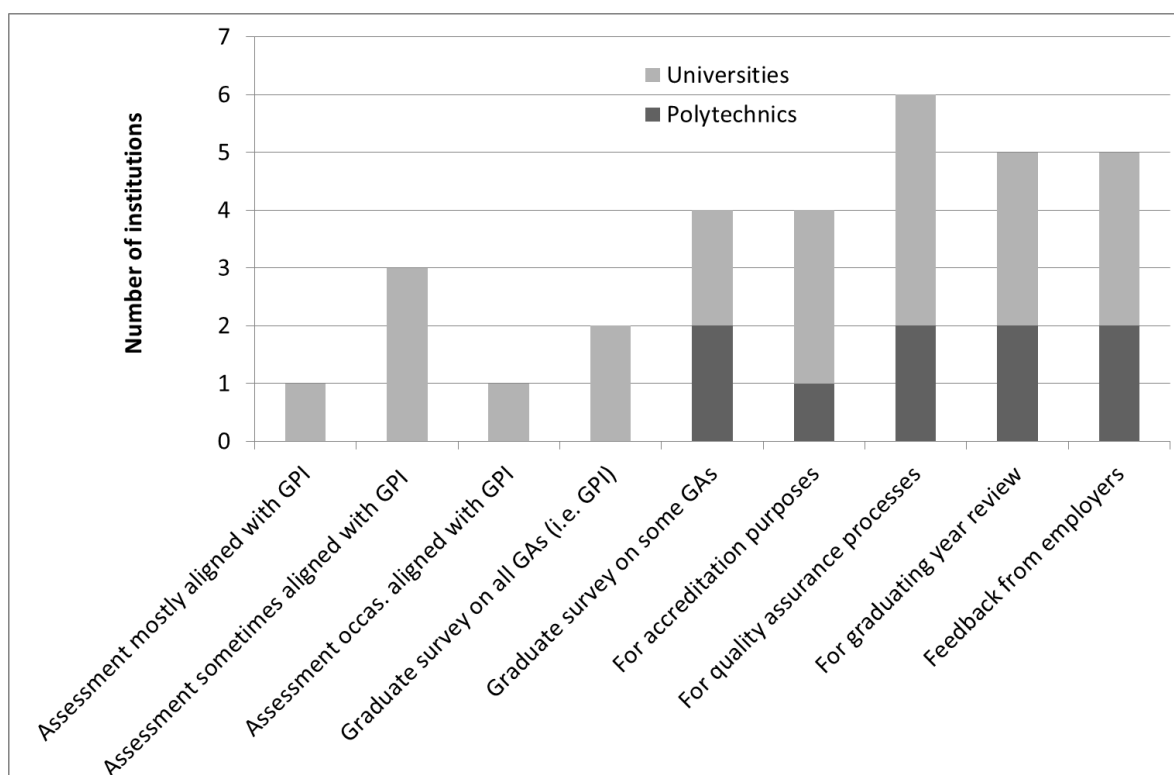
Five institutions (P3, P4 and U1, U3, U5) have no coordinated processes to help students track attainment of GOs, but five polytechnics (P1, P2, P5, P6, P7) said they use formative, summative assessment and workplace-based learning allowing learners to receive real time feedback. Three more polytechnics (P2, P3 and P7) help students to actively track their progress towards attainment of GOs by comparing learning outcome and achievement at the end of course, and/or students have to produce a portfolio at the end of their studies. The process is more variable in universities, but in professional courses, it is more likely that there will be processes to help students track attainment of GOs. Some universities use ePortfolios, either for specific programmes (U6) or more widely (U2).

## **4.6 Measurement and monitoring of graduate outcomes**

Many institutions (P5, P6 and U1, U3, U6) said they use both formative and summative assessment to measure GOs. A university respondent (U6) said, "One would expect that attributes are embedded in the papers and assessment and that achievement of grades in papers/assessments let students see whether and how well they are developing the qualities and skills needed." However, it was recognised that while assessment should be well aligned with outcomes, the link may not always be that clear – particularly to students. As Figure 4.4 shows, most institutions have GOs aligned with assessment in either all or some programmes.

Figures 4.6 and 4.7 show the methods of measuring and monitoring graduate profiles at both the institutional (GPI) and programme levels (GPP). Several institutions do not have a GPI, but for those that do, this tends to be measured through assessment processes (though with varying levels of

alignment), surveys of graduates reporting on perception of attainment of GOs, data for accreditation, graduating year review and quality assurance processes, and feedback from employers (Figure 4.6).

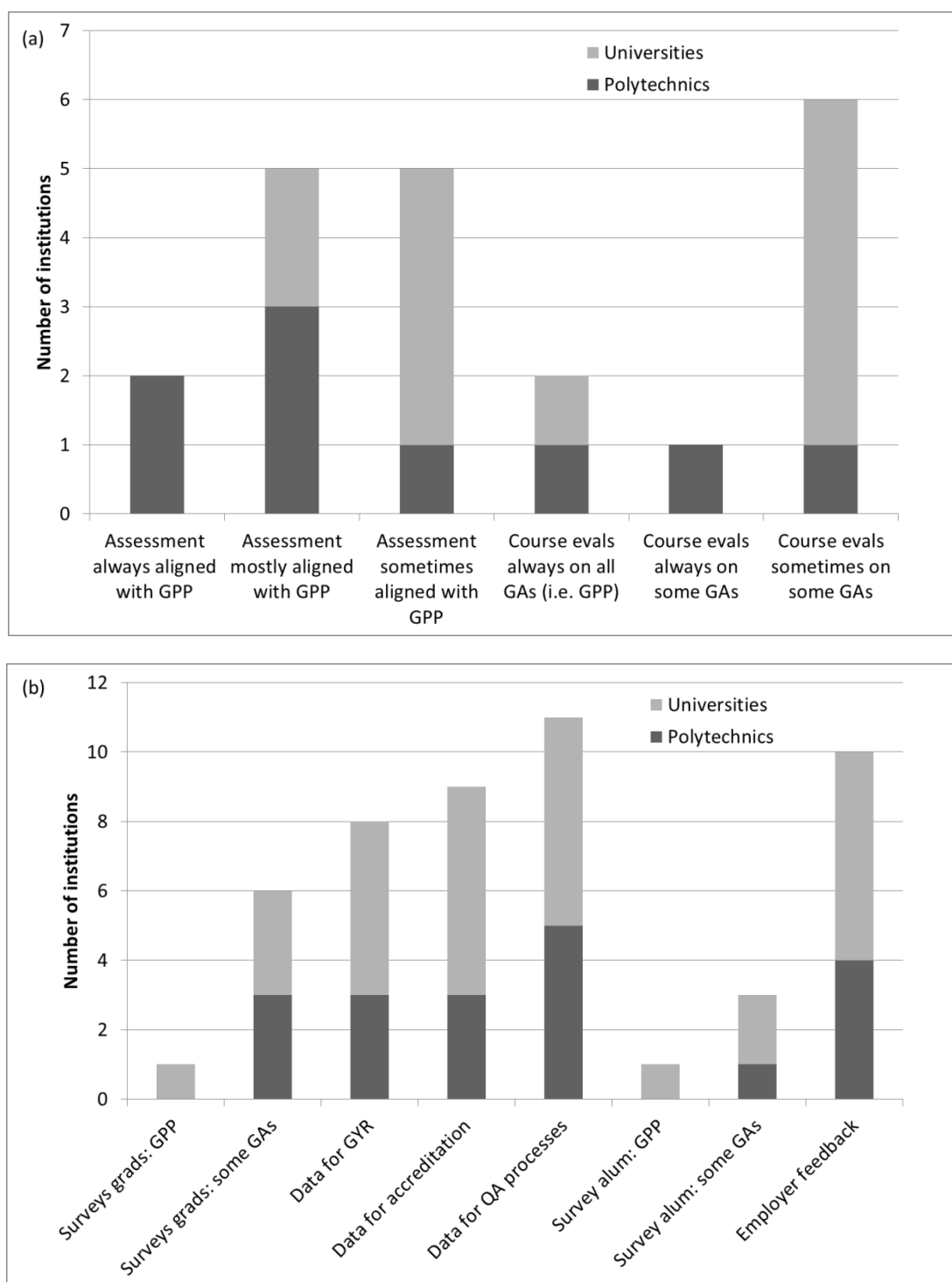


**Figure 4.6: Measurement and monitoring of achievement of the institutional graduate profile (GPI)**

Note that P1, P5, P7, U1 and U7, have no institutional profile and P4 and P6 did not answer this question. Further detail is provided in Table F.4.

Figure 4.7 shows monitoring of GOs across thirteen institutions. The methods include assessment (but again with varying levels of alignment), quality assurance processes, feedback from employers, course evaluations, accreditation and graduating year review processes. Graduate surveys are also used to monitor attainment of GOs and occasionally alumni are surveyed as well. In two polytechnics (P2 and P6) assessment was *always* aligned with the GPP, and in three more it was *mostly* aligned (Figure 4.7a). In the universities it was more common for assessment to be *sometimes* aligned with the GPP, and in five universities *sometimes* course evaluations asked about achievement of *some* of the GAs. In P3 and U2 *all* course evaluations asked about achievement of *all* GAs (i.e. achievement of the GPP). Across all institutions the most common form of monitoring was via data for quality assurance processes, followed by employer feedback, data for accreditation processes and data for graduate year reviews (Figure 4.7b). Four institutions (P6, U1, U2 and U7) reported surveying alumni for feedback on attainment of GOs.

When asked *why* monitoring of GOs was undertaken, the reasons given included this being an integral part of self-evaluation and engagement with continuous quality improvement and assurance, as well as to ensure relevance and currency for students and stakeholders.



**Figure 4.7: Measurement and monitoring of achievement of graduate outcomes**

Further detail is provided in Table F.5. Note GAs are graduate attributes, GPPs are graduate profiles for programmes, GYR is Graduating Year Review and QA is quality assurance.

It was apparent that not many institutions were routinely informing staff and students of the results from monitoring GOs. Although staff were sometimes informed of monitoring results, students were seldom informed. For the few that did inform staff and students, mechanisms used included reports from surveys, employer, alumni and other stakeholder consultation, graduating year reviews and accreditation reports. One respondent (U7) commented:

This depends on the college and/or programme involved. Externally accredited programmes tend to have higher levels of briefings for staff regarding the processes and monitoring of students' attainment of graduate profiles. Informing students of these same processes is generally a less common occurrence. In accomplishing this, graduating year reviews and accreditation reports are probably the two most common and recognised forms of monitoring the progress and attainment of graduate profiles. Depending on the specific programme, these may or may not also require programme-wide briefings for academic staff and, on occasion, students.

## 4.7 Overall views on graduate outcomes

We asked respondents to what extent they agreed or disagreed with the statement that “graduate attributes should be driving learning in higher education institutions”. The results are shown in Figure 4.8. Six respondents (P3–P6 and U2, U6) strongly agreed, four agreed (P1, P2 and U5, U7), three were neutral (U1, U3, U4) and one disagreed (P7). Of those who strongly agreed, typical comments were:

KEQ<sup>1</sup>3 requires providers to identify/understand/meet learner and stakeholder needs and expectations. KEQ2 relates to understanding the value of outcomes for stakeholders/learners. Well-developed and well-informed graduate profiles/outcome statements that are integrated within curricula, delivery and assessment and effectively evaluated assist with achieving these KEQs (P3).

They reflect what our community finds important for all students to learn during their time at our institution – they reflect our institution mission, values and strategic objectives (P5).

As a personal response, I believe in an outcomes-based approach to designing curriculum and hence learning. By specifying GAs I see this as a really useful vehicle to bring about curriculum renewal. I am not interested in standardised GAs across degrees, but do have a strong desire to see lecturers consider more than just knowledge in their teaching (U6).

For those agreeing with the statements, comments included:

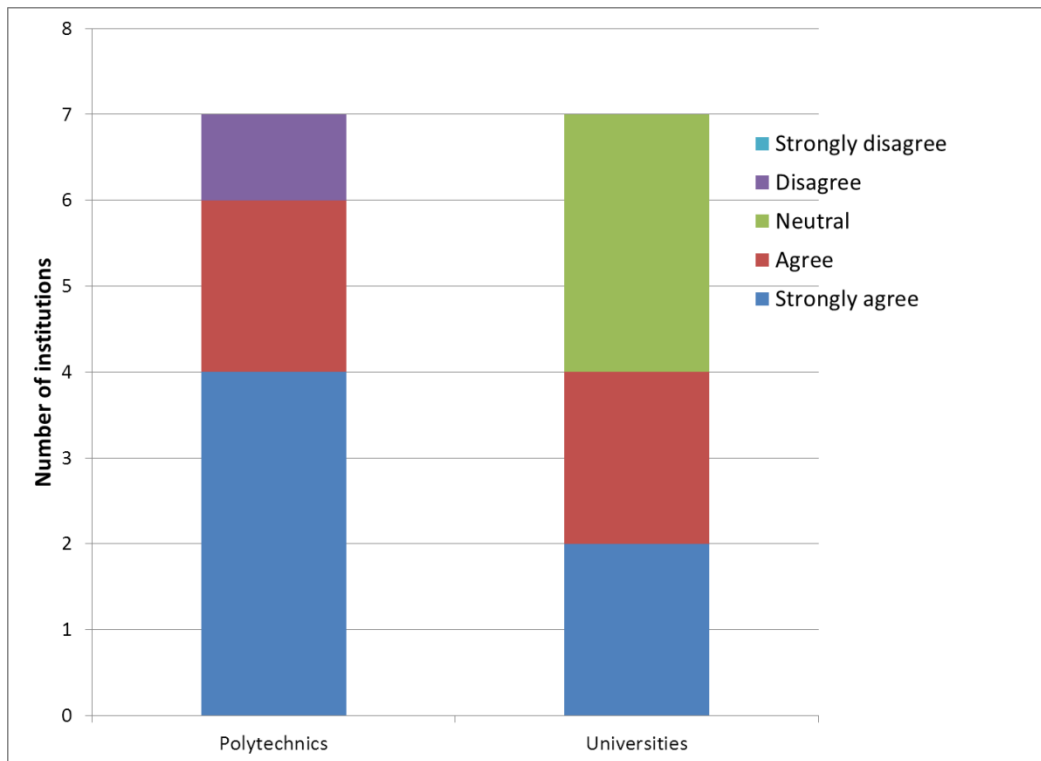
Graduate attributes are the outcomes from engagement in educational activity. Educational institutes should be focused on the outcomes they achieve and strive to match these with the needs of their communities (P1).

This is one driver in conjunction with good pedagogy delivered in a manner that is acceptable to students and useful for the relevant employer group (P2).

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<sup>1</sup> KEQ is Key Evaluation Question, used as part of external evaluation and review processes.





**Figure 4.8: Views on whether GAs should drive learning in higher education institutions**

I regard them as an important part of helping to focus and assess a curriculum. Yet there are many aspects of this process that are fraught: for example, external accrediting bodies are now, in many ways, ‘pre-defining’ graduate outcomes and profiles. Obviously in some ways that is beneficial and sound (*e.g.* it’s helpful if all the accountants practise similarly and sensibly, that all the mechanical engineers graduated can design bridges that hold, *etc.*). But industry imperatives are not necessarily educational ones, particularly with respect to ‘deep learning’ or long-term pedagogical approaches and needs. Further, it’s quite possible to create nearly perfect paper trails, with apparently unquestionable progress and success in student attainment of graduate attributes. But the paper trail may not bear much resemblance to reality. There are also programmes in which a culture of academic excellence may not be improved upon (and indeed, may partly suffer) by too much of an emphasis on graduate attributes. Because graduate descriptors are, in some contexts, the ‘minima’ desired from all graduates, they could serve on occasion to ‘lower the sights’ (rather than raise them). Personally, I see them as necessary and useful, particularly at programme/disciplinary levels – but they can only form one part of an effective curricular development and quality assurance process (U7).

Comments from respondents who were neutral included:

It depends on how the attributes are developed. If they are developed in close consultation with ALL stakeholders, I’d agree; however, I think that this is frequently not the case (U1).

Students have no ownership over graduate attributes as we articulate them. We should ask the question: what is the purpose of a university education in a complex ever-changing world? Let’s get employers and students more involved (U3).

Attributes express generic expectations; learning is always specific for the individual student; the attributes support and inform our systems but the driving of learning is something that depends on the passion of the individual student and the ability to go beyond the generic to the specific elements of the discipline that inspire the student to engage (U4).

Finally, the comment from P7, who disagreed that GAs should be driving learning, was:

In the ideal world the learners would drive the learning not the graduate attributes, and each student would have an individualised learning plan which is not driven by the qualification or by the industry, but by the values of the students and their perceived place in society or a place they wish to attain (P7).

From the range of responses, it is clear that while many respondents felt that GAs should be used as an integral part of curriculum design, there are some issues with how they are developed, particularly regarding stakeholder input, as well as how well they are embedded in the curriculum. Moreover, there is the recognition that ideally students should be driving their learning. However, as voiced by one respondent, “The process of developing them by the programme teams is more important than the final words – the process motivates staff to be more collegial and to recognise their collective engagement and responsibility for the programme” (U4). Certainly, the use of GAs to drive collegiality and curriculum renewal should not be overlooked.

## 4.8 Summary

In this chapter we have presented results from the stocktake survey across the higher education sector. We had a response rate of 48 *per cent* with 14 leaders of teaching and learning centres participating in the survey. It is clear from the results that there is patchy engagement with a GO agenda. While specification of learning outcome statements is required in all institutions for approval of new programmes, only nine required such statements for approval of new courses. In some institutions all GOs were aligned with learning outcomes and assessment and this practice was more common in polytechnics; some GOs were well aligned in university programmes. Graduate outcome statements tend to be used for a mixture of administrative, pedagogical and quality assurance processes. The majority of leaders either *agreed* or *strongly agreed* that GOs should be driving learning in higher education institutions. Whilst the survey has enabled identification of broad trends in policy and practice regarding GOs in higher education institutions, more detailed data was gathered through interviews with a sample of the leaders who completed the survey. The results of these interviews are reported in the next chapter.

# Chapter 5: Enablers to Engagement with Graduate Outcomes: Leader's Views

## 5.1 Introduction

The results reported in this section derive from an analysis of the data generated by the interviews with leaders of teaching and learning centres as well as a few senior academic leaders in four universities (U2, U4, U5 and U6) and five polytechnics (P2, P3, P4, P5 and P6).<sup>2</sup> Specifically, the results focus on 'what enabled or constrained the development of curricula to support graduate outcomes in the institutions'. The intention of this section is not to *compare* institutions but to give an overview of what helps to embed GOs in curricula and provide a resource for future planning within higher education institutions. The interview data were analysed using a general inductive approach (Thomas, 2006) that revealed five kinds of enablers evident to some degree in all the leaders' data:

- A) *External drivers* – forces to which institutions were required to respond or that they perceived they were responding, or should respond
- B) *Structural and procedural enablers* – those that facilitated or engaged staff and communities within the institution to become aware of or work towards change in practice in regard to GOs
- C) *Developmental enablers* – those that assisted staff/groups/departments to introduce and develop GOs and embed them in curricula, or undertake some curriculum development
- D) *Achievement enablers* – those that were concerned with how students are assisted to achieve a GP
- E) *Contextual enablers* – generic institutional and/or individual cultural/affective qualities that crossed the four forms described above and made them more or less effective.

It should be noted that the results reflect each *leader's role* in the institution (they differed in seniority and level of responsibility) and their *individual* focus at the time, which, in turn reflected *the concerns of their institutions* at that moment, rather than a complete set of factors that may have been influential in each institution. The categories are described below.

## 5.2 External Drivers (A)

External drivers were those forces to which institutions were required to respond or that they perceived they were responding, or should respond. They included: statutory accreditation bodies such as the New Zealand Qualifications Authority (NZQA) and the Committee on University Academic Programmes (CUAP); professional accreditation bodies and trades organisations such as the Physiotherapy Board or international business accreditation authorities; potential students; the education market; and international educational trends (Table 5.1).

Leaders identified different external drivers according to the educational role and the size of their institution. For instance, the NZQA as a *statutory accreditation body* played a significant role as an external driver in the polytechnic sector. All polytechnic programmes are subject to the curriculum requirements of the NZQA, which, through the NZQF, requires graduate outcome statements that

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<sup>2</sup> Interviews were conducted with 10 leaders in nine institutions resulting in 10 sets of data.

include the GP and the educational and employment pathways of programmes.<sup>3</sup> In this role, it is a significant enabler. In addition, the NZQA's Targeted Review of National Qualifications (NZQA, 2010), was referred to by several of the polytechnic leaders. In contrast, leaders in the university sector made little reference to CUAP, which receives and approves proposals from universities for all new courses and programmes. *Professional bodies and trades organisations* were mentioned as an external driver in all but one of the institutions. They were most commonly associated with the health professions such as nursing, physiotherapy and oral health, or business. In the latter, the focus was international accreditation through The Institute of Professional Engineers (IPENZ) or the Association to Advance Collegiate Schools of Business (AACSB). More often in the polytechnics, employers were also understood as external drivers:

...we've...made it a huge drive on robust stakeholder engagement, ensuring that our qualifications align with what stakeholders need and expect and what institute expectations and also what students...want to learn. It's not all about industry. It's what students want to come and study as well (P3).

**Table 5.1: Summary of leaders' emphases in the interview on external drivers of engagement with graduate outcomes**

Note that other factors may have been influential, but the ones reported here were emphasised in the interviews.

Enablers	Institution								
	P2	P3	P4	P5	P6	U2	U4	U5	U6
Statutory accreditation bodies (NZQA, CUAP)	✓	✓	✓	✓	✓			✓	
Professional accreditation bodies/Trades organisations		✓	✓	✓		✓	✓	✓	✓
Employers, employer groups	✓	✓	✓	✓				✓	
Potential students and enrolment		✓		✓	✓				
Institutional branding/educational market	✓	✓		✓	✓	✓		✓	
Threats to the viability of the institution		✓							
International educational trends			✓	✓		✓	✓		✓

The relationship between the employer groups (as external drivers) and structural and procedural enablers (see below) was often linked through Programme Advisory Committees:

...every school has an advisory committee and they are people from industry and from the community who provide feedback to the particular school on developments in that subject area and that...has started to come in... (P5).

For P2, the on-going development of GPPs was driven by this relationship: "We wanted some clarity for employers. ...it's probably the main trigger" (P2).

<sup>3</sup> Note that universities must also now adhere to the NZQF requirements but at the time of the interviews, this was not the case.

Only one university reported a similar relation with stakeholders: "...most, if not all, programmes would have...a Programme Advisory Committee, which is made up of academics on the programme but also the industry stakeholders for that particular programme" (U5). However, this relation was also perceived as a constraint: "although maybe it's time to change now. ...there are some questions being asked now about the role and the relevance of these programme advisory committees in a more research-oriented kind of framework" (U5). However:

...if you're strongly vocationally and practically oriented...then those programme advisory committees play quite a huge role but as...a traditional university, you don't necessarily have that linkage and input from the outside because that's much more driven by the individual research interests of the professors and the researchers (U5).

So the role of this enabler may depend on the intensity of the research orientation of the institution.

Reference to *potential students* as a driver was made by leaders of two of the smaller polytechnics. One of these (P3) provided evidence of the most well-developed institutional initiatives in the development of GPPs and supporting structures in the sample. Significant institutional change resulted from perceived threats to institutional viability. Six of the leaders made some kind of reference to the *educational market* and the need for institutional branding (P2; P3; P5; P6; U2; U5). One commented:

...Otago and Auckland wouldn't necessarily emphasise the Otago brand or the Auckland brand because students come to Auckland and Otago because they're the best. They're the best at research or whatever. ...you don't really have to foreground the marketing part of things but [one university] is trying to carve out a very distinctive niche in the higher education market, so [it] is very strong in its corporate identity, its brand, its position as the university for the changing world and a lot of processes and money go into maintaining that public and corporate identity (U5).

Many of these external drivers had an inter-relational effect in which the influence of *international educational trends* was more implicit. For example, the need to respond to NZQA requirements prompted one leader to explore research on GOs (P5). Another institution set up a major research project.

### 5.3 Structural and Procedural Enablers (B)

Structural and procedural enablers were those that facilitated or engaged staff and communities within the institution to become aware of, or work towards, change in practice in relation to GOs. They appeared to have inter-related functions. *Structural enablers* were the tangible institutional arrangements such as committees, key management positions, plans and policies that were set up to support educational processes and facilitate institutional change. *Procedural enablers* were the mandated activities that facilitated the implementation of plans and policies and provided feedback data. The range of leaders' emphases is shown in Table 5.2.

A significant structural enabler was a *strong, proactive senior leadership/management* team (P3; U2/1; U4) that recognised the larger context in which GOs and their development were located, and anticipated the impact on the institution of the change required to carry out such development and the mechanisms that might facilitate such change: "steering the whole institute...the whole senior management team were on board with this direction", giving staff confidence in the revised curricula (P3). Moreover,

...staff need to be hearing from several people more senior to them because this is an important activity and is necessary. ... it's going to be hard to keep them focused over the period of time that we need in order to do the job well. This is not something that gets done in a couple of hours in an afternoon (U4).

**Table 5.2: Summary of leaders' emphases in the interviews on structural and procedural enablers**

Note that other factors may have been influential, but the ones reported here were emphasised in the interviews.

Enablers	Institution								
	P2	P3	P4	P5	P6	U2	U4	U5	U6
Strong, proactive senior leadership		✓				✓	✓		
Appointment of key senior managers	✓	✓	✓		✓	✓	✓		
Middle managers responsible for teaching and learning	✓	✓	✓			✓	✓		✓
Team focus		✓				✓			
Changing roles of committees	✓	✓	✓	✓	✓	✓			✓
Policies/plans that include graduate profiles	✓	✓	✓	✓		✓	✓	✓	✓
Staff with designated authority to implement policy		✓	✓				✓		✓
Oversight of monitoring processes		✓			✓	✓			

Several leaders reported the *establishment of, or changes in, appointments to senior leadership*. U2 appointed a new Vice-Chancellor, established a new senior management position and an institutional project in order to facilitate institutional change that included curriculum renewal (U2/1, U2/2). P3 also appointed a new chief executive. P6 appointed a manager of programme design and development. In several institutions the newly appointed senior managers had given a strong steer for engagement with GOs and some had created new positions and structures to oversee this area.

Structural enablers also included *appointments of middle managers of teaching and learning in schools or departments*. Interviewees reported the appointment of academic advisors (P2; P3; P4) or associate deans (U2; U4; U6). However, the role of these middle managers varied. In some cases it was only administrative or facilitative, and in others it was formally concerned with quality assurance. In terms of enablement, this distinction is important:

We've got directors of teaching and learning within [faculties] whereas prior to this kind of reform process, we had people who were familiar with regulatory aspects and structural aspects of qualifications but not necessarily in terms of how you must teach in there and certainly not a teacher focus for that (U2/2).

*Committees* with functions relating to GOs and curricula were a significant kind of structural enabler. In some instances the committees were newly established as part of a GO initiative. In others, existing committees were assuming new roles. Committees included: Teaching and Learning Committees (U2, U6); Programme Boards (P6); departmental and institutional committees responsible for programme development, overview and formal approval (P4, P6, U6); Academic Boards; Academic Standards Committees (P3); Teaching and Learning Steering Group (P5). Senior academic managers comprised the membership of most of these committees. P5's steering group included a mixture of senior and middle managers as well as an academic developer and a lecturer. At U2, teaching and learning committees and directors of teaching and learning were established within departments. One manager commented that committees are taking "a much stronger role [and] it will have a significant impact" (U2/1). For example:

The teaching and learning committee was...firmly established...four or five years ago...although it wasn't a very active...until we got our...[senior manager, who] made it a much stronger body and they've developed a teaching and learning framework and there's also been a major curriculum reform process (U2/1).

In this case the appointment of the new senior manager also acted as a procedural enabler. At U4 other procedural enablers included the non-negotiable involvement of associate deans (Teaching and Learning) and heads of departments in programme development, and the role of course co-ordinators and programme directors was formally recognised in terms of workload. Other structural enablers with a relation to procedures included the establishment of an educational centre (P4) and all programme approvals required input from an academic developer from the centre.

Structural enablers also included the *policies and teaching and learning plans* that included the GP, to which all but one of the leaders referred. The extent to which there was evidence of associated procedural enablers was less clear. Five leaders referred to implementation arrangements and monitoring processes:

...we have the policy now and the mandate to do something about it and also in the recent audit, one of the...improvement or enhancement initiatives...was around embedding graduate attributes within the curriculum. So that's given quite a strong mandate to [the Centre] and to the Quality Office...that there is some interest in doing this... So there is a bit of a stick there to try and instigate some change (U6).

Other enablers, such as *staff with designated authority to implement policy*, and *the presence of oversight and monitoring processes*, were less visible in the data. These roles were usually attributed to middle/senior managers.

The effectiveness of the structural enablers lay in the way that they were related systemically to processes that enabled the implementation of the policy and practices that were espoused. So the appointments and committees became procedural enablers when roles included authority to implement and monitor formal and informal curriculum and quality assurance functions.

## 5.4 Developmental Enablers (C)

Institutional developmental enablers are those that assisted staff/programme teams to introduce and develop GPs and embed them in curricula, or undertake some curriculum development. They include: having clarity about the institutional role; the beliefs/philosophies about GOs, and about teaching and learning; staff/academic development/staff engagement; identification of 'champions'; implementing institutional projects; and recognition of the time required for change (see Table 5.3).

Several leaders referred to the relation between the *institution's role* and its focus on the importance of GPs. The GPs of polytechnics were assumed to have a vocational focus and the need for specific programme profiles (GPPs) seemed to be generally accepted. The universities were perceived (by some polytechnic leaders) to have a wider role in personal development, suggesting a qualitatively different GPI. This distinction may be due in part to the fact that the NZQA has had in place longer a requirement for polytechnic programmes to have a specific GP. However, a vocational focus appeared to enable the development of programme specific profiles: "we're producing more specific graduates with more specific sorts of employment pathways ahead of them" (P4). In the universities, the research imperative may also be a constraint:

...there's such an intense focus on PBRF and there is that whole sort of tension between research and teaching...and many academics just find it just too much...to engage in any sort of serious reflection about their curriculum and the alignment with graduate attributes etc....because of this insidious pressure to perform on the research scale (U5).

**Table 5.3: Summary of the range of leaders' emphases in the interviews on developmental enablers**

Note that other factors may be influential, but the ones reported here were emphasised in the interviews.

Enablers	Institution								
	P2	P3	P4	P5	P6	U2	U4	U5	U6
Clarity about the institutional role			✓					✓	
Beliefs/philosophies about GOs and teaching and learning		✓	✓			✓			
Staff/academic development/staff engagement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Identification of ‘champions’	✓			✓	✓	✓			✓
Implementing institutional projects		✓		✓		✓	✓		
Recognition of time required for change		✓	✓	✓		✓	✓		

Though the data were limited, they suggest that it may be useful to reflect on specific programme profiles and their relation to the institutional role.

Perhaps related to institutional role, the *beliefs/philosophies about graduate outcomes and teaching and learning* appeared to influence institutional practices at all levels and had a significant effect as both an enabler and a constraint. They emerged in several forms: the use of a generic and/or specific GP in the institution; disciplinary effects and the selection of attributes and importance of specific qualities; a focus on unit standards or outcomes-based curricula; and the institutional beliefs about who 'owns' the development of the attributes. At the institutional level, beliefs about GOs were played out in decisions to pursue a generic institutional profile or a specific programme profile and the relations between the two. Some polytechnics were using a generic institutional profile more than a decade ago:

...the general profile...had been developed...in...the mid to late 90s. I think most of the polytechnics were starting to look at generic capabilities for all graduates and this had come out of some research...about the capabilities the industry actually wanted out of graduates. ...it was really a polytechnic trend... (P2).



Then, the GPI “used to just be a bulleted list of knowledge and skills” (P2). More recently, work on a GPI as a ‘top-down’ approach was started at U2 and U6 with the intention that the “university-level graduate attributes would...be cascaded into programmes and disciplines as appropriate” (U2/1) and specific programme profiles reflected the desired institutional graduate attributes and qualities. But U2 backed off this approach as it became apparent that “it was not universally well received...there was just no appetite for that here”. Concerns were expressed about the lack of distinction of graduates across institutions. Generic attributes resembled those of other institutions in Australasia and those of employer surveys. This concern may reflect the beliefs that underpin the on-going institutional reform at U2. This institution adopted GPPs supported by a strong institution-wide structural framework.

In other institutions the development of generic attributes has been a topic of discussion: “...as to whether we should develop a set of generic attributes...but that hasn’t progressed into anything. So at the moment, the focus is very much on having the distinct graduate profile that describes the graduate for each programme” (P4). However, many of the polytechnics adopted a programme-specific approach. For example, P4 stated, “we require all of our programmes to be writing graduate profiles....that’s obviously something that’s embedded and that’s sort of [an] outcomes-based focus” (P4).

The strong emphasis on the need to embed GPs in disciplinary practices, the selection of attributes and designated importance of specific qualities, was both an enabler and a constraint. As an enabler “the aspirations and the aims and the outcomes of the particular programme of study [are] the most important thing” (U2/2), and, “[in] the science based programmes...they see it as...being very much more knowledge-focused in terms of their curricula.... But...our social work programme...they’ve been quite creative in terms of what they’ve done...it’s just their philosophy of working as social workers. Everything...is agreed” (P4). In addition to the recognition of disciplinary differences in attributes, this manager points to the need to respect different disciplinary cultural beliefs and practices.

In polytechnics there has been a recent educational shift in curriculum development from a focus on specific unit standards (associated with particular modules) to a more holistic focus on GPs. The former tended to be more atomistic and often encouraged development from content, and from module to module. The latter is an achievement-based curriculum development that derives from the overarching GP. This “mindset” around unit standards and “reluctance to change and invest in new ideas” (P4) is a constraint for many polytechnic programmes. However, the problem mirrors a more common educational issue relating to conceptions of teaching and learning: “some people...once they understand the consequences...are actually very welcoming of the change and the fact that it can free them up from unit standards...[but] there are some people whose conceptions of teaching and learning are much more...atomised...and...they struggle to change” (P4). Another manager referred to the “entrenchment of longer-serving staff” and the need to change certain “mindsets” (P3).

Five of the leaders commented on the need for staff to have ownership of their GO initiatives: the process needed to be “teacher-driven in that we...make sure that the decisions are made by the teachers in the programme, but it is managed” (U4). Similarly, another argued, “They’ve got to take ownership of it in the end. It’s not us, hopefully, imposing. It’s their programme...our role is to be sort of arguing – these are the principles of the institution and we need to be seeing these sorts of evidence” (P4). The challenge for the institution in encouraging staff ownership was to have the initiative seen as “improvement-driven, rather than compliance-driven” (U2). Moreover, academic developers were keen to ensure that staff felt they were being heard. So when feedback was sought on a draft proposal for implementing GOs, an academic advisor was “very honest and sincere about wanting to do something with the feedback” (P5).

*Staff/academic development* was another enabler. The leaders worked with staff at all levels of their institutions including the most senior. Some reported directly to a senior manager (e.g. Institutional Director or Deputy or Assistant Vice-Chancellor (Academic)), providing advice, research trends and/or using academic leaders' forums for "creating a context where these discussions could happen" (U2): "...[where] our professors and...campus leaders can sit down and...hear about new developments and...discuss what they're doing...and they can propose ideas which [the senior leader] comes back [and] we have to think about how we do that and I'll go off and do" (U2/1).

Academic development was used to engage staff with GOs in all institutions:

...this is very much a process where the person who engages with them has to be...genuinely an academic developer, a colleague who can provoke in a positive way, who can lead a conversation and facilitate the conversation and deal with some of the issues and challenges..., political, personal, whatever...get them energised around the idea that this is a positive outcome for them collectively...a process of engagement...addressing their issues honestly and head on... (U4).

Another manager, whose Centre had been referred to as the "conscience of the institution", commented that academic developers were "bringing in those educational ideas and sort of challenging..." (P4). In some institutions the work at programme level was accompanied by institutional initiatives that provided a context of support. Various strategies used as enablers to encourage staff buy-in and engagement with the GO agenda were evident in the data. They ranged from generic workshops in an institutional professional development programme, to specific programme development with programme teams. However, there seemed to be a trend towards helping staff within programmes to gain the knowledge and skills to revise and develop their programmes:

[The] teaching and learning development framework is something that is now predicated upon a programme or disciplinary approach...There are no more generic workshops. There is on-going engagement with our Directors of Teaching and Learning with the faculties about their training and development needs and actually taking those needs to discipline groups and getting discussions amongst discipline groups... (U2/2).

Workshops with programme teams often helped staff to "disentangle what you mean by graduate attributes" (U5). In the polytechnic sector, workshops and meetings with programme teams sometimes included stakeholder input (alternatively, external comment was often sought when the profile was complete). Work with programme teams involved identifying GAs, mapping them into courses, identifying learning outcomes, and aligning them with assessment. The NZQA provides institutions with generic forms and examples of profiles as a resource for programme teams (P6, P4). At P6 a template was developed within the institution. Other frameworks were borrowed from elsewhere (e.g. other institutions or auditing bodies) and others were developed from the research literature. The models were perceived both as an enabler and a constraint. One manager talked of the identification of gaps or multiple teachings of topics. For example, in one case, a substantial block of the same material was being taught to students in three different courses. This process led to the "regeneration of those courses and a refocusing of energy" (U4), as well as helping academics to manage their teaching load.

One institution used pilot groups to help staff make the link between the on-going development of GOs and the local teaching culture:

I'm going to run pilots...where four programmes are actually going to implement this proposal...with developing teaching activities with reflective practice, a little bit like an action research approach...[I'm] meeting every three weeks...with the teaching teams to decide on

which kind of activities are they going to trial with their teaching and which attributes do they relate to, and then we have a reflection meeting and we decide on the next three weeks. So we go through that for half a year with each of these programmes and out of that...we get some further information on how that's going to...inform the next version of the profile (P5).

P5 also created a teaching resource of exemplars of ways in which GOs could be embedded in curricula: "...because these people are trialling all these activities, we're collecting...[them] and we're going to create a bank where people can find activities related to each of these profiles" (P5).

P4 included principles of constructive alignment and learner-centred approaches in their new programme development approval policy. U2 intentionally encouraged curriculum development at a programme level rather than a paper level by providing programme teams with research and international benchmarking. In addition it offered programme teams explicit financial support of up to \$5,000:

...we established...an academic programme [rolling] research fund which I manage along with a review committee. ...The application process isn't onerous. ...I mentor each of the applicants as they come through and that's really about consolidating a programme focus. ...instead of providing staff with a little...money to do something in their paper, [we give them money] to work across a programme of study to do things like market research, to...engage with staff at other campuses about new ways of teaching and learning...It's...a programme focus rather than a paper focus (U2/2).

It will be evident that in many of these institutions (see, for example, P3 and U2), the focus was far wider than the GOs:

I see [graduate attributes] as...a tool for bringing about curriculum change so just to try and have those conversations within departments and programmes, to think about the bigger picture, what are they trying to do, and to sort of think about their courses in a more holistic way in terms of knowledge, skill and attributes development throughout. So to me, it's a tool to bring about curriculum renewal (U6).

Another enabler was the *recognition of 'champions'*, people who were committed to and had the experience to potentially drive development. One manager selected individuals who were aware of the necessary processes and who could articulate what a graduate needed to do (P2). Another selected "a core group of academic staff that were really committed to having clear statements made, having course descriptors that meant something and that were kind of adhered to and ensuring that assessments are matched with the purpose of the course and learning outcomes" (P6). One commented:

I'd like to get together with people from all departments who have...a real interest in teaching and learning...to start conversations around the profile and...what attention's paid to it within the department and to try from a more grass roots level, working with the enthusiasts to bring about change within departments rather than necessarily going in to sit alongside an HOD and say, 'What are you doing and how are you going about it?' (U6).

However, it was also important to target those who held formal leadership positions within departments. At U2, the manager maintained on-going engagement with Directors of Teaching and Learning about training and development needs. At P2, the manager noted differences between leaders' approaches and focused on those that sought new directions and responded well to external conditions that pointed to the need for programme development.

Another enabler was the identification of work on GOs as an important *institutional 'project'* that was sanctioned at different levels. The projects assumed slightly different functions and were variously named but the intention was to give the initiative high-level recognition. So, for instance, leaders referred to the 'Pathways Project,' the 'Academic Reform Project,' the 'Graduate Attributes Project,' or the 'Portfolio Redevelopment Project'.

*Time* was both an enabler and a constraint. The development of GPPs and embedding GAs into a programme required time (P3, P4, U2, U4). Curriculum renewal was often a two to three-year process (*e.g.* P5). One manager commented: "...it's primarily been about creating space for staff to think outside of what they've always been doing and think about the future ways of doing things rather than just, you know, well that's the way our degree's been for the last 10 years" (U2). P4 alluded to the need for multiple iterations as programmes are revised and developed. P3 commented on the need to make time for reflection and feedback.

In parallel with the institutional developmental enablers was the greatest number of developmental constraints. They included: the lack of awareness of staff for the need for development; limited staff experience; a change in middle management; and a lack of senior management or institutional support. For instance, initiatives tended to rest on individuals: "I was driving the embedding of them because...we had the brief mandate to...come up with a new profile but really it wasn't anything beyond that" (U6).

## 5.5 Achievement Enablers (D)

Achievement enablers were concerned with how students were assisted to achieve an existing GP. Only three were a focus in the data: clear educational/employment pathways; contemporary, flexible delivery methods; and curriculum frameworks that focus on students (see Table 5.4).

Communication of *clear educational/employment pathways* to students was frequently identified as an enabler. Both P4 and P6 considered clarity of information to students as critical: "[we try] to be very clear about why a programme has been set up and what students can expect..." (P6). At P6 all newly enrolled students met individually with staff:

...they're given fact sheets...[told] the expectations...of a programme and we try to...ensure that a student knows what they're coming into and what the likely pathways are... So the graduate profile is the really important written statement that students can rely on and out of that all the rest of the information about the programme will evolve...as for expectations, we found if they meet the people that are going to teach them or somebody really closely related to the programme...they've got clearer expectations, [and they're] much more likely to stay and succeed. ...[So] we tend not to have a lot of students withdrawing or dropping out... (P6).

**Table 5.4: Summary of leaders' main emphases in the interviews on achievement enablers**

Note that other factors may be influential, but the ones reported here were emphasised in the interviews.

Enablers	Institution								
	P2	P3	P4	P5	P6	U2	U4	U5	U6
Clear educational/employment pathways	✓	✓	✓		✓	✓	✓		✓
Contemporary, flexible delivery methods	✓	✓		✓					
Curricula that focus on students		✓							

The fact that the NZQA has required polytechnics to ensure that educational pathways are clearly identified for a longer time period than universities (for whom it is a new process) may account for the stronger evidence from the participating polytechnics. However, three university leaders also commented on the need for this. U2 argued that students need to be able to answer the question: “What can I do with it?” (U2/1) and another manager stated:

...my personal motivation for [a focus on graduate attributes] is from working with students and seeing...how they can’t articulate what they’re getting out of a university education and...making it a bit clearer. ...Departments can provide experiences where various skills and things can be developed but do students know that this is...what’s going on? ...so part of it is just making it very explicit to students, the range of skills and things that they’re picking up on the way through and letting students know what it is they’re aiming for... (U6).

Despite these comments, all the institutions used written information (either online or through brochures or programme books) as their main means of communicating course requirements to students. So the assumption that students are likely to understand the course outlines using these means of communication could equally have been a constraint.

Another achievement enabler was *flexible delivery methods* to assist students to complete their qualification: “...there’s different delivery methods being used in those programmes...they’re...much more...a flexi-mode delivery so that people can work full-time and study either at night or online or block courses” (P2). P3 was working with employers to allow students to complete their qualifications after they gained employment. These enablers were evident only in data generated by leaders in polytechnics.

An emphasis on *curricular frameworks that focus on students* reflects, to some extent, aspects of the data relating to teachers’/institutional beliefs about GOs and unit standards. Here, however, the focus is on the relation between achievement-based outcomes and success:

...you either passed or failed with the unit standard which meant that you fail one unit and...you’ve failed the qualification. Whereas the achievement-based approach has allowed us to package content around a set of learning outcomes that encompass the requirements for embedded unit standards where they might be required for trade qualifications but students could still achieve success even if they failed some of the units. They might still have achieved enough within that 15-credit course that they could actually achieve a qualification. They may not have achieved the embedded trade qualification but I think getting...that success and getting them engaged back into education and learning was the forefront of where we needed to be...and that that was the key driver in terms of engaging our student community back into education (P3).

## 5.6 Contextual Enablers (E)

Contextual enablers were those generic institutional and/or individual cultural qualities that crossed the four forms described above and made them more or less effective. Unlike enablers A to D, which tended to be concrete, these were more ephemeral. They were about the emotional health of the institution; staff morale and confidence in themselves and their leadership. The nature of the enablers was hard to unpack so they have not been tabulated. Evidence of their presence became apparent as leaders described their institutional context and its beliefs and practices:

...the cultural shift that has occurred in the last two years and is still occurring has been delightfully unexpected. [For instance]...we have a major proposal about xxx and how that might be repositioned better for the future...if it was five years ago, that proposal probably would have brought the place down but the way we are now [it] is just...one of...four or five

that are on-going...about creating a better future for the organisation. It's kind of the way we do things now. ...staff are encouraged to think outside the box...to think about the way things can be different and should be different in a positive way rather than...perhaps going to ground (U2).

Another manager commented:

...six, seven years ago,...we were not performing well. We had a low EFTS. ...there needed to be quite drastic turnaround in how we approached our business...[it] started with a number of appointments, [a] revamp of the whole senior management team. ...the whole strategic focus of the institute changed and it became very much student and stakeholder-focused. That was a core strategic direction of the institute, which has moved us through and we've more than doubled in size in the last five years. ...it's had its challenges...constraints on facilities and teaching staff but it's a much more vibrant institute as a result and staff feel more confident in the curricula that they're delivering because of the quality drive that has taken place in terms of the development (P3).

Contextual enablers included creating space for staff to think:

...it's primarily been about creating space for staff to think outside of what they've always been doing...think about the future ways of doing things rather than...'well, that's the way our degree's been for the last 10 years.' Why should we need to change it? It's something that does have to be done systemically, so...it's about the structures. It's about the processes. It's about the policies and procedures, which we're currently working on revising to make sure that they talk about a programme focus rather than individual teachers and papers... (U2/2).

Leaders alluded to good communication, an institutional culture with a focus on teaching and learning, an institutional space that valued all its occupants, thoughtful practices and the provision of positive feedback. For example, one manager talked of respecting staff and work in a busy department: "...sheer workload. There are times of the year in which...it does become impossible to promote movement and we recognise that and we work around that constraint" (U4).

## 5.7 Summary

Five categories of overarching factors that enable the embedding of GOs into curricula were identified through the analysis of data generated by interviews with leaders. These are (A) *external drivers*, (B) *structural and procedural enablers*, (C) *developmental enablers*, (D) *achievement enablers* and (E) *contextual enablers*. The relation between the different categories of enablers and between enablers and constraints was subtle. What was understood as an enabler in one institution was sometimes considered a constraint in another, though leaders made less reference to constraints. Compliance with NZQA was a major driver in the polytechnics. One of the most cited external drivers across both sectors was professional accreditation bodies, and educational trends and responses to the educational market played a major role. In both sectors, external input was a strong driver for vocational programmes. However, this may also be a constraint. U5 commented on the "increasing emphasis on postgraduate study and research", where the influence of external drivers was "starting to shift because...people are much more intrinsically interested in their discipline rather than the sort of external impositions...notions of graduate outcomes and attributes...[will] be much more discipline or research-focused" (U5).

Of all the enablers (A to E), *the structural enablers* (B) were the most prolific across the participating institutions. Structural enablers such as leadership and senior and middle management were referred to by most leaders. The importance of the relationship between the senior and middle managers as a structural enabler was also evident in some. Most institutions also had committee

structures concerned with teaching and learning in place. In some of the participating institutions such committees already existed, perhaps established earlier and for other reasons. Those already in place were less visible in the data. Moreover, the *procedural enablers* for established structures were often missing. Yet analysis of the data suggests that these structural and procedural enablers are precursory. They linked the structural and *developmental* enablers. In many cases procedural enablers could be considered the missing link; the functions that rendered the structures effective or ineffective. For example, reporting processes may have been in place but the reports may not have been followed up at a developmental level. Thus, if procedural enablers are lacking, *developmental enablers* (C) are less likely to be effective, and the institutional focus on GOs was uncoordinated and patchy. Their presence (or absence) is also likely to affect the power of the more affective *contextual enablers* (E). It is interesting to note that, as with the notion of individual ownership of curricula (see section 4.3), ownership of the formal processes for implementation and monitoring of the achievement of GPs tends to rest outside of the polytechnics (*e.g.* the NZQA). In contrast, in the universities, 'ownership' tends to rest within the departments or faculties. Whether this changes under the new NZQF remains to be seen.

The range of *developmental enablers* (C) was broad, and more evident in data generated by leaders in polytechnics; perhaps related to the more advanced development of GPPs. This may have been due to the regulations in the NZQF which, until recently, was mainly for non-university institutions. As an enabler, the programme-specific profile appeared to have greater leverage in terms of curriculum revision.

It was noticeable that in comparison with enablers A to C, *achievement enablers* (D) were few in number and less well developed. Moreover, the balance between enablement and constraint was quite fine. Those that were mentioned were most evident in the polytechnic sector. In the interviews, little reference was made to assessment and its alignment with learning outcomes, or how students were encouraged to track their progress.

In the following chapter we turn our attention to the case studies of good practice to explore in-depth how staff and students are engaging with GOs.

# Chapter 6: Cases of Good Practice

## 6.1 Introduction

In this chapter we present findings from the cases of good practice. In each of our four institutions two cases that were known to be of good practice regarding GOs were documented. In presenting the cases our motivation is to learn from what they are doing or have done. When reporting on the cases we cluster them in two groups. First, we consider three cases which are on the pathway to embedding GOs: Tourism Studies (just starting out), Music, and Design Innovation. Second, we present five cases where GOs are strongly embedded in curricula: Marketing, Physiotherapy, Oral Health, Applied Science and Broadcasting Communication.

The reporting of each case follows a similar format: a brief overview is first given; an introduction provides background context for the case; there is an account of the translation of graduate attributes into the curriculum; the experiences of GAs by students and staff are described; and finally there are some reflections and implications. Note that the terminology used by staff and students was mainly that of graduate attributes (GAs) rather than GOs, so we have used this terminology more in this chapter.

## 6.2 On the pathway to embedding graduate outcomes in curricula

### 6.2.1 Bachelor of Tourism Studies at AUT University

The undergraduate Tourism Studies degree at AUT University provides a ‘snapshot’ of the translation of graduate attributes into a curriculum, taken immediately prior to a major curriculum review. This case study reports on data obtained from official documentation, interviews and surveys with both staff and students involved in the programme. There was strong evidence in official documentation of graduate attributes in learning outcomes and assessment, but data from staff and students suggest that this is not always consistent, visible or accessible. Our analysis also suggests that students might appreciate a greater focus on graduate attributes, and the space and opportunity to reflect on them.

#### Introduction

AUT University has three main campuses in Auckland; and the School of Hospitality, Tourism and Event Management is based mainly on the city campus. The School offers various undergraduate and postgraduate degree and diploma options. For the purposes of this case study the focus is on the Bachelor of Tourism Studies (BTS) for which students can major in business, environmental studies, or social studies. It is promoted as having close ties to AUT’s New Zealand Tourism Research Institute, and also as the only university degree in Tourism Studies in Auckland. The programme website states that there are strong industry links as well as work-integrated learning. In the third (and final) year of the degree, students undertake a Cooperative Education project within the context of work placement, “a joint venture between AUT and employers to help students define their professional aspirations on completion of their undergraduate qualification” (AUT Tourism Website). Specific graduate attributes are not clearly mentioned on the programme website. However, student profiles for each study area do allude to graduate attributes in the telling of a profile of a successful time spent studying on the BTS programme followed by a related, and often successful, career (“AUT’s BTS gave graduate [name] a broad range of skills and competencies, some of which she didn’t expect to develop through a university degree...”). The BTS website demonstrates strong and clear links with employment (e.g. “the knowledge he gained through his



study at AUT can be applied directly in his current job”; and her degree combined with its work placement “definitely increased her employability”).

AUT University’s institutional graduate outcomes state that it will produce graduates who are:

distinguished by their professionalism, their commitment to on-going learning and personal development, their confidence and adaptability, their ability to communicate and cooperate, and their appreciation of the wider contexts in which they live and work (AUT University, 2012).

At the time of data collection the School of Hospitality, Tourism and Event Management was starting the process of curriculum review. Although the review process is briefly described below this case study does not focus on the developing review process, but rather it takes the opportunity to benchmark some staff and student perspectives on graduate attributes before any curriculum review-led changes take place. Data collection involved student surveys (n=111 made up of first-year students n=38; second-year students n=18; third-year students n=52; and fourth-year students n=3); staff surveys and interviews n= 5 (the staff were programme coordinators and had been involved in the programme design and the upcoming curriculum review). When giving interview quotes from academics and students we use ‘academic’ or ‘student’ and a number to maintain anonymity; for surveys we use ‘student survey’ or ‘academic survey’.

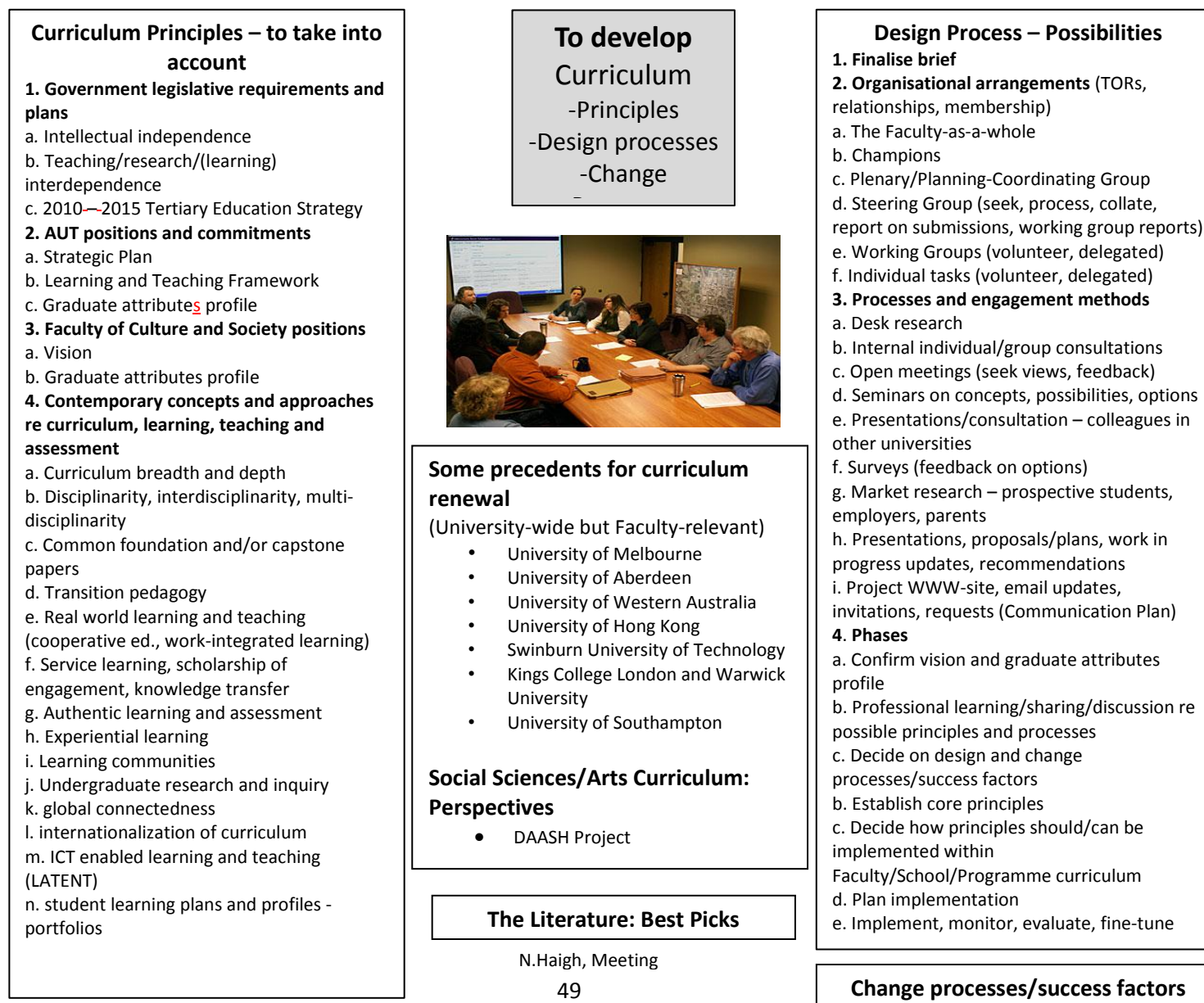
Prior to the huge undertaking of the curriculum review (beginning in 2012), the Tourism Studies programme had been involved in a faculty-wide revisioning project that saw a name change from the Faculty of Applied Humanities to the Faculty of Culture and Society, and also the identification of some generic graduate characteristics:

Graduates of the Faculty of Culture and Society will develop knowledge and skills in the following key areas:

- New Zealand and World society (and its component, esp. Asia/Pacific)
- Cross-cultural issues and cultural awareness, intercultural competencies
- Theories of the nature of knowledge and values
- Critical/Creative/Constructive thinking
- Analytical tools of social and cultural analysis
- Ability to communicate in a variety of forms and using a range of media
- Generic University graduate skills. (Faculty of Applied Humanities Vision Document, October 2011)

The curriculum review is being facilitated by an academic developer from the Centre for Learning and Teaching at AUT University. Graduate attributes and their alignment with the curriculum are at the “heart of the review process” (Haigh, N., 2012, personal communication). Decision-making criteria for the steering group and four working parties, for example, state that each proposal generated must be must ‘tested’ against a list of criteria, the first of which is “increased alignment with AUT and Faculty graduate profile can be identified readily” (taken from Working Group Phase document). The curriculum-review process being undertaken at the Faculty of Culture and Society is in its infancy and may continue well into 2013/14. The initial framework suggested for the curriculum renewal process is shown in Figure 6.1.

Figure 6.1: Faculty of Culture and Society curriculum renewal: Possible framework



## **Translation of graduate attributes into the curriculum**

Upon arrival in the School of Hospitality, Tourism and Events BTS students are given quite extensive programme and paper information that includes lists of learning outcomes for each individual paper. The learning outcomes as stated in these student guides are, in part, quite specific and knowledge-based (*e.g.* “utilise inventory theory, in relation to tourism supply and demand”) but they also include some broader-style graduate attributes that reflect the institutional graduate profile as noted above:

- comprehend the political nature of Maori...
- critically assess and analyse tourist behaviour...
- critically reflect on knowledge gained and review this...

Across the BTS programme assessment types are broad and varied. There is some evidence in the assessment outcomes that institutional graduate attributes have been considered in the design of individual assessments, with a strong focus on communication, presentations, cooperative work, and industry involvement. The assessment for Tourism, Heritage and Culture, for example, involves developing a heritage tourism product, and pitching it to Auckland Museum staff.

The learning and teaching for the programme tends to happen in relatively small groups of about 30 students, allowing for interaction and flexibility. An online learning environment is also provided, with students assessed for their contribution to online academic discussion.

Although no curriculum mapping is available, it would appear from official course documentation and marketing that there is a translation of graduate attributes into the curriculum of the Tourism Studies degree that is strong, but possibly a little patchy. There are clear institutional graduate outcomes, as well as learning outcomes for each paper. Assessment tasks tend to be reflective of both the wider graduate attributes and the more specific learning outcomes.

## **Experiences of graduate attributes by students and staff**

It is clear from the staff involved in this case study that the area of graduate attributes within the Tourism Studies degree is quite contentious and perhaps indicative of where they were at the time of data collection in terms of their curriculum review. There appears to be an underlying conflict as to the shaping and development of graduate attributes, and the input that industry might have on these:

In the current political climate it seems the concern is that we produce graduates for industry. There seems to be a great deal of hostility regarding graduate attributes that promote the idea that a university graduate is a highly functioning citizen of New Zealand.  
(Academic 2)

The data also suggests that graduate outcomes have not been “formally” encouraged or supported within the programme (Academic survey). There are, however, many reports of individual staff members “hunting out” information, “taking their own initiative” and “introducing some graduate attributes of my own specific to the papers” (Academic surveys). The result of this is that, according to one staff member, graduate outcomes are “here and there embedded in the learning outcomes for specific papers” (Academic survey). Further to this, one staff member commented that:

I would like to see graduate attributes more prominent in our approach to teaching, and for students to understand how they are gradually building up some of these attributes.  
(Academic 1)

Two staff members commented that while the attainment of institutional or faculty graduate attributes is not captured in a structured or formal way, it is important to provide graduates with the opportunity

and space to reflect on their time as students, and for them to consider what attributes they have graduated with:

I think having an alumni that is stronger and having the opportunity to share what the experiences have been. We have a couple of facilities – restaurants – where we can [meet] for them to be able to reflect and have that as a sharing time. (Academic 4)

This is interesting as it is supported in student comments made at the start of interviews that graduate attributes are “never mentioned or assessed, and I have never really thought about those things before”. Yet, given the time within the interview to reflect on their learning, students felt that they had learned confidence, leadership, tolerance, cultural awareness, professionalism and a sense of achievement. They were notably surprised when they came up with these attributes, and after doing so one spontaneously retracted her earlier comment that her studies would be a “waste of time” if she did not get a specific job within the tourism industry after graduation (Student 1).

Sixty-one *per cent* of the students surveyed stated that they have been provided with a description of the expected outcomes of the programme. Most interpreted ‘expected outcomes’ to be a job or good grades. Many made this direct connection (*e.g.* “to get a job”), while others made a less direct but still clear employment connection (*e.g.* “pass all the papers and be able to get a relevant job with all the skills learned”). Therefore, only a very small number of students described the ‘expected outcomes’ as being in any way related to the broader graduate outcomes as described at an institutional level.

A majority of the students surveyed (72%) stated that a description of graduate outcomes is important. Interestingly, many of the answers to this question are quite broad and relate to such issues as motivation, goals, future, personal drive and expectations rather than being overwhelmingly job-related: “it helps me to stay motivated and achieve goals”. Similarly, when asked how they might ‘use’ graduate outcomes, many of the student answers did not relate directly to getting a specific job: “to reflect upon my degree, what I have learned” or “as a guideline, for self-evaluation” (Student surveys).

The majority of surveyed students (79%) did not see any clear links between the assessment tasks and the graduate outcomes. The 21 *per cent* of students who did see a connection tended to see the link as being between assessments and employment, or they related assessments quite specifically to grades rather than broader skills or attributes.

The students surveyed all were able to list the possible employment outcomes available to them following the completion of their programme. Unsurprisingly, all the answers were specific to the tourism industry, demonstrating a relatively specific orientation to higher education (to get a specific degree for a specific job).

Our analysis of data collected from staff gives an insight into the way in which graduate attributes are also translated into the ‘hidden’ curriculum of the Tourism Studies degree. For example, our analysis draws attention to the interesting concept of ‘connection’ in relation to graduate attributes. Graduate attributes are widely considered in the literature to be transferrable and, in effect, seamless and holistic, and it is considered by some tourism and hospitality staff that the translation of graduate attributes into the curriculum should also be seamless:

I think the more connection we can show the students across their learning journey, how we fit in the different areas and what we know from other papers, reinforcing their learning and also connecting back to professional practice. We have students coming in for a 9 o’clock class and they are tired and I remember what that was like and I say, “Were you working last night?” and they say, “Yes”. And I ask them to tell me about the function and I slowly bring them back to what they are going to be focusing on that day, but making the connection between industry and education. (Academic 5)

## Reflections and implications

This case study has provided a brief snapshot of the role that graduate attributes were playing on the BTS programme at the beginning of a curriculum-review process that is seeking to further align graduate attributes with the curriculum.

Graduate attributes are evident in the BTS curriculum; however, they could be described, based on data collected from staff and students, as being patchy and sometimes lacking in accessibility and visibility. Our analysis also suggests that students might appreciate a greater focus on graduate attributes, and the space and opportunity to reflect on them.

The review process that is currently underway provides an opportunity for AUT University to take an innovative stance and to connect the curricula, students, teaching staff, the university and the wider community with the desired graduate attributes.

### 6.2.2 Bachelor of Music at the University of Otago

This case reflects a department in which the staff are motivated to develop diverse skills and attributes in their students for reasons of enrichment and scholarship, but also in recognition of the difficulties their graduates will face in 'real life' industry. Students seem to become increasingly aware of how they have developed as they move through the years of the degree.

#### Introduction

The Music Department claims that "At Otago we make music, we know about music, and we are passionate about music" (Department website and Course Handbook, 2012). As undergraduates, students can study music at Otago using three different pathways: one or more 'interest' papers in a non-Music degree (such as a BA or BComm); as a major in Music within the BA (BAMusi); and as a music degree with a major in one or more of the music subjects (MusB or MusB Hons). A wide range of subjects is available under the majors of Performance (*e.g.* Classical or Contemporary); Composition (*e.g.* Song Writing, Music Technology); and Studying Music (*e.g.* Classical Music, Ethnomusicology, Popular Music).

In addition to the academic papers, "the Department offers various performing ensembles, and Dunedin City is particularly active in promoting music and the arts. The Department has an extensive public concert series that is offered free to all music students" (Department website, 2012).

Possible employment outcomes vary extensively and include careers in musical performance, media, the music industry, theatre, music education, technology and many other areas. The educational pathways and possible employment outcomes are well described in the Music Course Handbook and on the department web pages. However, the graduate outcomes are not visible in either source.

In a Department of Music Self-Review Document (2009), we found the following generic attributes:

1. Intellectual skills, including advanced skills of aural and structural analysis, critical evaluation and problem solving.
2. Knowledge and understanding of the fundamental musical and historical and cultural factors affecting music.
3. Skills in the discovery, the gathering and the processing of information.
4. Skills in communication and critical evaluation.
5. Organisational and time-management skills.

6. Independent judgement.
7. International and multi-cultural perspectives in relation to knowledge and values.
8. Ability to respond positively to informed constructive criticism and to evaluate feedback.
9. Self-motivation and commitment to lifelong learning.
10. Ability to plan and carry out scholarship in one or more fields of musical activity.

In the same document there are also several attributes for each of the degree majors that incorporate skills specific to the area of study.

Due to the various pathways in which students can study music, obtaining an accurate number of students at each year of a degree is difficult. However, figures from 2011 showed there to be a total of 256 students taking one or more Music papers at any level.

Most often, performance students enrol in the MusB because they already have significant experience in the music area of their choice. For example: “I’ve been playing music for over ten years” (Student 2); “I think I have been interested in music from a young age...I always wanted to play the flute...[got] into the school orchestra...and it kept rapidly building up from there” (Student 1); “it’s been part of my life since the age of 11” (Student 3); “I was always going to do music after school” (Student 4).

### **Translation of graduate attributes into the curriculum**

In adopting the idea of graduate attributes and embedding them in to the curriculum, the Music Department has had the advantage of senior staff involvement at higher levels in the Divisional hierarchy:

[named staff members] one after the other, were the Associate Deans of Humanities, and so there they were in Humanities being given all this sort of stuff, from new plagiarism rules to graduate attributes to all the sorts of strategic teaching and learning plans...they were having to make sure the whole Division was implementing and doing these things so therefore, of course, they’d come back to their Music Department...and start talking about these things with us...and so, to a certain extent, that was helpful to us as a department because we had the...academic leadership of the Division actually amongst you, having a cup of tea and a chat. (Academic 1)

Staff mentioned their annual planning day as a specific time when graduate attributes are discussed as a department, but also referred to conversations amongst colleagues at staff meetings. One staff member commented that staff awareness of GAs was “more of a departmental culture than formal encouragement. Our survival depends on good graduates making their way in the world” (Academic survey).

Most of the lecturers in the department have real-life industry experience, and they bring that experience and knowledge to inform their teaching: “lots of attributes that you’d expect of a graduate, you’d expect of a professional musician” (Academic 2). Therefore, staff saw a strong link between GAs and their teaching role:

...it’s my role here as a member of the university...in my capacity as a teacher, to help students acquire these skills...we’ve got all these things that we think students should be when they’re finished their degrees...so it’s working towards that...it informs what I do in the classroom. It informs the kinds of assignments that I set for the students, and it informs the types of assessments that I set for them and I think it also informs the way that I assess what they’ve done. So...I think those goals [GAs] probably inform everything I do as a teacher. (Academic 3)

Achievement of GAs is monitored mainly through assessment, both formatively and summatively. Students undertake a range of different assessment tasks related to their major pathway; for example, some students will develop pieces of performance as “works in progress...[so] you get to see skill development over time” (Academic 4). One lecturer emphasised the importance of communication. For example, Academic 5 said,

...it’s about things like body language, the clarity and fluency of delivery...I think they’re important skills. Transferable skills that they will need outside of university, that they can apply to a variety of contexts. So I think they’re very important skills to learn and develop...I frame it in terms of the learning outcomes and then how those can be applicable outside of the university context.

For Academic 3, skill development in communication was problematic:

I think it’s problematic because in part it’s extremely important and in part because it in some ways seems only tangentially related to the actual specific topic of the paper. I mean, you’ve got students who think, ‘okay, I’m going to come and do Music and I’m going to learn about the history of keyboard music’ and...we sort of have to sneak this business of teaching them how to write, for instance, in the back door. You know, it’s not a paper about how to write...so it’s something that’s kind of got to get folded in there.

### **Staff experiences of graduate attributes**

Staff reported a broad appreciation of what GAs are, including “an understanding of content and a series of life skills” (Academic 5); “enrichment of one’s own intellect” (Academic 2); “the ability to think critically...and have a basic set of research skills” (Academic 3); “some approaches to life and problem solving...that will colour the way they think and work, for a long time in the future” (Academic 1). For Academic 6, the notion of graduate attributes was related to “turning out well-rounded people...who learn more than about just how to play or write music”.

Opportunities to develop graduate attributes were embedded both within the curriculum: “I do devote class time to discussing and also work-shopping some of these attributes” (Academic 5); and in the extra-curricular activities, for example via involvement in the wider community: “Music students are hugely involved outside of the department. They are in demand, whether they’re rock or classical students. The youth orchestra, the wind band, the brass band, the local choirs...you get a very good picture of...the town and gown sort of relationship” (Academic 1).

Staff perspective on students’ understanding of GAs revealed a mixed view. For some staff, “I don’t think they would have a good understanding of how the learning aims and outcomes related to the graduate attributes, or an understanding of the Otago University graduate attributes, more generally speaking” (Academic 5) and “they’re more worried about getting jobs than they are about how university’s going to enrich their lives...and provide them with attributes...it doesn’t reflect the reality for the students, the way the students think” (Academic 2). Other staff expressed uncertainty: “I don’t know” (Academic 4) and “I’m not sure” (Academic 1). However, some staff suggested a developmental aspect, in terms of a difference between first and final year students:

Maybe at upper levels, they might be at that point...if you try to put yourself in the place of a 19-year-old, they don’t see that...they just see this wall of classes, so to be well rounded is not on their mind. This idea of attributes, they couldn’t care less about it. You can explain it to them and they still haven’t a clue because they don’t have any experience in that area. But after a couple of years, they do. They don’t still know it all, obviously, but some of them are pretty savvy...and they get it. (Academic 6)

## Students' experiences of graduate attributes

A survey was administered in the core papers of the Music degree, but response was limited. Of a potential 256 students, only 105 answered the survey and, in many cases, not every question was answered. Despite this, the data did reveal some interesting findings.

Approximately 47 *per cent* of survey respondents were aware of the outcomes of their programme, and this awareness came early (67% before they started or within the first few weeks). Moreover, 63 *per cent* of survey respondents considered a description of the graduate attributes 'important'. For many Music students, the meaning of the term 'graduate attributes' was very general: "what you've achieved once you graduate" (Student 2); "the skills and the knowledge that one can obtain from a degree...what a graduate can do after their degree in terms of employment and further education" (Student 4); and "set us up with the skills we need to be a successful musician" (Student survey).

Some students were aware of the knowledge and skills they had but, when asked about those that were expected of them when they graduated, they seemed uninformed. When shown the sheet of graduate outcomes, one student commented, "I've not seen those before...I guess you can see where they are coming from but I'm not aware of them in any formal capacity" (Student 4). This reaction occurred repeatedly, and perhaps reflects the student survey data in which 43 *per cent* of respondents perceived that they had not been provided with a description of the outcomes of the programme, and 44 *per cent* had no idea of what graduate outcomes actually are.

However, as the listed graduate attributes were unpacked in discussion, students identified an alignment between what they were taught and what might be expected of them. For example, a student commented on a specific attribute of Classical Music Performance, 'Self-confidence to share personal interpretation with other':

...every week we're expected to have a voice class and [we] get up on stage [and perform] and then you will be critiqued, or you will be asked how you felt you could have done it better, and the teacher likes to involve other students and to get them to critique as well – just ways of how to improve...of course at the beginning it wasn't something I was used to, so I was scared...but throughout the year you create a friendship with these people so...if I was to get up on stage now...there would be some nervousness but I would feel comfortable being critiqued (and some of them can be quite brutal) but...we all know it's a way of improvement and...music can be quite a harsh world. It's preparing us for it.  
(Student 3)

It was also evident that vocal performance skills take time to develop as the voice matures so graduate performance attributes may not be immediately apparent.

Despite 79 *per cent* of student survey respondents being able to identify potential jobs upon graduation, immediate employment or employment in the field was not an expectation of these students:

...at the end of the day you are not here to, or personally, I'm not here in this particular degree...to get a job. [I am] here to gain a skill. Which you can nurture and go on to further study or straight into the career world...it's not like medicine or law, you're not going to get a job offer straight away, you're gaining a skill to be able to go out into the world and do your own thing with it. (Student 4)

Student 5, who was doing a double major, focused on the generic skills he might gain from a music degree. He commented:

...my analysis skills, say I listen to a piece of music or read a piece of music from sheet music, my appreciation for that music is going to be a lot higher now...it's definitely got a



wider application and it links with my other degree – the appreciation you get for the way things are crafted together...I can't imagine myself presenting my Music degree and expecting to get a job for it.

The data suggested that these students, unlike those in the medical professions, were responsible for the construction of their graduate identity. The diversity of outcomes was such that there was no single professional model to be pursued. Music was often studied for personal interest rather than for professional reasons. Moreover, where performance was the goal, passion was the driver.

Tracking the development of skill attributes was informal:

It's not an overtly conscious thing...sometimes it's a subconscious thing because you've learned the skills and in regards to analysing pieces of music *etc.*, but there is some consciousness that goes into knowing learned new skills especially with performance because you are out there doing it. So when you realise that you can do something, then you obviously move on to harder [things] to try something [new]. (Student 4)

Moreover, student survey data indicated that only 21 *per cent* of respondents were aware of any links between the assessment tasks and the graduate outcomes. In addition, 40 *per cent* of respondents were unaware of linkages.

Many of the students entered the programme having pursued extra-curricular activities associated with music. This continued through their undergraduate degree. It was encouraged and actively supported by their teachers. These extra-curricular skills and contacts were an integral aspect of the programme for students: "in this field it's who you know, not what you know, so the degree helps but it's not necessarily the be all and end all" (Student survey).

### Reflections and implications

The reality is it is hard to make a living as a musician in New Zealand. Staff in the Music Department, therefore, actively encourage diversity and problem solving as important attributes in their students:

I think the generic attributes that everybody that comes through a MusB should have, is the ability to do more than one thing...because that's just the historical reality of a small country like New Zealand with an economically marginal profession." (Academic 8)

At Otago, we tend to emphasise quite a lot of crossover...we think it's good for students to know about all types of music, partly for their own benefit. In today's world, if you want to try and make a career as a musician, you have to be versatile, so it doesn't help if you just know one genre." (Academic 4)

Staff consider it important to nurture both creativity and a professional attitude in their students, and this "culture of wanting to help" (Academic 1) extends beyond current students to their alumni as well: "we'll monitor our alumni reasonably well...my take on it is that it's a kind of alumni service that goes with the degree here. That if you come through and work with me, then I'm always happy to give advice...it's part of the culture...I mean it comes down to philosophy...my job is training my replacements" (Academic 8).

It seems that student awareness of graduate attributes and outcomes is mixed, but generally increases over time. There is perhaps room for improvement, in increasing students' awareness of how their assessment tasks link to the development of specific attributes. Rather than paper by paper, enhancing a department-wide approach to this was also identified by staff:

Maybe there needs to be a little bit more centralisation and a little bit more thinking about all of these things [GAs] as an ensemble that go together, rather than as a bunch of kind of fragmentary things that end up getting put together, and then a degree at the end of the day...the will is there to do it because people think it's important." (Academic 3)

### **6.2.3 Bachelor of Design Innovation at Victoria University of Wellington**

The Design Innovation programme at Victoria has used a process of contextualisation of graduate attributes, curriculum alignment, and mapping of graduate attributes and learning objectives to courses to redesign three specialisations within their major. This process has been of value to the staff, helping them plan their work, focus their energy, and reflect more deeply on their strategies for supporting student learning. This work has seen significant changes to the courses but students remain essentially unaware of the impact of graduate attributes and focused on their future employability.

#### **Introduction**

The Design Innovation programme at Victoria is taught at the creative campus in Wellington where the Faculty of Architecture and Design is based. Wellington has an active creative industry and the programme has very strong links with the profession. Staff and students regularly move between academia and commercial work and are clearly conscious of the needs and expectations of the profession.

Undergraduate design students undertake a three-year Bachelor of Design Innovation, specialising in Media Design, Industrial Design or Culture+Context. Students are then able to either join the workforce in a variety of entry-level positions or continue on to complete the Masters of Design Innovation that positions them for more senior design roles. The undergraduate curriculum starts with a common first year with the students then specialising in their choices at second and third year. Each of the three specialisations has a set of mandatory courses, but with latitude for students to choose courses from other areas, and to minor in other disciplines such as Psychology, Anthropology, Māori or Pacific Studies, Writing, Film or Media Studies.

#### **Translation of graduate attributes into the curriculum**

Victoria states that all students completing a qualification will demonstrate leadership, creative and critical thinking, and be effective communicators. All qualifications are expected to place these generic expectations into a disciplinary context and also to show how students will experience clear pathways through individual courses to achieve success in their chosen qualification. The Faculty of Architecture and Design saw this process as being useful for the design programme, which had been recently reconfigured and faced the challenge of covering material in three years that is commonly a four-year qualification internationally. In addition, the three specialisations were building on a common first year without a clear plan for coordinating their potentially different requirements and priorities.

The decision was made to engage with each specialisation separately to define their own expression of the attributes and outcomes they aspired to for their graduates and to map these to the programme of courses delivered by the school. Inevitably this was going to identify different expectations for courses that served multiple specialisations, particularly those that constituted the common first year. This identification process would then inform engagement with the staff responsible for the first-year programme, treating their courses coherently for the purposes of defining their relationships to all three specialisations.

A process of backwards design was followed with each group. This commenced with a group meeting attended by all academic staff involved in the particular specialisation. In this meeting the university

graduate attributes were explained and a facilitated brainstorming activity was undertaken creating a set of contextualised attributes for the specialisation. These programme attributes had to align with the overall attributes but were intended to extend beyond the generic to more completely describe the intended outcomes for the specialisation.

Once the programme attributes were created, they were then mapped to the courses within the programme. The mapping paid particular attention to those courses that were core to the progression of students through the specialisation, also known as a pathway (Figure 6.2). The objective of the mapping was to ensure that clear pathways existed through the first, second and third-year courses building student achievement of the programme attributes. Over a couple of workshop sessions the staff negotiated and discussed which courses were focusing on particular aspects of the programme attributes, how student learning was assessed, and the relationships between courses. An example of the mapping is shown in Figure 6.3.

These mapping documents are tools for testing the design of the programme as a whole, not just a record of the decisions made. Courses that were mapped against many attributes were examined to see if they were being unnecessarily ambitious in scope; attributes that were not being addressed in any course were examined and decisions made as to where they could be taught; attributes that were being taught and/or assessed in many courses were examined to see if that focus reflected their significance.

Once the mapping had been agreed, the process moved to examining individual courses. Each course now had a list of programme attributes it was meant to focus upon, and these were translated into a set of course learning objectives. As the courses already existed this consisted initially of a review reprioritisation of the existing objective statements. Inevitably, this raised questions about the overall mapping for the course and the activity was one of iteration and revision rather than strictly linear.

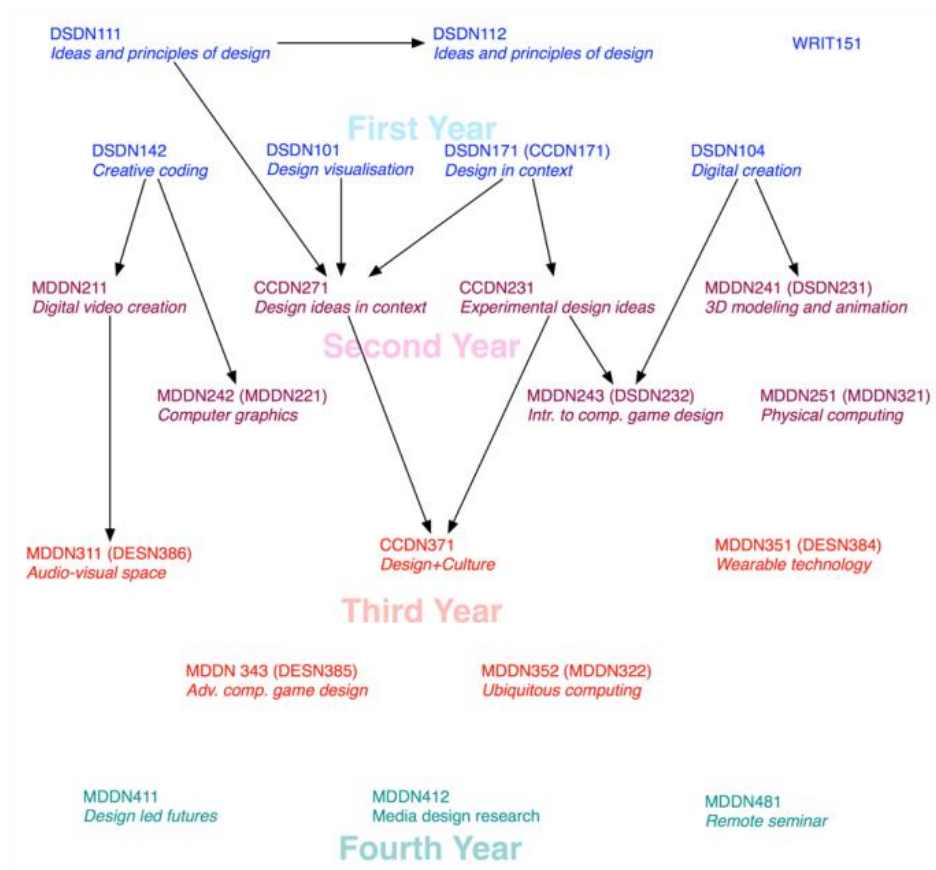


Figure 6.2: Course pathways for the Media specialisation

Once the learning objectives were revised and reprioritised, staff were taken through a process of Key Learning Objective (KLO) mapping (Figure 6.4). KLO maps were used to help staff test the relationship of their course to others in the programme and to ensure that activities, including assessment, were aligned with the programme and course objectives.

After all three specialisations had worked through the initial stages of the process, it was then possible to look at the implications for the first-year courses common to all three. This first required alignment of the three sets of programme attributes which, although created independently, ended up having significant overlaps in coverage. A superset of mappings was then created, summarising all three programmes expectations for the first-year courses, and a process of review and negotiation could then be followed with the staff teaching those courses.

## Mapping to Courses

Graduate Attribute	1. Reinforce critical design explorations with an understanding of the history and impact of design on global society		2. Able to critically analyse complex situations to identify key design questions		3. Able to develop and execute an effective strategy towards creating an imaginative and innovative design solution		4. Able to critically evaluate the design process and outcomes		5. Active and responsible members of the design profession, demonstrating leadership within multidisciplinary contexts		6. Commitment to an ongoing engagement with the constantly evolving nature of design/ Agility and resourcefulness in developing their capability as a designer		7. Convincingly communicate design concepts in a variety of ways with clarity and insight Written		8. Convincingly communicate design concepts in a variety of ways with clarity and insight Oral		9. Convincingly communicate design concepts in a variety of ways with clarity and insight Visual		10. Groupwork	
Course	Content <sup>1</sup>	Assess	Content	Assess	Content	Assess	Content <sup>1</sup>	Assess	Content	Assess	Content	Assess	Content	Assess	Content	Assess	Content	Assess	Content	Assess
WRIT151	x	x	x	x	x	x	x	x	x	x	x	x	H	A	x	x	x	x	x	x
DSDN101 <i>Design visualisation</i>	x	x	M	A	L	x	M	x	M	A	M	A	M	A	L	x	H	A	M	x
DSDN111 <i>Ideas and principles of design</i>	L	A	H	A	H	A	M	x	x	x	M	A	x	x	M	x	H	A	x	x
DSDN112 <i>Ideas and practices of design</i>	x	x	H	A	H	A	M	x	x	x	M	A	x	x	M	x	H	A	x	x
DSDN142 <i>Creative coding</i>	x	x	L	x	M	A	x	x	x	x	L	x	x	x	L	x	H	A	x	x
DSDN171 <i>Design in context</i>	H	A	L	x	x	x	x	x	M	x	x	x	H	A	M	A	L	x	L	x
CCDN231 <i>Experimental design ideas</i>	H	A	H	A	L	x	M	A	M	A	L	x	H	A	M	x	M	A	x	x
CCDN271 <i>Design ideas in context</i>	H	A	L	x	x	x	x	x	x	x	L	x	H	A	M	A	L	A	x	x
MDDN211 <i>Digital video creation</i>	x	x	L	x	L	x	H	A	x	x	L	x	H	A	M	A	H	A	L	x
MDDN241 <i>3D modeling and animation</i>	x	x	L	x	M	A	M	x	x	x	M	x	x	x	x	x	H	A	x	x
MDDN242 (MDDN221) <i>Computer graphics</i>	x	x	x	x	H	A	x	x	x	x	M	A	x	x	x	x	H	A	x	x
MDDN243 (DSDN232) <i>Intr. to comp. game design</i>	M	A	x	x	H	A	M	A	H	A	M	A	L	A	L	A	M	A	H	A
MDDN251 (MDDN321) <i>Physical computing</i>	x	x	M	x	H	A	H	A	x	x	M	A	L	x	L	x	H	A	H	A
CCDN331 <i>Live Theory</i>	H	A	H	A	x	x	x	x	x	x	L	x	H	A	L	x	L	x	x	x
MDDN311 <i>Post production &amp; special effects</i>	x	x	x	x	H	A	M	x	x	x	M	A	x	x	L	A	H	A	x	x
MDDN314 <i>Audio-visual space</i>	M	A	x	x	H	A	M	A	M	A	M	A	M	A	L	A	H	A	x	x
DESN384 <i>Wearable technology</i>	L	A	x	x	H	A	M	x	L	x	H	A	x	x	L	x	H	A	M	x
MDDN 343 (DESN385) <i>Adv. comp. game design</i>	x	x	x	x	H	A	M	A	H	A	H	A	L	A	L	x	M	A	H	A
MDDN352 (MDDN322) <i>Ubiquitous computing</i>	L	x	L	x	H	A	H	A	H	A	M	A	L	x	L	x	H	A	M	x
MDDN411 <i>Design led futures</i>	M	A	M	A	H	A	H	A	H	A	H	A	L	x	H	A	H	A	H	A
MDDN412 <i>Media design research</i>	L	x	H	A	H	A	M	A	L	x	H	A	L	A	M	A	H	A	x	x
MDDN481 <i>Remote seminar</i>	H	A	M	A	L	x	L	x	H	A	H	A	H	A	M	A	L	x	x	x

1: Content: H = high; M = medium; L = low

Version 3.18<sup>1</sup> August 2010

Figure 6.3: Mapping of courses to the Media specialisation programme attributes

Note: 'A' indicates a course collects assessment information relevant to the attribute. 'H', 'M' and 'L' indicate the extent of focus on the attribute in the course content and activities.

## Key Learning Objective Map

<b>Learning Objective</b> State the most important Learning Objective that you have not yet mapped																
MDDN211 LO1: be able to create and convincingly communicate in visual and written form proposals for video projects																
<b>Relationship to Other Courses</b> What knowledge/skills/experience do you expect students to build upon from other courses? Specify the courses and the specific activities that students will have completed. How can the students refresh this knowledge for themselves?																
Course WRIT151	Activities							Specific Knowledge/Skill/Experience Grammar, punctuation, structure of a document								
Course DSDN171	Activities							Specific Knowledge/Skill/Experience Appropriate language in formal design documents								
Course DSDN101	Activities							Specific Knowledge/Skill/Experience Moodboard; Visual design conception process; Use of images to communicate design ideas								
Course DSDN111	Activities							Specific Knowledge/Skill/Experience As per DSDN101 + computer skills; specific software; digital image manipulation								
<b>Diagnostic Assessment</b> How will you find out what students already know and can do, and how well, when they begin?																
Individual student bio poster introductions Individual student portfolios of assessment from first year																
<b>Major Learning Activities/Tasks</b> What will students do to practice achievement of elements of this Learning Objective?																
How and when will you provide Formative feedback on this work?																
Review good examples of previous video proposals – analysis by students								Feedback from other students and teacher when presenting analysis in groups								
Initial concept document (1 page) discussed with other students and revised version created								Feedback from other students, indirect feedback from seeing other ideas Minor summative assessment and feedback from staff								
Development of proposals including storyboards								Feedback from staff and other students as developed								
<b>Summative Assessment</b> How and when will you assess, mark and grade individual student achievement of the Learning Objective?																
When and how can students demonstrate they have improved their performance of the Learning Objective?																
Proposal document								Marking rubric Feedback focused on implementation and reflection aspects								
Post-implementation reflection								Pass/fail on reflection document								
<b>Workload</b> How many hours will you and your students devote to this Learning Objective?																
<b>Yourself</b> By Week:																
Total hours: 53																
Before	1	2	3	4	5	6	Break	Break	7	8	9	10	11	12	Study	
				2			25	25							1	
<b>Your Students</b> By Week:																
Total hours: 36																
Before	1	2	3	4	5	6	Break	Break	7	8	9	10	11	12	Study	
	3	6	6	6	6	6									3	

Version 1.0 10 September 2009

Based on the KLO map created by Tom Angelo, revised and extended by Stephen Marshall

Figure 6.4: Key learning objective (KLO) mapping example

## Experiences of graduate attributes by students and staff

Having been guided through the process described above, the Design Innovation staff were generally familiar with the ideas of graduate attributes and at least one way they can be used by a university. Staff noted that the process had, perhaps unexpectedly, been of value to their teaching:

I was really sceptical about doing [the graduate attribute mapping] when we started because I thought this would be just another bout of university bureaucracy. And I was impressed when we started doing them – the ways in which they weren't [bureaucratic] and the ways in which I could see that it was basically a process of rationalisation. What sold me was when I suddenly realised we were doing four [objectives] for each course and not twenty. (Academic 1)

Despite having been through a common process staff did, however, have quite different understandings of the nature of graduate attributes; some were very process-oriented:

I think it's probably a set of skills or a set of knowledge that a student should acquire by the time they have either finished a course or the year or the paper that they been advised to. (Academic 2)

It's some cognitive token. I don't know if that's the way to describe it. Some cognitive token that I know the students have at the conclusion of the course and as a direct result of the course and the way it was structured and performed, that they're taking away with them. And that is part of that planning and the goals that were set up with the course. (Academic 3)

Others expressed them with more creativity:

I kind of think of [graduate attributes] as power-ups. I think of ways that they're taking their Mario [game avatar] and hopped on a glowing entity that the course is providing and have taken it with them. But it's not so binary as that because with that of course the students all represent a gradient of range with which they acquired some of those attributes. (Academic 3)

Staff also identified a range of purposes that graduate attributes serve, including marketing, quality assurance, and communication with students and employers:

I think they're a tool for communicating with employers. This is what [students] should have and don't give them expectations that they're going to have this. (Academic 2)

I think there's a quality assurance to it. (Academic 4)

I think sometimes at the level of the university you get this feeling like it's this kind of marketing point of view, like what's distinctive about Victoria, how can we position ourselves in relationship to these other universities, and the end goal starts to be about that kind of identity of the university rather than the attributes of the student. (Academic 5)

Particularly during the early stages of the process of articulating and contextualising the graduate attributes, staff engaged actively with the identity of their programme and its place in the academic and commercial spheres. Particularly in the context of an applied discipline such as design this led staff to reflect on the tension between immediate application and skill, and wider objectives of university education:

[The mapping process] begs the bigger question of what the purpose of a university education is. Is it just to get a job or is it to gain certain kinds of skills that would allow you to perhaps move through a couple of professions and give you a kind of

sophistication and understanding of the world and your own aptitudes? I would hope that it's the latter. That you're going to have specific skills that will relate to the industry that you think you want to end up in but that you also need to get these very key skills that allow you to adapt and change, especially today. (Academic 5)

...you spend a lot of time coming up with the most general language possible to therefore apply to as many things as possible, and in that process I think you get a very generic sense of things, which is good and bad. It does make a nice umbrella but at the same time people know specific things and they have skills in specific things when they leave the university as well as these general things. And I think some of that specificity and individuality is not necessarily well captured in a given attribute. (Academic 5)

If you look from the top, perhaps the work that society's doing and the direction that society takes. And then we bring it down into the university into the work that we do as a researcher. Is the student's work applicable to all of those things? But in a way that is not only useful in maybe the commercial world that we work in but it may be useful to themselves. It's useful for their own growth. (Academic 2)

There is a clear awareness by staff of the profession that they are preparing students for, but also a sense that their students can offer far more than a set of specific technical skills:

So how the graduate attributes play out in terms of the students then going in to work. For me I don't look at the graduate attributes as being that simple; I don't really feel like it's about the staff and the students having these graduate attributes, the students then going out and getting jobs; it feels to me like what's as important is that it's a process that makes people think about what they're actually doing on the programme. Students and lecturers together. The more there's some kind of cohesion there and clarity of direction, the more your students are going to come out the other end of the programme employable, and be able to know where they're navigating. (Academic 1)

...our students are the professionals. And they will be moving in a profession. Okay, so you've got an established business model, a professional model, but you've also got students who are leaving here establishing maybe a new or maybe a different take on that model. So our experts have to be flexible enough to fit into what an employer might want but also what a student might bring to an employer and that the employer really hasn't identified. So if we're doing a Bachelor of Innovation, I would think the student comes out of it and has an innovative spirit. (Academic 2)

The response to the formal process followed has been very positive and staff very clearly saw the way it supported their ability to plan, to communicate with students and to be confident that the time and energy of both staff and students was being used productively in service to the achievement of a useful qualification.

...it felt very much like we really needed it in the design school...All I ever see are places where things can be rationalised in the university context. There always seems to be quite a lot of it. (Academic 1)

What I dislike is when people don't really know what they're doing as coordinators or teachers or lecturers and they avoid making themselves know what they're doing by cloaking it in the process of arguing that they're dealing with intangibles all the time. So I do see students who are very insecure about what they're supposed to be doing and it's because it's not being made clear to them. (Academic 1)

...it allows me as a course coordinator to know what the most important thing that I can do for the students is. I consider what I really need to impart to them. When I first started here I considered that here at the School of Design, some of my projects should



be written, some of the projects I have students do should be like the creative projects. I have these monstrous, horrible, creative projects; we didn't have a studio to work in and I was trying to do everything. Then I realised I don't have to do everything. I just needed to do some things and if I could get my students to know how to do these things and to understand these concepts, then my work is done here. And that, in and of itself, has really allowed me to focus most closely, not only on my own strengths as an educator, but what I think the students need to learn from me. (Academic 5)

Finally, the process also helped some of the staff better appreciate their role as a teacher:

I think that teaching at other universities and having discussions about our courses, *etc.* we had graduate attributes but we didn't really analyse the whole learning process so specifically. And I found, since coming here to Vic, that it has massively opened up my self-analysis of teaching and our courses. (Academic 3)

In contrast to the engagement of staff, the Design student's awareness and use of graduate attributes and learning outcomes was much more limited. Students who expressed knowledge of graduate attributes did so primarily in the context of future employment:

It gives an idea of what course best suits the career you want. It's a lot of money to pay for a course that is no use to you. (Student 1)

When asked how they would know when they had achieved the outcomes described in the graduate attributes, another student responded, "By being handed a degree" (Student 2).

### **Reflections and implications**

The Design Innovation programme at Victoria has taken 18 months to complete the initial review and mapping processes outlined above. The process is not lightweight and does require the commitment of the entire academic team to succeed. Careful facilitation and negotiation were needed many times during the process to help staff work through challenging academic and organisational issues. The process takes several months inevitably, as staff need to have the time to reflect on the implications of the mapping analysis, and also need to keep teaching simultaneously. A particular challenge for staff facilitating such a process is the need to sustain it through busy periods of the academic year and to help manage the energies of the participants as they reengage after inevitable gaps. Despite these challenges the comments in the previous section indicate that the outcome has been valued and has helped the staff focus on their teaching more productively.

It must be said, however, that little of this work is apparent directly to students. Students from the programme were asked about graduate attributes and none could describe the attributes or the role they played internally. The students were predominantly concerned about the pragmatic need to get a job and their comments were dominated by the need to gain positive evidence for their employability. It seems clear, however, that indirect benefits to students were apparent to the staff, if only through the confidence that academics gained in their ability to manage student activities positively.

## **6.3 Cases with graduate outcomes well embedded in curricula**

In this section we present five of our case studies that demonstrated a high level of embedding of GAs. They are Marketing, Physiotherapy, Oral Health, Applied Science and Broadcasting Communications.

### **6.3.1 Bachelor of Commerce (Marketing) at Victoria University of Wellington**

The Marketing programme at Victoria has been using graduate attributes to plan and structure the courses and activities experienced by students. This work was undertaken primarily in response to external accreditation requirements but also in recognition of the need to coordinate teaching work in a more collegial and planned manner. Students are largely unaware of this work and express a desire to become more aware of the nature of their degree experience and the consequence it is likely to have on their future employment.

#### **Introduction**

The Marketing programme at Victoria is part of the range of courses offered by the Faculty of Commerce as part of the Bachelors of Commerce and Administration (BCA). The Faculty has been engaged in an active programme of quality improvement supported by accreditation through the American Association to Advance Collegiate Schools of Business (AACSB) and the European Quality Improvement System (EQUIS), and is one of a select group of institutions accredited with the AACSB for business and accountancy.

Marketing offer a full programme of undergraduate and postgraduate study taught by seven academic staff through both face-to-face and distance modes. Marketing is part of the core curriculum for the BCA and most of the more than 5000 students of the Faculty will complete at least one marketing paper as part of their studies. Over the last four years there have been significant changes in the courses that students study as the university has moved to a standardised 15/20-point model for all courses (previously courses have varied from 12 to 24 points). This has meant that most courses in the Faculty have had to be repositioned with the typical full-time student moving from a six course per year programme to an eight course per year programme.

#### **Translation of graduate attributes into the curriculum**

Victoria states that all students completing a qualification will demonstrate leadership, creative and critical thinking, and be effective communicators. All qualifications are expected to place these generic expectations into a disciplinary context and also to show how students will experience clear pathways through individual courses to achieve success in their chosen qualification. The Faculty of Commerce has taken these three and added an additional goal of 'global and multicultural perspectives'.

The Faculty of Commerce's decision to engage in the AACSB accreditation process further reinforced this expectation through the requirement that all majors within the BCA identify specific learning goals for the major (known internally as major attributes) and show how courses are designed to support student achievement of those goals. The learning goals for each major are defined by the academic staff teaching courses for that major and cover both the university graduate attributes as well as discipline specific goals (Table 6.1).

**Table 6.1: Faculty learning goals (LG) and major attributes (MA) for the Marketing programme**

<b>Faculty learning goals (LG)</b>	<b>Major attributes (MA)</b>
LG1 Critical & Creative Thinking	MA1 Explain and summarise the core principles of Marketing.
LG2 Communication	MA2 Organise and critique marketing issues and decision making
LG3 Global and Multicultural Perspectives	MA3 Comprehend and use problem-solving skills in relation to marketing decision making, theories and practices
LG4 Leadership	MA4 Conduct appropriate research on marketing problems and issues
	MA5 Communicate effectively within the marketing context
	MA6 Utilise critical and creative thinking skills, individually and within teams
	MA7 Critically evaluate challenges facing marketing leaders
	MA8 Demonstrate leadership in the well-being and sustainability of societies and ecological environments

The learning goals are then mapped against the complete set of courses offered by the Faculty that contribute to the major. This includes courses offered by other schools in the Faculty as part of the core BCA curriculum as well as those offered at second, third and fourth year (for the honours students). The mapping process (Figure 6.5) analyses whether courses help students learn in ways that support achievement of the learning goal, as well as whether student work is assessed in respect of that goal.

Mapping of assessment is an important part of the process as it helps the Faculty identify where student work can be examined for evidence of improvement. The AACSB model uses a process called ‘assurance of learning’, where evidence is gathered from student assessments to demonstrate that the quality of work is improving as they progress through their studies. This evidence is used to show that the students are measurably improving in their abilities in relation to the learning goals for their major.

A set of standard rubrics has been developed for each of the learning goals and these are used both for the assurance of learning process and also as part of the assessment feedback process used with students.

**Figure 6.5: Mapping of courses and learning goals.**

Note: 'G' indicates a course collects assessment information relevant to the goal. 'H', 'M' and 'L' indicate the extent of focus on the goal in the course content and activities.

BCA Learning Goals		Thinking			LG2 Communication			LG3 Global and Multicultural Perspectives					LG4 Leadership			LG5 Major-specific Learning Objectives (MARK)								
		LO1a Analyse a complex situation which could be viewed from multiple perspectives	LO1b Use/apply analytical techniques/models/frameworks appropriately in specific contexts	LO1c Reflect critically on practical and theoretical issues	LO2a Academic Writing	LO2b Business Writing	LO2c Presentation	LO2d Oral skills	LO3a Global environments	LO3b Adapt strategy	LO3c Legis/Govt policy impacts	LO3d Cross-Cultural	LO3e Multi-cultural	LO4a Lead discussion	LO4b Ethical	LO4c Group work	MA1 Explain and summarise the core principles of Marketing.	MA2 Organise and critique marketing issues and decision-making	MA3 Comprehend and use problem-solving skills in relation to marketing decision-making, theories and practices.	MA4 Conduct appropriate research on marketing problems and issues.	MA5 Communicate effectively within the marketing context	MA6 Utilise critical and creative thinking skills, individually and within teams.	MA7 Critically evaluate challenges facing marketing leaders.	MA8 Demonstrate leadership in the well-being and sustainability of societies and ecological environments
Course Codes																								
BCA Core																								
ACCY 111		M G		H G	L G	L		L			L		L											
ECON 130		L G		M G	M			M G		M G														
QUAN 102		L G		M G																				
MARK 101		H G	L	M G	M	M G		M G	M G	H G	M	L	M		M G	H G	H G	H G	L G	H G				L
INFO 101		H G		H G																				
MGMT 101		M G	M G	L	H		L G	L G	L	L	L G	L	L	L G	L G	L G								
FCOM 111		M	H	L	H	L	H		M		H	M	M											
Marketing																								
MARK 202		H G	H G	M G		H G			M G			M	M		M G		H G	M G	H G		H G	M		L
MARK 203		H	M	H G	M	H		L	L	L	L	L	L		L	H G	L	H G	H G	H G	H	H G	L	
MARK 204																								
MARK 211		H G	M	H G	M	H G	H G	L G	M	M G	L	L	L		M	H G	H G	M G	H G	L	H G	H G	L	
MARK 301		H			H G						L	L			L	M G					H G	H G		L
MARK 302		H			H		H	H	H G	H	H	H	H	H		H		H		H	H G	H G	H	L
MARK 306		H G		H G	L G	H G	H G	H G	M		H G	M	L	H G	M	H G	H G	H G	H G	M G	H G	H G	H G	L
MARK 311		H G	H G	H G	M G	H G	H G	M G	M G	H G	M G	M G	M G	L G	M	H G	H G	H G	H G		H G	H G	H G	H G
MARK 313		H G		H G	L G	H G	H G	H G	M		H G	M	L	H G	M	H G	H G	H G	H G	M G	H G	H G	H G	L

## Experiences of graduate attributes by students and staff

Staff of the Faculty of Commerce have been involved in a five-year project to become accredited to the AACSB, and the structuring of programmes with graduate attributes and learning goals has been a keystone in that process. Unsurprisingly, Marketing staff have very clear ideas of what graduate attributes are and the way that they are being used:

I tend to think of [graduate attributes] in relation to my own discipline. I think that makes sense. We're going to send a newly minted marketing grad out into the workforce, what would I expect them to be able to do and to understand? I suppose that's how I start to approach it. (Academic 1)

...to me graduate attributes are the things that accumulate at the top of this pyramid that are beyond the concepts and the individual theories. And we're teaching them a way of thinking and at the end of the day, I think that is the most important thing that they get from the degree, is this idea that they can think differently, that they can think more quickly, more laterally or horizontally or vertically or whatever. That's what it means to me. So that a graduate implies certain traits to employers that other people don't have. (Academic 2)

Just as clearly there is the awareness that the university's overall graduate attributes are vague and only take on significance when contextualised and framed by the discipline and the purpose of the qualification:

To me learning goals and attributes are two different things. An attribute is something that I think we would like to see students leave the university with. And they're not necessarily strictly definable. ...A learning goal, on the other hand, is something that has to be met in some form...not necessarily to pass, but to demonstrate mastery at some level. I think attributes is more the message we want to get out to the world, that the university students demonstrate to some level these attributes: creative thinking, leadership, communication, critical thinking – but there's no bar indicating what that is. (Academic 3)

All of the staff interviewed recognised the way that the use of graduate attributes had helped them collectively engage with the needs of the students and the programme:

...20 years ago...you didn't really talk to anyone else about what they were doing in their courses, it was 'just like a second year, so it was more than intro but it's not hard core necessarily'. That sort of thing. Now there has to be discussion. You simply have to talk to other teachers. You have contexts where we're aware of what's being done in learning objectives, degree objectives, graduate attributes, and even while some maybe staff may take that more seriously than others, there's certainly dialogue that's occurring at several levels on a year-by-year basis. (Academic 1)

Just as clearly graduate attributes are not seen as something that students need to be directly aware of. The staff interviewed felt it unlikely that students would be aware of the use of graduate attributes or learning goals in their courses:

My hunch is that the majority wouldn't or they would know some of them...but having said that, I think they do know some of the things that we're trying to develop. (Academic 1)

I suppose if you sat down and asked them and talked to them about them, some of them would realise they do see them. But I don't think they do because I don't think

that we, and I can only speak for myself, stand there and explain them to them.  
(Academic 2)

This is consistent with the information supplied by the students themselves, with only five of 77 student respondents (6%) identifying the university's graduate attributes. Most students were either confused by the idea or felt that it described their employability or the experience of being qualified:

I'm not 100% sure what 'graduate outcomes' means, though! My guess is that it would either mean what the degree is preparing the student for (*i.e.* types of professions) or some sort of holistic 'here's what you should have learned by the end of your degree' mumbo jumbo. :) (Student 1)

I was provided with a description of the course content. There was then a list of job titles that the degree could take you into. (Student 2)

Even the students who knew the graduate attributes reported generally little awareness of the role that the graduate attributes played in their studies, including the assessment activities. One student felt very strongly that such knowledge was not in itself of value:

My ability to gain these skills has nothing to do with the bit of paper that states what they want us to leave university with. These skills come from working hard in my courses and gaining the experience of critical thinking, leading and communicating.  
(Student 3)

Many students appeared to interpret graduate outcomes as descriptions of the consequences of being a graduate in their field, the types of people and the experiences they have had. Bearing in mind that few students could actually describe graduate outcomes accurately, most (67%) of the students were able to identify a range of positive ways that graduate attributes and learning goals could be used. For some (11%) this was primarily framed in terms of employment:

...you want to know the possibilities of your future after spending however many years studying at university. You want to know whether the outcomes are things which you can see yourself becoming and doing in future. (Student 4)

[description of graduate outcomes] is relevant to know the opportunities available to you when you finish your degree before choosing to undertake numerous years of study. (Student 5)

Others (14%) felt that graduate attributes helped their planning their studies. However, the largest group (31%) felt that graduate attributes helped them understand what their degree was actually about. Some quotes from these students in the survey were:

I think [knowing graduate outcomes is] important to know what I will achieve at the end of my studies. (Student 6)

[Knowing graduate outcomes] enables a clear reason as to why you should do the subject and what comes out of it. (Student 7)

If you don't know what you will get out of a degree, why pay for it when it's so expensive and a massive life investment? (Student 8)

### **Reflections and implications**

The Marketing programme has used graduate attributes extensively and successfully to define and structure their courses, and to support a community of practice in their teaching. Clearly the Faculty's leadership has played a key role in setting strategic goals for accreditation and this has

helped shape the process being used. However, the benefits identified by the staff show that intrinsic factors far outweigh the extrinsic ones. In common with much organisational change, there is no one thing that has led to a change of practice; as well as accreditation and the awareness of the use of graduate attributes elsewhere, the staff describe the need to prioritise the things covered in the programme, the needs of employers, and their own ability to communicate and coordinate internally.

Students are unsurprisingly focused on their own futures, what the degree they are studying will allow them to be and to achieve. Given the economic imperatives it is to be expected that most students mentioned employment in response to at least one question. More interesting, however, was the number of students who expressed a desire to understand the nature of the degree they were studying. Students seem to have an unformed sense of the degree and the programme of study and are looking for ways to make sense of their experiences and the courses they are taking.

The systems that the Faculty has created have worked well; however, it is clear that work yet remains. The evidence gathered from the assurance of learning process has yet to be reviewed to show whether the programme designs are achieving the goals the Faculty has for their qualifications, and it is likely another cycle of improvement will be needed to address the inevitable shortcomings. The student responses also suggest that beyond structuring their learning, staff need to be thinking about how graduate attributes help students understand their experience while they are living it.

### **6.3.2 Bachelor of Health Science (Physiotherapy) at AUT University**

The undergraduate Physiotherapy degree at AUT University provides an illustration of a complete overhaul of an entire undergraduate curriculum driven by a desire for graduates to develop certain attributes. The graduate attributes to be embedded in the curriculum were based on the new Physiotherapy graduate profile. Embedding the graduate attributes in the curriculum and gaining staff consensus has been a challenging and on-going journey. The new curriculum was over five years in the planning before it was rolled out in 2010. This case study reports on quantitative and qualitative data obtained from both staff and students, three years on. Data shows evidence of a curriculum experience with clearly embedded graduate attributes that reflect the vision statement and the graduate profile.

#### **Introduction**

AUT University has three main campuses in Auckland; and health science programmes are largely housed at the northern campus, Akoranga. The School of Physiotherapy offers undergraduate and postgraduate programmes, and in 2012 it has approximately 500 students and 35 staff. The four-year undergraduate Physiotherapy degree is one possible specialisation pathway in the broader Bachelor of Health Science (other clinical pathways include midwifery, nursing and occupational therapy).

The Physiotherapy degree has limited places, and has competitive entry requirements based on academic school results – however, it should be noted that once students are admitted, they are ‘physio students’ and selection is not based on a first-year generic health science course. There are approximately 150 places per year group, and for the first three years the students are predominantly on campus, while in the fourth year they tend to be off-campus on clinical placements throughout the North Island.

AUT University as a whole and the School of Physiotherapy both have quite visible graduate profiles, readily available and accessible on institutional and departmental websites and strategic plans, as well as student-oriented course materials. AUT’s 2012–2016 Strategic Plan states that it will

produce graduates who “are distinguished by their professionalism, their confidence and adaptability, their ability to communicate and cooperate, and their appreciation of the wider contexts in which they live and work” (Auckland University of Technology, 2012, p. 1).

The more specific Physiotherapy graduate profile states that graduates will be “competent in the management of a wide range of physical problems. They will have the potential to be at the forefront of professionals who maintain and improve people’s health using physical rehabilitation and health promotion approaches. They will be innovative, analytical, critically inquiring health professionals who have a high degree of interpersonal communication skills and demonstrate professional probity and ethical responsibility” (Nicholls, 2012, p. 5).

Starting unofficially in 2001, and then officially in 2007, the BHSc (Physiotherapy) at AUT University has undergone a radical review, completely overhauling many aspects of its being, starting with the guiding force – what they want their students to look like, or to be, in the future.

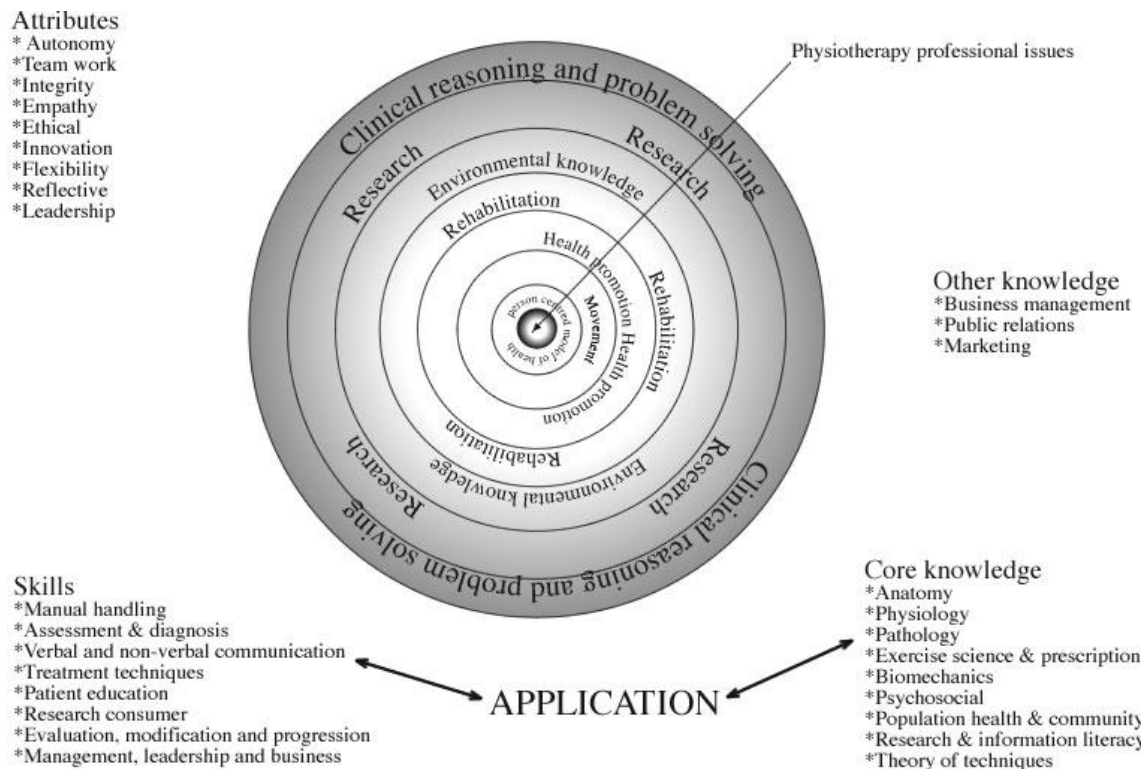
This case study reports on data obtained from surveys with physiotherapy students (n=309 consisting of 60 first-year students, 80 second-year students, 71 third-year students, and 98 fourth-year students) and staff (n=3), as well as in-depth interviews with three students and two staff. Data are also drawn from a briefing by a staff member (Nicholls, 2012).

### **Translation of graduate attributes into the curriculum**

The whole process of change in the undergraduate Physiotherapy programme at AUT University has been driven by a desire to embed graduate attributes. The review process started in 2007 with the development of a vision statement – to develop physiotherapists who are recognised throughout the world for their knowledge, skills, innovation, and leadership in health care – that has been described as “a phrase that captured where we wanted our students to be in the future” (Academic 1). Over several years, set in a context of the changing role of physiotherapy in the contemporary health care environment, AUT’s Physiotherapy staff carefully mapped out a new curriculum in a way that was wholly driven by graduate attributes. It has been a challenging and exciting on-going exercise for the staff and leadership team to translate the vision and the graduate attributes into a four-year undergraduate Physiotherapy curriculum.

The development was driven by a small group of newly appointed leaders within the Physiotherapy School. They began to share their ideas at staff meetings and for “more than a year we argued – sometimes bitterly and forcefully – among ourselves about what we needed to do” (Nicholls, 2012, p. 3). A turning point in the process was a staff ‘away day’ with an external facilitator present to help frame ideas; three staff groups worked separately to map out possible curriculum models, and the three fairly similar models produced illustrated that everyone “was now on the same page” (Nicholls, 2012, p. 4). One of the three models is shown in Figure 6.6.





**Figure 6.6: Curriculum planning model 3** (Source: Nicholls, 2012, p. 8)

Thus, the new curriculum took over five years to map out and involved “hundreds of hours of hard team work to produce”, led by a small but very committed and driven leadership team (Staff Interview 1). And indeed, five years in, it is still described as an on-going journey.

In both the ‘big picture’ of the whole-programme curriculum map, and in the detail of the curricula at a paper/course level, there is strong evidence of the embedding of the desired graduate attributes in the new Physiotherapy curriculum.

The graduate of the Physiotherapy degree, often described by staff as a “well-rounded person” who can “look at any problem and come up with solutions” (Academic 2), is at the forefront of consideration in the generation of outcomes, teaching, learning and assessments.

With the curriculum what we have tried to do is not predict what physio will need to be like in ten years’ time but to try and anticipate what the students might need and the sort of capabilities they are going to need to have in place. (Academic 1)

The detail of the curriculum has been developed with this graduate – standing in the future facing a real world problem – in mind. Traditional core science subjects, for example, are no longer taught separately; instead they are “threaded throughout each paper”, and the students concentrate on “learning how to assess and treat functional disorders with teams of teachers across musculo-, neuro- and cardio- rather than in separate silos” (Academic 1). A further feature of the curriculum is that students are encouraged to start thinking of complex issues from the beginning of their studies. The four-year undergraduate Physiotherapy curriculum overview is shown in Table 6.2.

Staff want the graduates to be “better systems thinkers – in other words, rather than knowing every pathology under the sun, we have encouraged them to learn processes and systems that can be applied to problems whatever the underlying disorder” (Academic 1). It is thought that a traditional

mechanistic way of training physiotherapists does not “equip them for the real world where people are human and people are complex and people are much more subtle” (Academic 1).

There appears to be a strong link between Physiotherapy assessments, graduate attributes and any more specific learning outcomes. Physiotherapy graduates have always had a bit of a head start here, as their registration process involves a very clear set of competencies that must be met upon graduation. However, Physiotherapy staff are working on further strengthening these links.

We need some metrics that are sensitive to what we are trying to do, and more than that – if we can design some metrics that force students into certain behaviours by assessing these capabilities they have to meet – so we can reinforce and use them as learning tools as well. (Academic 1)

### **Experiences of graduate attributes by students and staff**

It is clear from the staff and student data that they have been involved in a programme that is heavily committed to curriculum change, with a strong focus on graduate attributes. We can see this in action when we look at one of the Physiotherapy-wide graduate attributes: to be critically inquiring health professionals. This attribute is embedded in all areas of the curriculum – outcomes, teaching, learning, assessment – over the four years of the degree.

From a staff perspective:

I teach critical analysis of research and I try and bring that to them to be critical of themselves and their impact on people. Did what they did actually have an effect or was it just time? Get them to question everything. (Academic 1)

Reported from the community:

We’ve got unsolicited feedback from colleagues saying that these guys [students taught under the new curriculum] are different. They are thinking differently, they are asking questions, they are really insightful... (Academic 2)

And from a student perspective, the emergence of this questioning and critical enquiry is seen in this dialogue:

You become cut off from viewing the person as this being – you are supposed to be aware yet not. It can be confusing because then you do need to be aware that the leg is attached to somebody, but at the same time it is just a leg. It is really confusing. (Student 1)

Last year we were told about developing professional boundaries, like you don’t want to be developing a personal relationship with any of the patients but then we are also being told that we need to really look into the patient’s life and see what is really affecting the person’s injury or disability – we are questioning that world too. There is no clear sort of lines we can follow, so it is quite easy to be either too professional or too unprofessional, like you are seeing the same person twice a week for a series of months, you are going to develop a relationship – you are talking to them every day and touching them. (Student 2)

Yes, it is quite nice when your physio can connect with you, right? (Student 3)

**Table 6.2: Sequence of papers in the Physiotherapy degree (Source: Nicholls, 2012)**

Year 1-2010		Year Two-2011		Year Three-2012		Year Four-2013
Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7 & 8
Community / Ambulatory		Rehabilitation		Acute / Managing complexity		Evidenced Informed Physiotherapy Practice
<b>555101 PSYCHOLOGY &amp; LIFESPAN DEVELOPMENT</b>  Provides students with an understanding of the processes of and influences on human development. Psychological concepts and theories are considered in relation to the study of the developing individual from the time of conception to old age and death.	<b>546115 PASSPORT TO PRACTISE I</b>  Introduces students to the principles and practice of clinical assessment involving anatomical, kinesiological and physiological factors. Integrates interpersonal interactions, cultural and social dimensions	<b>546223 FUNDAMENTALS OF MOVEMENT II</b>  Enhances understanding of body systems integral to movement and the impact health conditions have on movement, function and participation.	<b>546229 EXERCISE-BASED REHABILITATION I</b>  Develops broad understanding of exercise-based rehabilitation principles. Emphasises awareness of exercise physiology, assessment and prescribing across a wide range of chronic disorders/diseases throughout the lifespan.	<b>547331 EXERCISE-BASED REHABILITATION II</b>  Develops an advanced understanding of the principles of exercise based rehabilitation applied to acute and chronic conditions across the lifespan.	<b>537334 Rehabilitation and Participation</b> Promotes and integrates the concepts of rehabilitation and participation within health related contexts and considers implications for future practice <b>Or 527872 Maori Health Promotion</b> Provides a critical overview of concepts fundamental to Maori health and reviews the origins and evolution of Maori health promotion. Fosters understanding and critical analysis of Maori health promotion models and practice. Locates Maori health from pion olion in relation to Maori development, generic health promotion and indigenous health from otion. Informs effective health promotion practice in NZ in both mainstream and Maori-specific contexts, and within international indigenous contexts. <b>Or 567431 Applied Primary Maori Mental Health</b> Provides a critical overview of concepts fundamental to application of Maori mental health in a primary health setting, such as whanau ora, recovery principles, early recognition and early intervention and provides a clear understanding and analysis of their application and impact. Fosters the integration of clinical and Maori cultural com petencies to enhance practice. Informs effective Primary Maori mental health practice in New Zealand in mainstream and Maori-specific contexts.	<b>547441 RESEARCH</b>  Critiques and evaluates current literature to inform physiotherapy practice.
<b>555201 HUMAN ANATOMY &amp; PHYSIOLOGY</b>  Introduces human anatomy and physiology through the study of systems within the body.	<b>546112 THERAPEUTIC TOUCH</b>  Introduces students to principles and theoretical basis of therapeutic touch. Explores concepts of professional conduct and develops therapeutic practice.	<b>546222 PRINCIPLES OF MOVEMENT AND FUNCTION I</b>  Develops understanding of neuromuscular control of movement focusing on the lower limb. Applies principles of assessment and rehabilitation.	<b>546230 PRINCIPLES OF MOVEMENT AND FUNCTION II</b>  Develops understanding of neuromuscular control of movement focusing on the upper limb. Extends principles of functional assessment, exercise prescription, and rehabilitation of upper limb disorders	<b>547339 MANAGING NEUROMUSCULAR DISORDERS</b>  Builds an advanced understanding of neuromuscular control of movement. Develops comprehensive management for people with neuromuscular disorders.	<b>547333 MANAGING COMPLEXITY IN THE ACUTE CARE ENVIRONMENT</b>  Develops complex problem solving skills, integrates and enhances physiotherapy practice to enable the student to critically evaluate the management of complex clinical situations within the acute care environment  <b>547337 MANAGING COMPLEXITY IN THE COMMUNITY ENVIRONMENT</b>  Analyses critical decision making processes. Develops complex problem solving ability. Synthesises learning to critically evaluate management of complex clinical situations within the community environment.	<b>547442 PHYSIOTHERAPY PRACTICE</b>  Integrates skills, knowledge and current literature in the practice of physiotherapy, under supervision, in a variety of acute, rehabilitation and community settings.
<b>555301 KNOWLEDGE, INQUIRY &amp; COMMUNICATION</b>  Introduces students to the principles of communication, knowledge construction , academic and scientific literacy.	<b>546113 FUNDAMENTALS OF MOVEMENT I</b>  Introduces body systems integral to movement. Develops an awareness of key components and concepts of human movement relevant to physiotherapy practice.	<b>546221 EMBODIMENT, HEALTH AND MOVEMENT</b>  Develops ability to recognise and analyse physiotherapy practises using a range of theoretical and methodological approaches. Explores and analyses social dimensions of health and health care practice.		<b>547335 ACUTE CARE</b>  Develops clinical decision-making skills in rehabilitation of patients during and following admission to the acute care environment. Enables students to manage patients in the acute care environment within an interdisciplinary team.		
<b>555401 HEALTH &amp; ENVIRONMENT</b>  Introduces global health and environmental issues and applies these in the context of Aotearoa New Zealand. <b>or</b> <b>555339 MAORI HEALTH DEVELOPMENT &amp; ENVIRONMENT</b> Provides an introduction to Maori concepts of health and environment and their implications for practice. Fosters critical enquiry into and reflection on Maori health and links to Maori development.	<b>546114 EXPLORING HEALTH PRIORITIES</b>  Introduces local and global health priorities with a focus on common long term conditions. Identifies factors that affect the development and management of long term conditions.			<b>547336 MUSCULOSKELETAL DISORDERS: DIAGNOSIS &amp; REHABILITATION</b>  Analyses current evidence for assessment, diagnosis and rehabilitation of musculoskeletal disorders. Develops comprehensive assessment, diagnostic and rehabilitation skills		
			<b>546231 ANALYSING HEALTH NEEDS</b>  Enhances student's research and critical problem solving capacity in relation to a New Zealand priority health issue. Undertakes a detailed needs assessment informed by the community, a range of stakeholders and the literature.		<b>547338 PASSPORT TO PRACTISE II</b>  Develops awareness of the complexities of personal and professional roles and responsibilities as physiotherapy practitioners. Develops strategies for self-directed and life-long learning in the health care environment.	

Also from the student perspective we can see that the curriculum focus on broad graduate attributes, rather than teaching and assessing towards job-specific competencies, is reaching them, and having an impact:

It is like you come in here [to Physiotherapy] wanting one thing, and you learn different things...it is like the more I have learnt, the less I know. Now I – in a good way – don't really know where I want to go, or what I want to with it. (Student 2)

At this point I have learnt that I really didn't know much [about physiotherapy]. So it is not as cut and dry as you might think. I mean, physio helps the body – that is how it is normally learnt – but physio is branching out, and I'm thinking it is not really that black and white. You can basically go anywhere with the right idea. (Student 1)

The majority (68%) of students felt that they had been provided with a description of graduate attributes for the Physiotherapy programme, and most could list these. However, this majority did increase over time with 89 *per cent* of fourth-year students answering positively. When asked to describe these graduate attributes, many students included terms such as maturity, responsibility, motivation, willingness to learn, passion, goals, career appreciation, enthusiasm, empathy, honesty, reliability, open-mindedness, ethical behaviour, team work, focused, confident, competent, professional, and research aware, alongside general physiotherapy registration and competencies. This would appear to provide evidence of the staff-led curriculum changes having a trickle-down effect to the very people that were behind it all. Ninety-seven *per cent* of the fourth-year physiotherapy students surveyed (n=98) felt it was important to know about graduate attributes. For many this was related to achieving employment goals. The fourth-year students also felt that they were being informed about their achievement – or otherwise – of the graduate attributes for the programme through assessment and feedback (84%).

### **Reflections and implications**

Physiotherapy at AUT University provides an illustration of a complete overhaul of an entire undergraduate curriculum driven by a desire for graduates to achieve certain outcomes. It would be fair to say that it was neither a quick or easy process, nor for that matter that the process is finished. Years of work have gone into mapping out the new curriculum and the first cohort of students are just now coming towards the end of their degree. It is intended that these students be closely followed and monitored during their fourth-year placement (in 2013), and in the years following graduation. There is much anticipation as to their graduate attributes.

The results of this study seem to suggest, however, that the changes are already having an impact on the students, as well as the staff and the community. A clear majority of the students surveyed knew about graduate attributes and felt that they were assessed, and important. Interestingly, the results also appear to indicate that these students have also caught on to the broad notion of a Physiotherapy graduate that the leadership team had in mind. When faced with a real world problem after graduation, it is likely these students will be in a pretty good position to create opportunities out of it!

### **6.3.3 Bachelor of Oral Health at the University of Otago**

In this case, staff identified the profile of the graduates they wanted to come out of the programme, and this end point served as the focus for the construction of a new undergraduate degree. Students have a high level of awareness of the expected outcomes of their study. However, given the scope of their professional education and training, certain challenges exist about employment for these graduates in the wider dental professional and academic community.

## Introduction

The Bachelor of Oral Health (BOH) is a relatively new three-year degree that is located in the Faculty of Dentistry. Founded in 1907, the Faculty of Dentistry (the only one in New Zealand) is part of the Division of Health Sciences within the University of Otago in Dunedin. The Faculty offers programmes for postgraduates and undergraduates in all branches of Dentistry, Dental Therapy, Dental Hygiene, Dental Technology and Clinical Dental Technology. The Dental School serves as a teaching hospital for Dunedin and surrounding communities. Otago is a research-intensive university and the Faculty of Dentistry is recognised internationally for its clinical and research expertise.

The roots of the BOH lie with programmes offered first by the Faculty, in Dental Therapy (1999) and then Dental Hygiene (2001). The current BOH was introduced in 2007 and comprises three strands: Dental Hygiene, Dental Therapy and Health Promotion, with a focus on the social sciences. The BOH is fully accredited with the Dental Council (New Zealand) and the Australian Dental Council. The Programme handbook states: “Students enrolled in the programme work in a team with undergraduate and postgraduate dental and dental technology students.”

In their course handbook, students are provided with a list of attributes that are expected to be achieved on completion of each year of study, and a complete list of the attributes that are assessed. In addition, there are opportunities for students’ reflective learning to be recorded in an ePortfolio. The graduate profile includes the following:

### 1. Graduands will:

- demonstrate the attributes of the University of Otago graduate
- have achieved the competence to enable registration as both a Dental Hygienist and Dental Therapist with the Dental Council (DCNZ).

### 2. Graduands will approach their practice with:

- sound understanding of current scientific knowledge, an understanding of community oral health needs, and experience in health education and promotion
- knowledge and understanding of concepts of social sciences as applied to health promotion, the delivery of social services and oral health care
- an understanding of the principles of research and their application.

### 3. A graduand will be a professional who:

- is reflective, able to recognise contextual information and deliver high-quality oral health care as part of the oral health team, and take responsibility for their own role in improving health
- exhibits effective communication skills (both written and oral) with patients, colleagues, other members of the oral health care team and the wider community
- applies the principles of the Treaty of Waitangi
- understands the need for evidence-based practice and continuing professional development.

As at 2011, the number of students in the BOH programme consisted of 41 students in Year 1, 34 students in Year 2, and 41 students in Year 3. Core staff involved in the programme included Professional Practice Fellows (11), and Lecturers (5), plus contributions from academic staff in the Faculty and the wider university from time to time.

## Translation of graduate attributes into the curriculum

The BOH programme was developed collaboratively with staff in the Faculty using a team approach. The design was deliberately based on a matrix (horizontal and vertical) of 'themes' that are focused on, for example, ethics or communication: "the whole programme has been designed with horizontal linkages and vertical linkages...and it has themes running through it and those themes are interdisciplinary" (Academic 1). One of the first tasks was to identify the graduate as a professional and the outcomes associated with that person:

...we collectively met to say what is this new professional person...the skills, the technical skills...but also was the emphasis on things like that this person had a clear understanding of ethics and communication and research and a public health vision. We identified some ten of those things we called themes. Some universities call them competencies. I feel if we use that word, we have to be very clear what we mean by competencies. So we've stuck with the idea of themes because they integrate the programme both horizontally and vertically. (Academic 2)

...when the programme was being set up...we looked at the attributes first and the outcomes first and then worked backwards so that everything was set up to meet those outcomes and attributes...all the papers...are directed towards meeting those attributes and outcomes we have, and also our students register with the Dental Council, so they've got certain things we have to meet as well. (Academic 3)

The teaching, learning and assessment approaches are designed to give students the opportunity to experience the programme as mimicking, as closely as possible, future professional practice including meeting requirements for continued professional development: "our tutors try and make it so that, well I feel, so that they can observe us, because even during the year we have clinical assessments with real life patients" (Student 1, Year 2).

The data provided many examples of how graduate attributes were embedded in the curriculum, and the focus of these attributes was the on-going professionalism of practice. For example:

I think it's the lifelong learning one and I think it's the critical analysis one. I expect my students to question and to question everything. Just because I get up and tell them, doesn't mean to say it's right...What's evident in my teaching is that I expect them to read. I expect them to be able to, if they get given a paper, to be able to refer back to that paper and to be able to emphasise what they think is correct or incorrect...I think I emphasise the need that because they're in a profession where the knowledge is changing constantly [so] unless we read, unless we use the literature, unless we keep up to date, we're never going to survive. Also, I think we emphasise the fact that because they're doing, lots of times, something that's irreversible, that they need to understand what they're doing. They need to understand both the science behind it and the materials that they're using and evidence to support it. We also make the comment that they're going to have many travellers that are going to come around and try and sell them things, and unless they can actually analyse and understand that this is of value, they're going to be not useful to that profession. (Academic 1)

Academic 3 provided an example of embedding graduate attributes in her teaching:

Our teaching's research-based and what they're doing should be evidence-based, so they should be able to look up the recent research and give reasons why they're doing things...we want them to think about what they're doing and base their practice on the latest evidence...so we do a lot of tutorials, giving them topics and they have to go away and research it and then sort of make recommendations on what they'd do for the practice in that...they're not to just present it. They've got to say what they think about it...if it's a

study they're looking at, to actually look at the study and see what the weaknesses and strengths were...because when they go out there, we want them to keep reading and making decisions in their clinics, based on what they read or what they've heard...they are going to be out there on their own, and they are going to have lots of information come past them, and they need to be able to decide what's good and what's not.

Academic 4 also emphasised this quality: "I was thinking about the self-directed learning ones in the clinic, so they have some tasks that they set about themselves and try and work them out." Academic 2 supported these views with a focus on research: "...students should have research opportunities and so we looked in our programme to where we were developing those research skills. Heavily in final year, we have a research paper but that...shouldn't be seen as the standalone...we worked, in first year, particularly closely with the liaison librarian to make students aware of what fundamental skills need to be acquired."

Academic 5 emphasised team work and presenting well:

It's important to work together in groups because once you've graduated, there's going to be times that you're going to have to work in a team situation. Preparing a presentation...once you've been working for a while...you might be invited to give talks. Sometimes we give talks to Plunket. Sometimes we give talks at conferences. They need to know how to be able to present, to do a professional PowerPoint, because we want them to be reflecting our profession in a really good, professional light.

### **Staff experiences of graduate attributes**

Interviews with staff suggested that their awareness of graduate attributes ranged from a broad, overarching view to a more local focus on skills/competencies as relevant to professional registration. For example, at one end of the continuum – "We started at an end point and the end point was the University of Otago graduate profile plus the competencies that they needed to get registration with the Dental Council...It's a set of values. It's a set of, I suppose, like an umbrella that the university wants its graduates to come out with" (Academic 1) – to the other – "I suppose when we sit down and decide what we want for our graduates, and we come up with a list of competencies and things that we'd like from our graduates" (Academic 5). Moreover, for some staff (e.g., Academic 3), there was a clear difference between learning outcomes, "what you can expect them to do at the end of a year", or clinical 'enabling' competencies "what they can do", and the broader graduate attributes "attributes might be what they can do as well, but more the qualities...and the qualities of an Otago one might be different from someone else". However, for some staff, the lines of distinction were less clear:

Originally, I thought, what is it that we graduate...what are the things we hope our students have when they graduate, and I had some ideas in my head and I'd seen it in our little BOH handbook, and it said the Otago University graduate attributes...but also the other attributes were that they were able to be registered in their scope of practice by the Dental Council of New Zealand...they have to reach this level and we have to be able to graduate them with these skills in order for them to be safe and competent in the outside world. So I guess it's a standard set by the university so that we don't graduate unsafe practitioners or unsafe clinicians. (Academic 4)

Staff identified many factors that enabled the development of graduate attributes. Examples of these included:

- passionate teaching staff: "the people that were involved in developing the papers are still there...they haven't changed and I think they understand that that's what we're trying to achieve" (Academic 1); "there a few lecturers that we have are really passionate about what

they do...so I think that's important and they don't allow the students to be nameless or faceless" (Academic 4)

- a team approach: "I actually think that we have quite a special team. When I look across the Faculty, there isn't the connection in other disciplines that we see in Oral Health" (Academic 2)
- the close-knit nature of the class cohort: "they're together all the time, if that makes sense. Well, they're split into two groups, but they're with each other for that three-year journey" (Academic 4)
- lots of learning support for students: "...there's a lot of support for our students. One-on-one stuff...the students get to a level where they feel confident in passing" (Academic 4); "I get to know the students who have particular needs, learning how to come back into the classroom and how to manage the workload...there is some support provided...we have a great team who will give one-on-one support to those students"(Academic 2)
- staff that get on well with each other: "all the staff get on well. All of us work well together and I think that the students see that" (Academic 4).

Various constraints were identified also, including constraints within the District Health Board focus:

I don't think that they're able to express all their graduate attributes because they are squashed a little in their role...the District Health Boards are very focused on tasks...you need to do this many patients by the end of this week...I have noticed across the board, they can't do some of the skills that they've been given. They just can't, because they get bogged down in what the job entails. (Academic 4)

Another constraint related to the registering professional body:

...the restrictions of the scopes of practice as such allow them to only see children when they've got one hat on and adults when they've got another hat on and really, we're training them to see across the board and the health needs of the population across the board...[but] they can't express it properly once they graduate because they're restricted, very much so. (Academic 5)

A further constraint related to issues within the profession:

There are some historical issues between the roles of dentists, dental nurses or dental therapists and hygienists and where they fit...where do they fit in New Zealand and Australia? Where do they fit in the oral health workforce?...[Our graduates] are really having to fight to get themselves a place. (Academic 5)

Institutional or departmental support had tended to be for general curriculum development, rather than a specific focus on graduate attributes, and in the form of "departmental strategic planning days [and] departmental teaching days" (Academic 1). Some institutional support was provided early on in the programme: "particularly in the implementation, it was [academic developers] who were the number one resource" (Academic 2). The establishment of an undergraduate studies committee in Oral Health has enabled the opportunity for staff and students to have an active role in curriculum development. This committee reports to the Faculty's Undergraduate Studies Committee.

In terms of staff opinion of whether students thought about graduate attributes, the response was similar: "I think they're words to them...I think they're too busy trying to achieve what they have to do in their timetable, that they don't think" (Academic 1). This notion of graduate attributes as merely 'words' was reiterated: "I don't know that graduate attributes are real for them...it depends how you ask the question...the jargon, graduate attributes, might not mean much but if you did find what is actually happening, I think they do understand that" (Academic 2). For Academic 4, there was a



developmental element: “I think that they’re probably not really aware of the skills they have until they’ve well graduated until they look back.” Academic 3 mentioned a handbook for the students:

they’re [GAs] all in there...so the students know they’re there and the staff know they’re there.

However, on a day to day basis:

I don’t know that they’re aware of them, to be honest, even though they’re in our book and they’ve probably had their attention drawn to them when they start...I think maybe that we need to talk about them more with them.

### **Students’ experiences of graduate attributes**

In general, students were unused to hearing the terms ‘graduate attribute’ or ‘graduate profile’ and unaware of their meanings, although these were clearly identified in their course book and illustrated by the prominent three “kete”<sup>4</sup> in their resource area. However, when asked about their expectations of themselves as a graduate or their expectations of the programme and what they would gain from it, they answered in two ways. For example, students in focus group 1 commented that graduate attributes were associated with: “what you learn from your degree”; “the outcome of it”; “what the outcome of your future is when you graduate, like the place you work at”; “the attributes or skills I would have or expect to have obtained during the degree or by the time I’ve graduated”. Others indicated that graduate attributes were “the qualities you have as the worker or the professional that you are when you finish studying” and “what we’re expected to know”.

When asked to elaborate on specific graduate attributes that they thought they had achieved, some students continued to comment at a general level: “practical”; “theory”; “just practical stuff...learning skills and experiences”; “clinical skills”; “being good at your job”; “health and safety” and “competence”. However, they also started to focus on specific skills and qualities, for example, “communication skills, obviously...with the patients and other oral health professionals” and “being able to diagnose things correctly. I hope that we would be doing that.”

From the survey data, most students (88%) indicated they had been provided with a description of the expected outcomes of the programme. Of these, 70 *per cent* of students had obtained the information about outcomes from the programme handbook. Student 1 (Year 2) talked about the importance of this handbook:

at the beginning of every year we get a booklet and it’s split up into the protocol of the Dental School, like what we’re meant to do in clinic and all that kind of stuff, and then it has Year One, Year Two, Year Three and all our papers and what we’re expected to know to pass...and essentially it’s like our Bible, so we read that and at the end of the third year they have like a big, what you’re expected to know by the end of your whole course, and that’s how they help you to get to that stage, I guess.

In the interviews and focus groups, students were shown lists of graduate attributes for the programme and those that were relevant to their year of study from the handbook. They were immediately able to identify many of them, were knowledgeable about them and also when and where they were taught. They were aware that many of the attributes were taught at different levels and across papers, reflecting the horizontal and vertical matrices mentioned by staff above. Student 2 (Year 1) commented that the attributes were “probably developing throughout the year”. Communication was identified as one theme that followed this pattern, with students noting the strong emphasis on communication: “I’ve learned to communicate with people. Really broadened my range of age group...talked with

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<sup>4</sup> A kete is a Māori word for basket.

people so they know what you're talking about, how to deal with stressful situations, how to ask for help at the right time and how to work in a professional environment" (Student, Year 3). She added: "I've definitely grown from doing the degree. I'm a very different person from what I was in high school and when I first came to university." When Student 1 (Year 2) was shown the list of graduate attributes and asked if he was familiar with them, he responded, "[It's] pretty much what we do every day."

However, students also perceived that some attributes were confined only to one paper. For example, although cultural content was included in many of their papers, they thought that the principles of the Treaty of Waitangi tended to be limited to Māori 102.

Students perceived a strong and direct relation between specific graduate attributes and specific assessment items. For example, "in Hygiene, I had a scaling assessment and that was to see if my scaling was up to date or not so up to date, [and] my technique was good...and it's good to have that" (Student, Year 2). He also commented on the pre-clinic group meetings and post-clinic debriefings:

At the beginning of every clinic we have a meeting and we go around the whole [group] and say 'I've got a patient today who's got da da da and I'm going to do this' and then the tutor goes 'okay, yeah', and then at the end of every clinic session when all of our patients have gone, we have like a debriefing meeting where, 'so how did you find today? What have you found difficult? What did you find easy? How do you think you can get better' and it's just...like your group in clinic, so you get to know, you're all friends.

The achievement of specific attributes was tracked through 'clinical log-books', which students complete and which are then checked by a tutor and signed off. There are also "different assessments and requirements that get filed and ticked off; we do small clinical assessments like medical history, or filling, or scaling, cleaning, they get tracked definitely" (Student 3, Year 3).

### **Reflections and implications**

Team work and communication, right from the origins of the programme, is one of the most notable elements in this case. Staff had identified an end point of what kind of graduate they wanted, then worked back from that in designing the programme: "What we talked about was sharing a vision for what we wanted to achieve with the programme...We knew what we wanted to achieve. We had that vision and then we planned how we would get to that finish point" (Academic 2). Team work, communication and a high level of collective decision making and monitoring of teaching practice and student achievement have helped implement and achieve this vision. On-going external registration requirements have a strong influence over the curriculum but, despite this, staff feel they are able to discuss and approach curriculum issues as a team, where every person's input is valued.

The programme is linked all the way through horizontally and vertically with the graduate attributes but, at this stage, is not linked to the entry criteria at selection stage: "The entry criteria is very difficult to see those attributes in [as] we don't interview" (Academic 1). However, the range of perspectives and areas of focus of staff (from detailed clinical competencies to broader emphases on ethics, critical thinking and reflective practice) mean that students, in their time in the programme, will have exposure to this range and hopefully be 'well-rounded' graduates.

Students are generally aware of the core competencies and expected outcomes of the programme, and of the kind of professional they are developing into. However, survey data indicated that future educational pathways specific to Oral Health are not emphasised by the students. This is perhaps partially because the BOH programme is new, and opportunities for postgraduate study are limited. This fact was not missed by staff: "There's no clinical postgrad...it would be nice to have...an Oral Health postgraduate option as well. I think that's future progress" (Academic 4).

The effect of the context in which the BOH programme operates presents both challenges and opportunities for staff and students. The BOH consists of combined knowledge and understanding with skill sets from both Dental Therapy and Dental Hygiene disciplines, but these are still seen as separate skill sets by the wider community. Finding a 'place' for these graduates, both in the profession and in academia, constitutes a challenge. However, an opportunity arises as the independence and seniority of the profession continues to emerge: practitioners to be recognised as professionals in their own right rather than be a servant to other groups in dentistry. Professional role models, a clear idea of the desired graduate capabilities, and high levels of team work to ensure attributes can be achieved will undoubtedly be key elements in this process.

### **6.3.4 Bachelor of Applied Science at Christchurch Polytechnic Institute of Technology**

**Specialisations:** Sport and Exercise Science (SES); Physical Activity, Health and Wellness (PAHW); Laboratory Technology (LT).

This case study outlines the role of graduate attributes in the Bachelor of Applied Science with three specialisations, as offered in a polytechnic. As an example of a programme-level graduate profile, it has a core set of shared attributes with each specialisation having its own additional set. In this case the graduate attributes are seen as stakeholder-focused, reflecting the employment focus of the programme, with a focus on workplace skills. The graduate profile is used as part of more holistic approach to programme development and delivery, providing a framework for design. Students are generally aware of the graduate attributes, which they recognise as being woven through the programme. The students clearly identified the graduate attributes with the skills required for employment.

#### **Introduction**

Christchurch Polytechnic Institute of Technology (CPIT) has offered the Bachelor of Applied Science with two specialisations (PAHW and SES) since 2009. From 1999, CPIT had an agreement with Auckland University of Technology (AUT University) to offer their degree in laboratory technology. This arrangement ceased in 2008, allowing CPIT the opportunity to design the B. Applied Science specialisation in Laboratory Technology, which commenced in 2010. While all three specialisations share the same programme code, distinction is made between the B. Applied Science (Laboratory Technology) and the other two specialisations. The Laboratory Technology specialisation has an exit point at Level 6: a Diploma in Science.

The B. Applied Science (Laboratory Technology) aims to provide a professional, integrated, generic, entry level qualification in laboratory technology especially the disciplines of chemistry and microbiology. The programme places scientific disciplines in a context of quality systems and legislative compliance relevant to New Zealand international standards.

The B. Applied Science (PAHW) acknowledges that physical activity and lifestyle have been recognised as essential in the promotion of good health and disease prevention. It aims to provide health practitioners who can meet the future health demands, for example, of the aging population in Aotearoa New Zealand.

The B. Applied Science (SES) provides skills and knowledge in the scientific study of all aspects of sport and exercise. Another specialisation of Human Nutrition is proposed for delivery in 2013. This aims to enable graduates to enhance the health of the community through the application of nutrition science.

Four staff interviews and two student focus groups were conducted to gather data for this programme.

### ***Graduate profiles***

Graduates of the Bachelor of Applied Science (Physical Activity, Health and Wellness) or (Sport and Exercise Science) programme will be able to:

- conceptualise and apply critical thinking including the ability to select and apply knowledge, skills and ethical and social principles in a professional context
- generate, retrieve, organise, interpret and communicate information
- identify, discuss and apply the processes, principles and theories of professional communication
- find effective and sometimes original approaches to the identification of problems and formulation of solutions
- work effectively both with others and independently
- interact during practical work with human subjects in an ethical, safe and supportive way
- work accurately, efficiently and safely with modern equipment
- think quantitatively, use numbers and formulae, use computers and apply statistical methods
- have an understanding of the core scientific principles and health issues that underlie their discipline
- demonstrate the key laboratory and workplace skills required for careers in their profession and related professional areas
- describe the benefits of regular physical activity for different sectors of the population and the role of exercise in lifestyle management
- understand the principles of fitness assessment and exercise testing and how they apply to the prescription of acute and chronic exercise schedules
- describe the nutrition requirements for health (including issues in weight management and obesity) and sport
- demonstrate developing practice in an applied professional role
- describe and understand rehabilitation from disease and sports injuries
- explain the principles and practice of qualitative and quantitative research processes
- investigate a hypothesis or research question in depth and perform a coherent scientific experiment
- critically analyse relevant research and understand how to deliver the research message to a lay audience
- demonstrate a personal and professional understanding of and commitment to the Treaty of Waitangi by safe and culturally professional practice.

Graduates of B. Applied Science (Physical Activity, Health and Wellness) are expected to:

- describe and discuss health promotion in community and other settings
- identify the structure underpinning New Zealand's health system
- explore key social work theories, perspectives and models that inform professional practice in physical activity, health and wellness
- demonstrate an understanding of physical activity theories and models including their stages, phases and overlap
- understand appropriate physical activity for older patients and any risk barriers
- identify issues related to physical activity for people with disabilities or disease
- discuss health issues concerning Pacific people in Aotearoa New Zealand
- analyse the current issues in physical activity, health and wellness.

Graduates of Bachelor of Applied Science (Sport and Exercise Science) are expected to:

- describe the role of science in sport and critically analyse the role of the sport scientist in an applied setting

- demonstrate knowledge of the basic concepts of applied sports psychology and analyse the ways in which sports psychology can contribute to sporting excellence
- explain how group cohesion and team dynamics can affect sports performance
- apply the basic principles of biomechanics
- discuss the patterns of and relationships among oxygen consumption, metabolic rate, substrate mix and lactate concentration during and after exercise.
- critically analyse the impact of developments in exercise physiology and related interventions on sport science and sports performance
- understand the principles of exercise and how they apply to the prescription of acute and chronic exercise schedules and fitness assessment.

Graduates of the Bachelor of Applied Science (Laboratory Technology) programme will be able to:

- conceptualise and apply critical thinking including the ability to select and apply knowledge, skills and ethical and social principles in a professional context
- generate, retrieve, organise, interpret and communicate information
- identify, discuss and apply the processes, principles and theories of professional communication
- work effectively both with others and independently
- think quantitatively, use numbers and formulae, use computers and apply statistical methods
- have an understanding of the core scientific principles that underlie long-established disciplines such as chemistry and microbiology and the disciplines of molecular biology or chemistry laboratory (this is the only attribute unique to this specialisation)
- explain the principles and practice of qualitative and quantitative research processes
- investigate a hypothesis or research questions and perform a coherent scientific investigation relevant to current laboratory practice critically analyse relevant research.

### **Translation of graduate attributes into the curriculum**

The B. Applied Science programme shares many graduate attributes in common but each specialisation has its own unique set. The shared attributes relate to the understanding of core scientific principles, research and safe work practice in laboratory skills as well as the generic skills of critical thinking and information literacy. While all specialisations have a strong vocational focus, the skill set is naturally influenced by the employment setting, for example, Laboratory Technology has a clear focus on employment in a laboratory, whereas Physical Activity Health and Wellness and Sport and Exercise Science have a much broader scope of application.

Representatives from industry were widely consulted in the design of the graduate profile. Another specialisation, Human Nutrition, has been proposed for delivery in 2013 and the process of consultation for this typified the thorough consultation undertaken with stakeholders from industry and educators involved in the postgraduate pathways for dietetics, local high schools, and other industry training sector providers. The requirement for re-approval of the programme has resulted in a rationalisation of the graduate profile. However, the essence of combining essential science-based attributes with more generic ones of research, information literacy and application of learning strategies to life-long learning remain, albeit in more succinct and refined language.

All specialisations privilege laboratory work in their programme. The process of testing hypotheses in the laboratory followed by writing up the results is a clear and constant theme throughout the three years. This is perceived as a fundamental scientific discipline and as such is promoted both as a learning activity and as an assessment task. All programmes share a work-integrated learning experience, where the student can apply the skills, attributes and knowledge gained in a formal setting to an authentic context. As well, they all undertake research often related to that of their academic staff or with a topic

of their own choice. Assessment tasks include the design of a poster representing their research, a research proposal and considerable critical analysis of scientific literature.

Table 6.3 provides a snapshot of how the course learning outcomes are mapped to the re-approved new graduate profile to ensure alignment.

### Experiences of graduate attributes by students and staff

Students perceive the programme and therefore the graduate attributes to be very focused on workplace skills, helping them become “science-literate” by focusing on practical skills for field work, technical capability and safe practice, and enabling them to go on to further postgraduate study. However, essentially the qualification was seen as vocationally focused: “it makes us more employable” and is “beneficial to an employer”. Students in the survey stated that while some courses patently met the profile, such as Statistics, Research Methods, Professional Communication along with particular science courses, for example Molecular Biology, the graduate attributes were generally woven through rather than explicitly stated. They believed the attributes were taught and assessed as opposed to being acquired through other institutional activities. The scaffolding of these attributes was apparent from the first year. The work-integrated learning opportunities were highly valued as a way of applying the attributes. For many this experience highlighted the importance of communication skills. There was general agreement that the degree programme prepared them to be the person described in the graduate profile. Acknowledgement was made also of citizenship, in that these attributes prepared them as contributing members of society.

**Table 6.3: Mapping of course learning outcomes to graduate attributes in Applied Science degree**

Graduate attribute	Course learning outcome
Effectively collaborate with allied professionals when working with individual clients and community groups	Communicate effectively in oral and written contexts in a science setting Apply knowledge of interpersonal communication skills Apply core knowledge in a professional setting
Workplace practice	Integrate and reflect on the application of theory into workplace Demonstrate appropriate professional behaviour in the workplace Apply knowledge and work-related skills to professional practice Integrate theory and critically reflect on applied practice in the workplace
Work effectively in a multi-disciplinary setting in a safe, ethical and culturally appropriate manner	Apply core knowledge in a professional setting Integrate and reflect on the application of theory to workplace practice Demonstrate appropriate professional behaviour in the workplace Apply knowledge and work-related skills to professional practice Integrate theory and critically reflect on applied practice in the workplace

This employment related perspective resonated with the views of staff. Graduate attributes were perceived as applied learning put in the context of a practical experience, preparing people for the workforce. Therefore the strong involvement of employer stakeholders was essential. The desirability of also involving recent graduates was voiced.

The staff, however, articulated an additional educational perspective to graduate attributes, viewing the profile as “an end goal” that directed the teaching. Alongside the relevance of meeting what industry requires, they acknowledged the impact of the graduate profile on planning, citing it as the “framework within which we provide the courses”, hence the influence on course design and the need for mapping of learning outcomes to meet the profile.

Graduate attributes were seen as “a useful tool for making sure that the content of courses meets the need of industry and that we are producing what we say we are producing”. Another staff member commented: “Because it’s got ‘applied’ in the title and because we are more aligned with stakeholders, we can teach what they really need to know, ‘the core stuff’ as that’s better for them in the workforce.” The graduate profile is thus used as a means of channelling the course content. The use of the graduate profile means a more holistic approach is taken to programme development and delivery. Staff were aware of the need for constructive alignment of the course aims and learning outcomes meeting the overall programme graduate attributes, which also ensured that there was consistency and connections through the programme. The graduate profile provided ‘a vision’ for that outcome. However, matching learning outcomes, learning and assessment activities with the profile was seen as challenging, “making it all fit together”. It was acknowledged that some of the attributes were not necessarily discipline-specific but related to “what people going out in to the workforce need”, so there was an emphasis on employability: “practical skills are a defining feature of our graduate attributes”. The consultation with industry was seen as critical to the design of the attributes. This extended even to course level, where employer perspectives were greatly valued.

One staff member compared the experience of using graduate attributes in a polytechnic to that of a university. He concluded that “here we are really forced to meet the needs of stakeholders”. He thought the level of engagement of stakeholders was much higher. Consequently, the attributes were much more integrated into the programme because of that dominance of the workforce.

Some staff believed the graduate attributes could be made more explicit to students given that they underpinned the design of the programme. While they believed the attributes were important, they admitted they did not promote them *per se* and that terminology of ‘graduate attributes’ or ‘graduate profile’ was not specifically used. However, this was countered by the emphasis on application of learning in work-integrated learning, where the attributes were emphasised. They were seen to be particularly relevant at this point as a means of focusing the students’ attention on what they need to do to develop those attributes: “They pick up a lot of it on placement and then they come back and reflect on that.” So while the attributes are not explicitly named, they are reinforced as critical to success in employment.

Originally programme design was driven by the Programme Leaders. The recent review process, including the new specialisation of Human Nutrition, has been led by an educational developer. The process of design is informed by Fink’s (2003) ‘backwards design’, whereby the creation of the graduate profile informs the consequent design of the programme more explicitly. The other guiding principle is ‘constructive alignment’ (Biggs, 2003). Overall, there was acclaim from academic staff for the review processes that respond to the needs of the students and stakeholders.

### **Reflections and implications**

Both students and staff perceive this programme to be essentially employment-focused. As such the involvement of employer stakeholders is highly valued. The work-integrated learning courses are seen

as valuable opportunities for authentic application of learning and for realising the graduate attributes. While the specialisations share graduate attributes in common, their differences are evident in their particular characteristics, and students value the contextualisation of their chosen specialisation. Learning and assessment activities based in the laboratories are perceived to enhance the students' ability to attest to the graduate attributes.

### **6.3.5 Bachelor of Broadcasting Communications at Christchurch Polytechnic Institute of Technology**

This case study is an example of a programme level graduate profile, rather than generic graduate attributes. The Bachelor of Broadcasting Communications is a very specifically focused vocational qualification, and this case illustrates how the graduate profile, which was developed in consultation with industry, is seen as representative of the skills, knowledge, understanding and attributes of the broadcasting industry. As a consequence there is strong awareness of the graduate profile by students who have a clear vocational goal. The high visibility of the profile provides staff with a means of helping to focus students on a broader set of attributes, addressing an expectation of students to want to focus on technical skills.

#### **Introduction**

The Bachelor of Broadcasting Communications has been delivered at Christchurch Polytechnic Institute of Technology (CPIT) since 1993. The degree offers three specialisations: radio broadcasting, television production and broadcast journalism. Since 1997 an executive version of the degree has been offered, which is intended for mid-career professionals. This is delivered by distance delivery (now online) with practical elements of the degree being recognised through application for Recognition of Prior Learning (RPL).

The programme is delivered in two and half years, the first two years delivering 140 credits each with an 80-credit Internship in the third year lasting six months. The structure of the programme provides for theory components that combine students in syndicate groups from across the three specialisations (radio, television and journalism) and craft streams in these specialisations. The programme has between 170–200 students enrolled across the three levels at any time (183 in 2011; 192 in 2010; 173 in 2009); typically 90 *per cent* these students are under the age of 25. The programme has relatively low numbers of Māori and Pasifika students, typically just under 10 *per cent*. Course completion rates are high for the programme, 96 *per cent* in both 2011 and 2010. The programme has a high success rate for graduates to be employed in the industry (87% in 2011; 93% in 2010). There are 9.4 FTE staff teaching on the programme of which 6.4 are research active. The majority of staff have a background in the industry and only one has a teaching qualification.

The programme is underpinned by the principle of media in a modern society being crucial to a well-functioning democracy. The educational philosophy of the programmes is based on Stephenson's (1998) capability model, with the aim of producing industry-ready graduates. It prides itself on strong links with industry and being able to consistently produce graduates who are employed in the industry on graduation.

The aims of the Broadcasting Communications degree are to:

- provide the students with professional competencies to current industry standards in a range of skills, both theoretical and applied



- prepare students for a first-time position in the broadcast communications professions, specifically in radio, television audio and video production, or broadcast journalism
- provide students with an understanding of the changing environment in media and communications – technological, political, social and cultural – and equip them with the skills to adapt, survive and flourish in their changing world
- provide students with practical research skills
- provide appropriate learning opportunities for students to develop the necessary academic skills to pursue postgraduate study.

CPIT as an institution does not have generic graduate attributes that it applies across all programmes. All programmes have a graduate profile, which outlines the capabilities of the graduate as a result of achieving the specified programme of study or training leading to the award of a qualification. It defines the minimum level of skills, knowledge, understanding and attributes a graduate awarded the qualification can demonstrate.

This case study is based upon data collected from a student survey (51 responses) and five staff interviews.

### ***Broadcasting Communications graduate profile***

On successful completion of this qualification, students will have:

- sound academic skills necessary to contribute to the establishment of a strong New Zealand-based professional body of broadcasting, and will have gained the academic qualification necessary to proceed to postgraduate study
- sound understanding and awareness of the social, political, economic and cultural policies that impinge upon the practice of broadcasting in New Zealand
- sound understanding of the standards and ethical requirements of broadcasting in New Zealand, and an ability to apply ethical concepts and reasoning
- sound understanding of and the ability to apply practical and theoretical broadcasting knowledge to their performance in the broadcasting environment
- ability to utilise current broadcasting technologies in general and the specific skills and knowledge to operate in specialist vocational areas.

They will also be able to:

- work without supervision and work with others both creatively and imaginatively
- utilise skills in oral and written communications and interpersonal skills in one-to-one and group situations
- critique the performance of self and others using a range of assessment tools
- function professionally and ethically in the multi-cultural environment of Aotearoa New Zealand
- take responsibility for and be accountable for their own learning both as individuals and in association with others.

### **Translation of graduate attributes into the curriculum**

The Broadcasting Communications programme is a very specifically focused vocational qualification that values its links with industry. Staff on the programme clearly see its graduate attributes, as represented through the graduate profile, as a representation of the skills, attributes and professionalism required to enter the media industry in New Zealand.

Development of the original graduate profile was a team-based development, combining academic staff from CPIT and industry representatives. The evolution of the graduate profile has continued to involve industry representatives to ensure that it is current. Reflecting the demands of the industry, the

graduate profile emphasises the personal attributes and skills that are required to work in a media environment rather than the technical skills. Industry is continually consulted on the current programme through different means, including: an Advisory Group; industry contributions into the programme; and thorough feedback on the quality of the students undertaking the Internship. In addition, feedback on the quality of the students graduating from the programme is seen as a major indicator of the success of the programme and as a consequence whether the graduate profile is appropriate. Whilst this range of approaches for industry consultation is used, it does not involve direct critique of the graduate profile; stakeholder feedback is mediated by the programme team. There have been minimal changes to the profile, indicating that the profile has proven sufficiently flexible and robust to meet changes in the industry. The programme is undergoing five-year re-approval, and a revised graduate profile has been developed for the new programme for 2013 delivery reflecting the impact of new media.

Students' immersion in authentic learning activities form a major part of the programme. Working in their chosen specialisation, students are required to develop, create and present content in their chosen medium. This might include running a student radio station, creating television programmes, writing news stories *etc.* Cross-syndication teams are created to make use of the developing expertise. These teams are also used with the theoretical part of the programme, allowing different perspectives to be brought together and awareness of different elements of the sector reinforced. The programme also makes significant use of industry professionals teaching in the programme. This is seen as a valuable way for industry expectations to be conveyed directly to students. Broadcasting staff themselves are primarily from the industry and so also bring that experience. The Internship as the capstone for the programme is seen as the embodiment of the graduate profile, with students having to demonstrate in practice the skills, attributes and professionalism required by the sector. Throughout the programme the graduate profile is used to frame the learning outcomes and assessments for courses. In particular, staff make use of the profile to provide a balance against students' natural tendency to emphasise and prefer the more technical skills required by the industry.

The Broadcasting Communications programme is a selecting degree. Its success rate in supplying graduates to the industry means that it is over-subscribed. The graduate profile is used as a tool in the selection process and industry representatives are involved in the selection process.

### **Experiences of graduate attributes by students and staff**

Students entering this programme are very goal-focused; the programme is clearly seen as a 'passport' into the industry. Student responses to the survey for this project indicate that they believe they have a high level of awareness of the expressed graduate outcomes. However, when asked to express what they included, the responses indicated a mixture of the capabilities described in the graduate profile and more technical skills. For example, one student listed them as "voice, programming, production, policy practice, creative, promotions, law and ethics, rights, professionalism".

It is apparent that students are made aware of the graduate profile early in the programme, even prior to the programme: 39 *per cent* of respondents stated they had first become aware of them prior to enrolling. The students are introduced to the graduate profile early in the programme but their interpretation reflects the strong employment focus and persistence with technical skills. This is recognised by the academic staff, who indicated that students are goal-oriented particularly when they enter the programme. They see it, therefore, as necessary for them to be reinforcing the softer skills required by industry, not just the editing, lighting or direction abilities:

More and more they're arriving here with this NCEA philosophy that it's about what am I being assessed on, tell me that. I don't really care. I just want to get that assessment. I keep talking to them about the fact that it's more than just meeting an assessment goal – there's a whole lot more learning that goes on. But sometimes – they want to achieve what

it is that they see written down on paper, forgetting the fact that we're trying to turn them into industry professionals and that there may be other things that I'm not actually assessing them on but they still need to experience and understand and reflect on. So they become very, very, very goal-oriented and sometimes maybe the graduate profile, because it isn't specific assessable tasks – I don't know if they have a disconnect, but they struggle to understand that there's a whole holistic thing that we want them to become. (Academic 1)

The graduate profile is therefore actively used by staff with students as a means of highlighting what is required by industry and what they are working toward, in this more holistic sense.

When students were asked about how important the graduate outcomes were to them and how they might use them, the responses were strongly goal-oriented. There was a strong emphasis in the responses toward employment, either through directly referencing finding a job or benchmarking their learning so they know what they are getting out of the programme; Table 6.4 provides a summary of response types. This reflects students seeing the graduate profile as an indicator of the industry requirements and so providing them with a potential ticket to employment. A slightly different slant on this was provided by a small number of students who indicated that it provided a means for them to ensure they were getting 'what they paid for'.

**Table 6.4: Student responses to 'Is a description of graduate outcomes important to you?'**

Category	Percentage	Indicative student comment
Benchmarking their learning	47%	So I know what I am going to get out of my course and can apply it to future careers. It sets a benchmark to strive for and keeps you motivated. It provides a purpose.
Employment-focused	24%	So I can get a job. Because it determines my future in the industry.
Value for money	16%	We are paying for a service so it is important to know what I am paying for. Because I pay a lot of money for this degree.
Providing direction in their learning	8%	Because it shows me what is expected and what will happen throughout the year. To know what I'm in for when I start the course.

This employment focus was noted by staff:

But at interview, when you ask the student why they are coming to this school, unreservedly their statement is, because we know this is the best school to get us a job. So I suspect that students have a very clear understanding of their graduate profile and it is a very simple profile that we graduate students who are able to gain and hold a first-time job in the New Zealand broadcasting industry. (Academic 2)

All staff are aware of the graduate profile. While only a small group were involved in writing the graduate profile, the specific nature of the programme does mean that there is a focused approach within the programme team. The industry experience of the staff was also seen as important in this respect:

Well, I think that the staff intuitively understand the graduate profile that I've been discussing. They are industry people, most of them. There are very few people on the school staff who haven't been involved at some stage in the broadcasting industry and so have an intuitive understanding of what "the industry needs." And so their perspective on the graduate profile will be influenced by that, and will be a constant presence in everything that they're doing. (Academic 2)

This means that, even though every staff member might not be able to list the graduate profile, there is an implicit understanding of what is required drawn from the common goals and experience of the team.

### **Reflections and implications**

In this case study the programme is very specific in its employment focus. The Broadcasting Communications programme is successful in its aim to be producing employable graduates for the media industry. The graduate profile provides a representation of the skills, knowledge, understanding and attributes that a graduate will have and is actively used within the programme, to inform selection and as a means of helping to focus students on a broader set of attributes, emphasising the soft skills required rather than the technical skills expectation that students arrive with.

The very specific focus of this programme does represent a unique case. There is a collective ownership of the graduate profile by staff in the programme, though this is also partly reflected through the focused nature of the programme and the strong industry background of the staff. The use of the graduate profile as part of the selection process does also mean that it is not just an end point for students to work toward but also a mechanism used to shape the student cohort. At the same time staff, through various consultation mechanisms, translate industry requirements into a form that fits within the graduate profile. The successful outcomes of the programme, though, indicate that the programme has a graduate profile that is sufficiently robust and flexible to enable this.

## **6.4 Summary**

In this chapter we have presented eight cases of good practice. For each case we have described how GOs are being or have been translated into curriculum, as well as reporting student and staff experiences of GOs. Given the variation in where programmes are at with curriculum renewal, a cross-case analysis will elucidate what factors are helping to embed GOs. Thus, in the next chapter we provide a synthesis of the findings, drawing together data from the stock-take survey and leader interviews, as well as conducting a synthesis across these cases.

# Chapter 7: Synthesis of Findings

## 7.1 Introduction

In this chapter we draw together the key findings from the stocktake survey data, interviews with academic leaders of teaching and learning centres, and case-study data. In so doing, we address all three of our research questions: identification of current policy and practice regarding GOs in New Zealand universities and polytechnics; identification of the indicators of the impact (benefit) on students and staff of good practices relating to GOs; and determining the necessary conditions and possible strategies for the effective development of policies and practices regarding GOs. We continue this chapter by discussing current policy and practice regarding GOs in Aotearoa New Zealand and then, in section 7.3, we discuss enablers of engagement with GOs. In section 7.4 we discuss the benefits to staff and students of good practices relating to GOs as well as indicators of the impact of GOs. In section 7.5 we provide a set of strategies for engaging with GOs and finally, in section 7.6, we consider the limitations of our study.

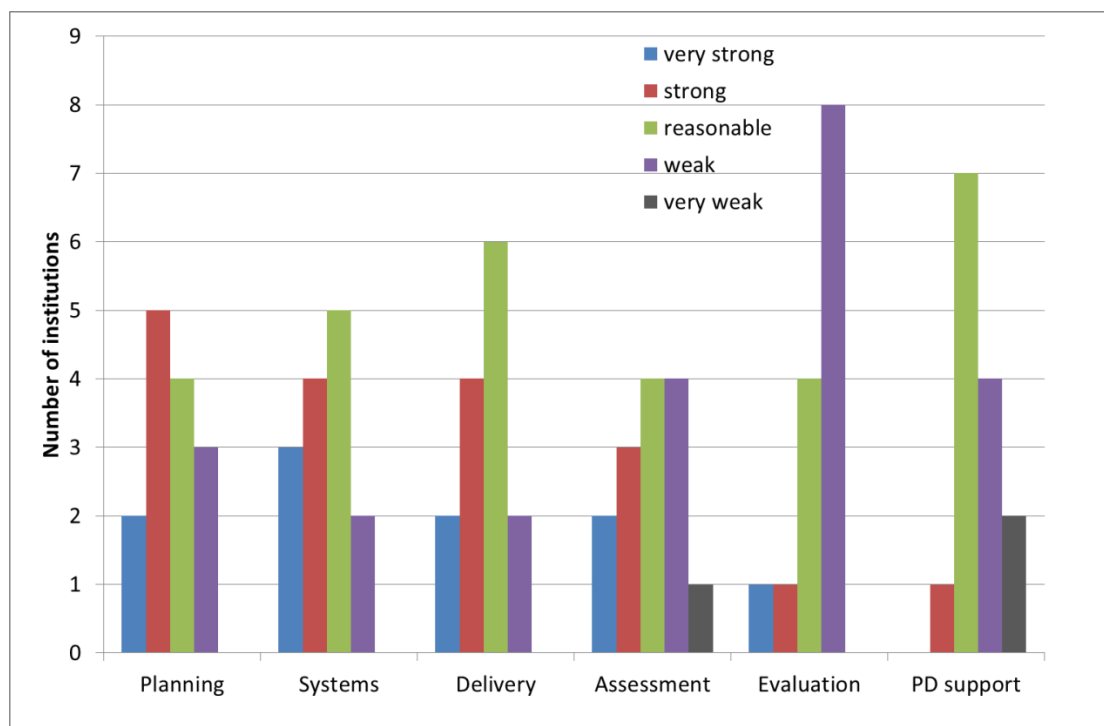
## 7.2 Current policy and practice regarding graduate outcomes

In this section we present and discuss the results of the Maturity Modelling (see section 3.2.3), first for engagement with GOs across the higher education sector (7.2.1), and then for embedding of GOs in curricula across the cases (7.2.2).

### 7.2.1 Engagement with graduate outcomes across the higher education sector

In assessing engagement with GOs at the institutional level, we used the indicators of planning for GOs, systems for embedding GOs, delivery of GOs, assessment of GOs, and professional development support for embedding GOs. For each indicator, we made a subjective rating of engagement on a five-point scale from very weak to very strong. Regarding overall engagement with GOs, there is reasonable to strong engagement with the planning, systems and delivery of a GO agenda (Figure 7.1). However, there is much lower engagement with assessment and evaluation of GOs, and six institutions report weak or very weak professional development support for GOs.

More detail is provided in Figure 7.2, which shows each institution's rating of how strongly they are engaged with the planning, systems, delivery, assessment, evaluation and professional development support for GOs. From Figure 7.2 it is apparent that overall polytechnics are better engaged with GOs than are universities. Five of the seven polytechnics reported reasonable to very strong engagement with planning, systems, delivery and assessment of GOs. However, there were lower levels of engagement with evaluation of GOs and professional development support, with the exception of one polytechnic. For the universities, two reported stronger levels of engagement, particularly with planning and systems, and one also reported strong engagement with delivery, assessment and evaluation. In contrast the five other universities reported mainly weak to reasonable engagement for all aspects (Figure 7.2).



**Figure 7.1: Summary of institutional engagement with graduate outcomes**

Thus, engagement with GOs in higher education institutions in Aotearoa New Zealand is at best patchy. By patchy, we mean that there are areas where GO engagement is strong, and other areas where there is less evidence of engagement. While there is reasonable to strong engagement with the planning, systems and delivery of GOs, particularly in the polytechnic sector, there is much lower engagement with the assessment and evaluation of GOs, and overall, weak engagement with professional development support for GOs. While many survey participants felt that GOs should be used as an integral part of curriculum design, they noted that there are issues with how they are developed, particularly regarding stakeholder input, and how they are embedded within curricula. The qualitative data reinforce these results.

Figure 7.3 shows a continuum of engagement with GOs from weak to strong together with key influencing factors. As a generalisation, universities tended to be located on the lefthand side of the continuum, whilst the polytechnics tended to be located on the right. The main reasons for the stronger engagement evident in the polytechnic sector were associated with external drivers (*e.g.* NZQA, professional bodies and accrediting bodies), a teaching-focused culture, strong leadership from the top, and enabling structures. Conversely, institutions that were less engaged typically placed less emphasis on external drivers and were more focussed on research. They tended to lack senior leadership in the GO agenda, instead relying on champions. In these institutions, the GO agenda was more poorly resourced and lacked authorised supporting structures.

	Planning	Systems	Delivery	Assessment	Evaluation	Prof dev support
P1						
P2						
P3						
P4						
P5						
P6						
P7						
U1						
U2						
U3						
U4						
U5						
U6						
U7						

**Legend:**

very strong	
strong	
reasonable	
weak	
very weak	

**Figure 7.2: Institutional rating of engagement with graduate outcomes**

Note: P is polytechnic, U is university, and Prof Dev is professional development.



**Figure 7.3: Continuum of engagement with graduate outcomes, from weaker engagement (in light shade) to stronger engagement (in dark shade) with influencing factors shown above the arrow**

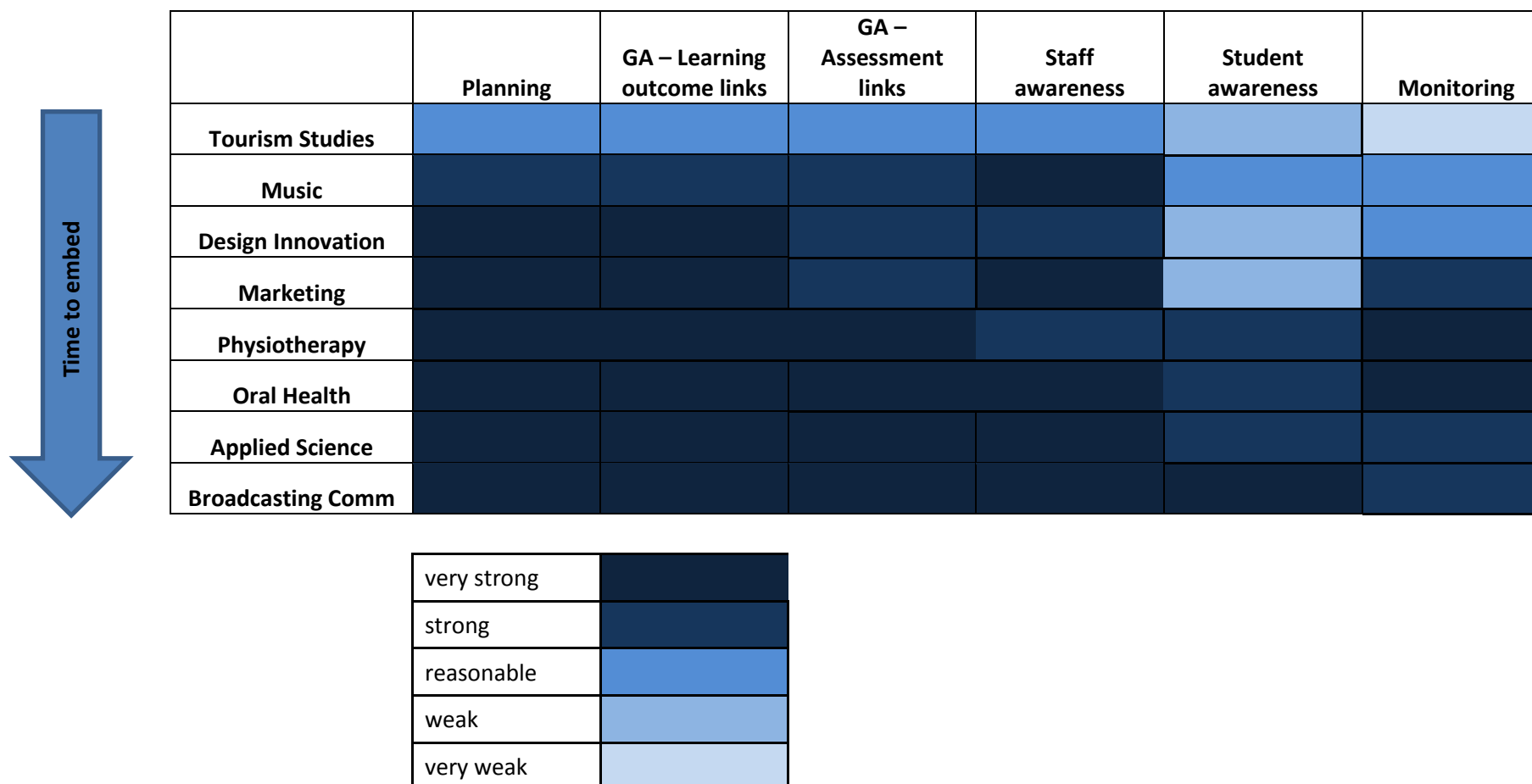
### 7.2.2 Engagement with graduate outcomes at the programme level

When considering engagement at the programme level, our indicators were planning at the programme level for GOs, explicit links between GOs and learning outcomes, explicit links between GOs and assessment, staff awareness of GOs, student awareness of GOs and monitoring of achievement of GOs. All cases were chosen as exemplars – of programmes who were engaged with a GO agenda. However, some programmes had been engaged with such an agenda for many years so GOs were well embedded throughout the curriculum, and staff and students demonstrated high levels of awareness of them, while others, such as Tourism Studies, were just beginning to consider the embedding of GOs. Figure 7.4 shows a qualitative assessment of aspects of embedding GOs in the cases, again using a Maturity Modelling approach.

Looking across these cases in Figure 7.4, and bearing in mind different stages of development, we can see that the further along the path of embedding GOs, the greater the links between GOs and learning outcomes and assessment, and generally the greater the awareness of GOs by staff and students. For most of the cases there was either ‘strong’ or ‘very strong’ planning for GOs, links between GOs and learning outcomes, links between GOs and assessment and staff awareness of GOs. However, for student awareness of GOs, in four cases this was rated as weak to reasonable; the other four were strong or very strong. Yet our case study showed that students wanted to know about graduate outcomes – they wanted to make sense of their experiences and the courses they were taking. Also monitoring of achievement of GOs was less well rated in three cases.

Whilst time to embed GOs is clearly an important factor, there are other factors that were also identified as enablers and these are discussed in the next section.





**Figure 7.4: Matrix of aspects of embedding of GOs within curricula for case studies (darker shading indicates higher levels of engagement or embedding)**

Note that Tourism Studies had just begun curriculum renewal around GOs, with the next four courses further along the curriculum renewal path. The last three (Oral Health, Applied Science and Broadcasting Communication) had started curriculum renewal at least six years ago.

## 7.3 Enablers for effective engagement with a graduate outcomes agenda

In this section we identify enablers for effective engagement with a GO agenda. In chapter 5, from analysis of the interviews conducted with leaders of teaching and learning across nine institutions, we identified five categories of enablers:

- A) *External drivers* – forces to which institutions were required to respond or that they perceived they were responding, or should respond
- B) *Structural and procedural enablers* – those that facilitated or engaged staff and communities within the institution to become aware of or work towards change in practice in regard to GOs
- C) *Developmental enablers* – those that assisted staff/groups/departments to introduce and develop GOs and embed them in curricula, or undertake some curriculum development
- D) *Achievement enablers* – those that were concerned with how students are assisted to achieve a GP
- E) *Contextual enablers* – generic institutional and/or individual cultural/affective qualities that crossed the four forms described above and made them more or less effective.

The enablers identified above reflect different aspects of those that were listed as necessary for a successful implementation of GOs identified by Sharp and Sparrow (2002) and the systemic determinants of Hughes and Barrie (2010). It was evident that (A) *external drivers* had the potential to influence the effect of enablers B to E. On reflection, they generate questions for our institutions such as:

- What external forces are influencing what we do and why?
- Are there other forces that we are failing to recognise?
- Are we responding to/acting on these forces appropriately?

It is clear that NZQA, through implementation of the NZQF, is a major enabler for engagement with a GO agenda. Whilst the non-university tertiary education organisations have a longer track record of considering such an agenda, it is relatively new for the university sector. Within universities the more vocational courses, particularly in health sciences and commerce, have been strongly influenced by professional and accrediting bodies, and so are more likely to be well engaged with a GO agenda.

The (B) *structural and procedural enablers* together have a profound effect on the (C) *developmental enablers*. Most of the leaders talked of the many structural enablers in their institution but the procedural enablers were less in evidence. Yet the data indicate that an engaged institution requires the two to exist and work together. This finding is in accord with Sharp and Sparrow (2002), who argued that structures need to be in place for embedding GOs, as well as processes such as course review and development. In contrast, Hughes and Barrie (2010) did not identify structures and processes as one of their systemic determinants of achieving GOs. Our results suggest that structures should be well in place before new functions are required. Moreover, new functions allocated to established structures should be well communicated across all levels of the institution.

When external drivers are not evident, internal drivers become much more important with structural and procedural enablers, as well as developmental enablers, key to curriculum renewal. The manager at U2/2 commented:

If there is one take-home [message]...for me, would be [that] graduate attributes, graduate profiles actually need to be part of a much broader strategic approach to teaching and learning within the institution. My personal belief in the models that I've

looked at in other universities is that it often isn't. It's often something of an add-on, like a requirement that you develop this profile and then we'll put it on the website.

The following rather long quotation from the same manager provides an apt summary of the results reported above:

[The Vice-Chancellor] has very strong views about universities in the 21<sup>st</sup> Century and the kind of things that universities need to be seen to be doing...they...employed a [senior manager] with this kind of project in mind. So ...it really does come from the top...right at the top. From the Vice-Chancellor who made a strategic appointment in a [senior manager] who would lead a reform process that would position this university for a much more transformative future and then in terms of doing it...the support, the facilitation, has been myself and...the [senior manager] and we have worked with the senior leadership team and especially the heads of our [faculties] to really create a context, for these kind of discussions to happen because...we didn't really have the places and the spaces for really strategic discussions about teaching and learning. We had the standard committee structure, which was the Teaching and Learning Committee and Academic Board, but teaching was just something that the university did rather than something that was necessarily strategically lead and...we've now managed to get into a space where we do have quite strong leadership around teaching and learning but at the same time, it's the leadership that reflects the fact that those kinds of processes are very much aligned to and driven from disciplines (U2/2).

We applied this framework of enablers to the case-study data to explicate the important factors at each level (institutional, programme, lecturer and student levels; Table 7.1). Given the focus on programmes as the level of analysis, it is not surprising that more factors were identified for this level. However, we also believe that this is the most important level situated between the coal-face (lectures and students) and management. Thus, it is crucial that a great deal of attention is paid to the enablers at this level and how they articulate with those above and below.

Rather than discussing the detail of Table 7.1 here, instead in section 7.5 we bring together the data from Table 7.1 with data from the stocktake and leader interviews, as well as from the literature, to propose a range of strategies for promoting engagement with GOs. However, before moving on it is important to take note of the gaps in Table 7.1. From the synthesis of the case-study data it became apparent that there was a lack of consideration of *structures and processes* that help lecturers embed GOs in their courses and to help students achieve GOs. Another gap was consideration of *achievement enablers* at the institutional level.

An underlying assumption in our study is that engagement with GOs and the embedding of GOs in curricula is a good thing. Before considering a range of strategies to promote engagement with GOs, in the next section we first provide some evidence to back our assumption.

## **7.4 Benefits to students and staff of engagement with graduate outcomes**

An overwhelming theme from analysis of case-study data is that any engagement with a GO agenda is seen to be positive – for both students and staff. There is a strong sense that considering GOs is a developmental process for both students and staff. In this section we first consider benefits to students (7.4.1) and then staff (7.4.2). At the end of each section we consider indicators of these benefits.

### 7.4.1 Benefits to students

Students were strongly in favour of knowing about GOs – they saw them as very important, even if they did not have a clear understanding of what they were. Across the programmes students interpreted the use of GOs in a range of ways. A dominant theme was that of employability – GOs were seen as a means to achieve employment goals. Another very instrumental view, voiced by a small number of students, was that GOs provided a means for them to ensure they were getting “what they paid for”. However, many students had a broader view of GOs, seeing them as more than preparation for a specific job. For example, a Physiotherapy student commented, “Physio is branching out, and I’m thinking it is not really that black and white. You can basically go anywhere with the right idea.”

Many students also found GOs to provide a holistic picture of what they were achieving from their education and some used GOs to plan their studies and to understand their degree: “I think [knowing graduate outcomes is] important to know what I will achieve at the end of my studies”; and “[knowing graduate outcomes] enables a clear reason as to why you should do the subject and what comes out of it.” These differences in the perceptions of GOs appear to be related to orientations to higher education (Spronken-Smith, Buissink-Smith, Grigg & Bond, 2009). Spronken-Smith *et al.* (2009) found four orientations regarding the purpose of higher education: (A) gaining a qualification for a specific job; (B) preparation for a job; (C) developing life skills and learning how to think; and (D) education for its own sake: growing as an individual. It is likely that students holding a more instrumental view of GOs think that the purpose of higher education is for gaining a credential, whilst those holding more holistic conceptions of GOs are likely to see the purpose of higher education in more liberal terms, enveloping personal growth.

In programmes where GOs were well embedded and explicitly taught (*e.g.* Applied Science and Broadcasting Communication), students had a high level of awareness of them. Moreover, students were aware that GOs were being progressively developed throughout their study, as they were being trained to be professionals. In contrast, in programmes where GOs were just starting to be considered (*e.g.* Tourism Studies) or where GOs were well embedded but perhaps not explicitly taught (*e.g.* Marketing and Design Innovation), students were less aware of them and were not familiar with the language of graduate profiles or graduate attributes. Yet they wanted to know about GOs in order to make sense of their study, their degree programme and future opportunities. However, through our research, which forced students to think about graduate outcomes, often for the first time, two things became apparent. First, many students could articulate what they were gaining from their education – perhaps not in the institutional or programme jargon of GOs, but certainly they were cognisant of many attributes that were being fostered. Second, the very act of having to think about GOs was seen as beneficial and developmental. Many found it a surprise to be able to generate a set of relevant GOs and for some that act of thinking about GOs was transformative. This is nicely illustrated by a Tourism Studies student, who, through the process of reflecting on GOs via the focus group transformed her thinking about the purpose of a university degree – she spontaneously retracted her earlier comment that her studies would be a “waste of time” if she did get not a specific job within the tourism industry after graduation, since she now realised she was gaining a far more holistic education.

**Table 7.1: Enablers identified from case studies**

Note: These enablers are factors which help each level to embed GOs (institutional, programme and lecturer levels) or achieve GOs (students). GP is graduate profile.

Enablers	Institutional – what helps managers to embed GOs in the institution	Programme – what helps programme coordinators to embed GOs in the programme	Lecturer – what helps lecturers to embed GOs in their courses	Students – what helps students to achieve GOs
<b>External</b> – forces to which institutions were required to respond or that they perceived they were responding, or should respond	<ul style="list-style-type: none"> <li>• Using government funding as a driver (polytechnic)</li> <li>• Using NZQA and CUAP processes requiring GPs for new programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Using accreditation processes from professional bodies to inform development and use of GOs in curriculum</li> <li>• Using alumni to help with programme quality, for connections to profession, and for professional role modelling</li> <li>• Ensuring stakeholder involvement in developing GOs</li> </ul>	<ul style="list-style-type: none"> <li>• Bringing in external practitioners or alumni</li> <li>• Using examples from ‘real world’ experience</li> </ul>	<ul style="list-style-type: none"> <li>• Having clear links between GOs and employability skills and attributes</li> </ul>
<b>Structural and procedural</b> - those that facilitated or engaged staff and communities within the institution to become aware of or work towards change in practice in regard to GOs	<ul style="list-style-type: none"> <li>• Providing strong senior leadership for GA initiatives</li> <li>• Requiring curriculum renewal with a focus on GOs</li> <li>• Having in place enabling policies and processes</li> <li>• Allowing time for curriculum renewal</li> </ul>	<ul style="list-style-type: none"> <li>• Developing programme GP – GOs need to be contextualised</li> <li>• Ensuring strong leadership – support of HoDs and programme coordinators</li> <li>• Requiring clear links between programme GP and institutional GP (if there is one)</li> <li>• Requiring strong links between GOs, learning outcomes and assessment (curriculum mapping)</li> </ul>	<ul style="list-style-type: none"> <li>• Mapping the attributes to learning objectives and then to specific assessment and learning tasks</li> </ul>	

Table 7.1 (cont.)

Enablers	Institutional – what helps managers to embed GOs	Programme – what helps programme coordinators to embed GOs	Lecturer – what helps lecturers to embed GOs	Students – what helps students to achieve GOs
<b>Developmental</b> – those that assisted staff/groups/departments to introduce and develop GOs and embed them in curricula, or undertake some curriculum development	<ul style="list-style-type: none"> <li>• Giving clarity over an institutional GP if there is one. Is this to be aspirational or realised?</li> <li>• Providing training and support for staff – usually through educational or academic developers</li> </ul>	<ul style="list-style-type: none"> <li>• Engaging all staff in curriculum renewal. This helps to foster collective ownership of the programme and promote teamwork and collegiality</li> <li>• Calling on assistance of academic developers for the process and particularly for developing learning outcomes</li> <li>• Having good communication of the process and outcomes</li> <li>• Using planning tools such as curriculum mapping</li> <li>• Emphasising the improved efficiency that will result</li> </ul>	<ul style="list-style-type: none"> <li>• Being passionate about teaching</li> <li>• Being committed to curriculum renewal</li> <li>• Having an enabling conception of GOs</li> <li>• Seeing curriculum change as a positive process</li> </ul>	<ul style="list-style-type: none"> <li>• Having clear educational pathways</li> <li>• Using, and referring to, GOs in teaching</li> </ul>
<b>Achievement</b> – those that were concerned with how students are assisted to achieve a GP		<ul style="list-style-type: none"> <li>• Having strong links between GOs, learning outcomes and assessment</li> <li>• Scaffolding of skills – to gradually develop GOs</li> <li>• Requiring ePortfolios</li> <li>• Involvement of students in developing GPs</li> </ul>	<ul style="list-style-type: none"> <li>• Clearly articulating links between GOs and learning outcomes and assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Using contemporary, flexible delivery methods</li> <li>• Having student-focused curricula</li> </ul>
<b>Contextual</b> – generic institutional and/or individual cultural/affective qualities that crossed the four forms described above and made them more or less effective	<ul style="list-style-type: none"> <li>• Ensuring the institution has a strong focus on student learning</li> <li>• Giving GOs a high profile</li> <li>• Creating space for discussions on GOs and how to embed them</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental focus on student learning</li> <li>• Creating time and space for discussions for curriculum renewal</li> </ul>	<ul style="list-style-type: none"> <li>• Having a student-centred approach to teaching</li> <li>• Valuing GOs</li> </ul>	<ul style="list-style-type: none"> <li>• Having visible GPs</li> <li>• Having GPs that make sense</li> <li>• Discussing the purpose of higher education</li> </ul>

Finally, our Music students deserve special mention. Unlike the other cases where there was a strong vocational driver and a more obvious profession for graduates, in Music there was no single professional end point. Thus, students were studying Music for a range of reasons – and mainly for personal interest, rather than professional reasons. When performance was a goal, passion was the driver. This meant that a variety of outcomes were possible and, as a result, students were responsible for constructing their own graduate identity.

Indicators of the impact (benefit) of engagement with a GO agenda for students included:

- Students being aware of a graduate profile for their programme. However, ideally their understanding of the graduate profile should not simply entail an atomised list of attributes, but rather a more holistic sense of ‘graduateness’.
- Students seeing strong links between the graduate profile and the learning outcomes and assessment in their courses.
- Students tracking their progress towards attaining the graduate profile.
- Students knowing a range of employment options resulting from their degree.
- Students being aware of further educational pathways.

## **7.2.2 Benefits to staff**

Staff related many possible uses of GOs including:

- providing a vision for the outcome of the programme
- providing a more holistic approach to programme development and delivery
- for communicating with students and employers
- for marketing the programme
- for quality assurance.

The consideration of GOs was seen to be very beneficial for staff and often this came as a surprise. For some sceptics, curriculum renewal around GOs was initially seen to be very bureaucratic, but through the process, staff came to see the process as a useful one:

I was really sceptical about doing [the graduate attribute mapping] when we started because I thought this would be just another bout of university bureaucracy. And I was impressed when we started doing them – the ways in which they weren’t [bureaucratic] and the ways in which I could see that it was basically a process of rationalisation. What sold me was when I suddenly realised we were doing four [objectives] for each course and not twenty. (Design Innovation Academic 1)

There was a recognition that although a lot of work to embed GOs, the process was worth it as it led to increased efficiency:

[Using graduate attributes to plan a curriculum has] been a hump to get over. In the short run it’s generated more work. But actually I would be pretty confident in saying that once they get embedded and it’s a part of the way we do things, it has led to a bit more streamlining and efficiency. (Marketing Academic 1)

When starting out on embedding GOs, there can be initial conflict amongst staff, and this is what was being experienced in Tourism Studies. This is a likely part of the process, where, often for the first time, academics have to think about what they are trying to achieve in their teaching. With differing conceptions of GOs (see Barrie, 2006), it is not surprising there can be conflict over how to embed them in a programme.

However, despite potential conflict, most staff in our cases reported the process of embedding GOs as a positive one, and one that fostered collegiality within their department. For example, a Design Innovation academic said:

What's as important is that it's a process that makes people think about what they're actually doing on the programme. Students and lecturers together. The more there's some kind of cohesion there and clarity of direction, the more your students are going to come out the other end of the programme employable, and be able to know where they're navigating. (Design Innovation Academic 1)

It is very apparent that the act of thinking about GOs can transform an academic's beliefs about teaching. A Design Innovation academic commented:

I think that teaching at other universities and having discussions about our courses, *etc.* we had graduate attributes, but we didn't really analyse the whole learning process so specifically. And I found, since coming here to Vic, that it has massively opened up my self-analysis of teaching and our courses. (Design Innovation Academic 3)

Moreover, through deep engagement with the GO agenda, academics could transform their thinking about GOs themselves. Often they came to see them as more than an atomised list of qualities, but rather about a "way of thinking and practising" (see Hounsell and McCune, 2002). There was also a strong feedback loop reinforcing the need for GOs through seeing the changes in students. For example, a Physiotherapy academic noted, "We've got unsolicited feedback from colleagues saying that these guys [students taught under the new curriculum] are different. They are thinking differently, they are asking questions, they are really insightful."

Similar to the effect our study had on students and their thinking about GOs, it was clear that our research, through probing questions about GOs, led academics to reflect more deeply on their programmes and what could be done better. For example, in Music the academics became aware of a need to have a department-wide approach to embedding GOs.

Indicators of the impact (benefit) of engagement with a GO agenda for lecturing staff included:

- a sound understanding of the graduate profile for their programme. Like students, we hope that this understanding is not simply an atomised list of attributes, but rather a more holistic sense of 'graduateness'
- holding a 'translation' or an 'enabling' conception (Barrie, 2006) of graduate attributes, so that academics feel some responsibility to foster attributes in their students
- having clear links between the graduate profile and the learning outcomes and assessment in their courses
- assisting students to track their progress towards attaining the graduate profile
- ensuring that students know about the employment options resulting from their degree
- ensuring that students are aware of further educational pathways.

## 7.5 Strategies for engagement with graduate outcomes

From the synthesis of stocktake and case study data, together with insights from the literature, we have generated a range of strategies for engagement with GOs. For widespread practical application, these are given for a range of levels: institutional, programme, lecturer and student (Table 7.2). Many of the enablers we have identified have been cited before in the literature. However, what we provide that is new, is an organising framework for the consideration of enablers of engagement with GOs (Figure 7.5).



In Figure 7.5 the importance of external drivers can be seen, particularly with regard to their influence at the institutional and programme levels. Our data showed less use of external drivers at the lecturer and student levels, but some suggestions of how this could be incorporated are indicated in Table 7.2. One challenge for vocational programmes, with strong external drivers, is balancing the desired outcomes of external agencies together with those of the institution. If external drivers are not as strong, then internal drivers become much more important if a GO agenda is to be advanced. The two internal drivers are structural and procedural enablers and developmental enablers. As Figure 7.5 shows, these two enablers should link the institutional, programme and lecturer levels to embed GOs in curricula, and moreover, there should be internal links between the enablers themselves. The context is important at all levels, and institutions with a strong teaching-focused culture are better placed to embed GOs. The final part of the framework is the achievement enablers, and as Figure 7.5 shows, these cross all levels and help students to achieve GOs. In our data we noted a lack of consideration of achievement enablers, but again Table 7.2 provides a range of mechanisms to realise this enabler.

In our synthesis we observed that procedural enablers were often absent, so that although structures may have been in place, a lack of process meant that GOs were not well embedded in curricula. At the institutional level, from the stocktake and leader interview data, there appeared to be an overall lack of engagement with students and their needs. This may have been due to the focus of the survey and interview, which were aimed at the level of the institution, but nevertheless the focus for GOs was largely centred on the institution. Graduate outcomes are profoundly concerned with learners and learning, yet in these data students were scarcely mentioned. One manager commented:

...we have this list, this profile without it actually gaining any meaning in terms of the experiences the students are going through. ...it worries me that a lot of people designing courses won't think about what the outcomes for those students might be, what sort of characteristics they're trying to build throughout their degree and then thinking purposefully about how they might be intentionally built into the curriculum. So I think it's more sort of happenstance about what happens with students on the way through. Certainly, the knowledge part of it seems to be well articulated, formed and progressed throughout the degree but a lot of those transferable skills are not... (U6).

This lack of engagement with students was also found by Hughes and Barrie (2010), who were critical of attempts to embed GOs that did not actively engage students as partners in the process. However, when we analysed the case study data, it was apparent that at this level, more attention was being paid to students and their needs. Despite this, it was apparent that, overall, students were not as aware of GOs as they would like, so further efforts should be taken to address this. For some programmes, the strong drivers had been external accreditation processes, while for others the motivation was a concern to improve student learning. Importantly, even if external processes had instigated the process of curriculum renewal, academics who may initially have seen the process as a form of compliance were transformed to see it as a way to improve student learning.

**Table 7.2: Strategies to promote embedding GOs in curricula at a range of levels within a tertiary education institution**

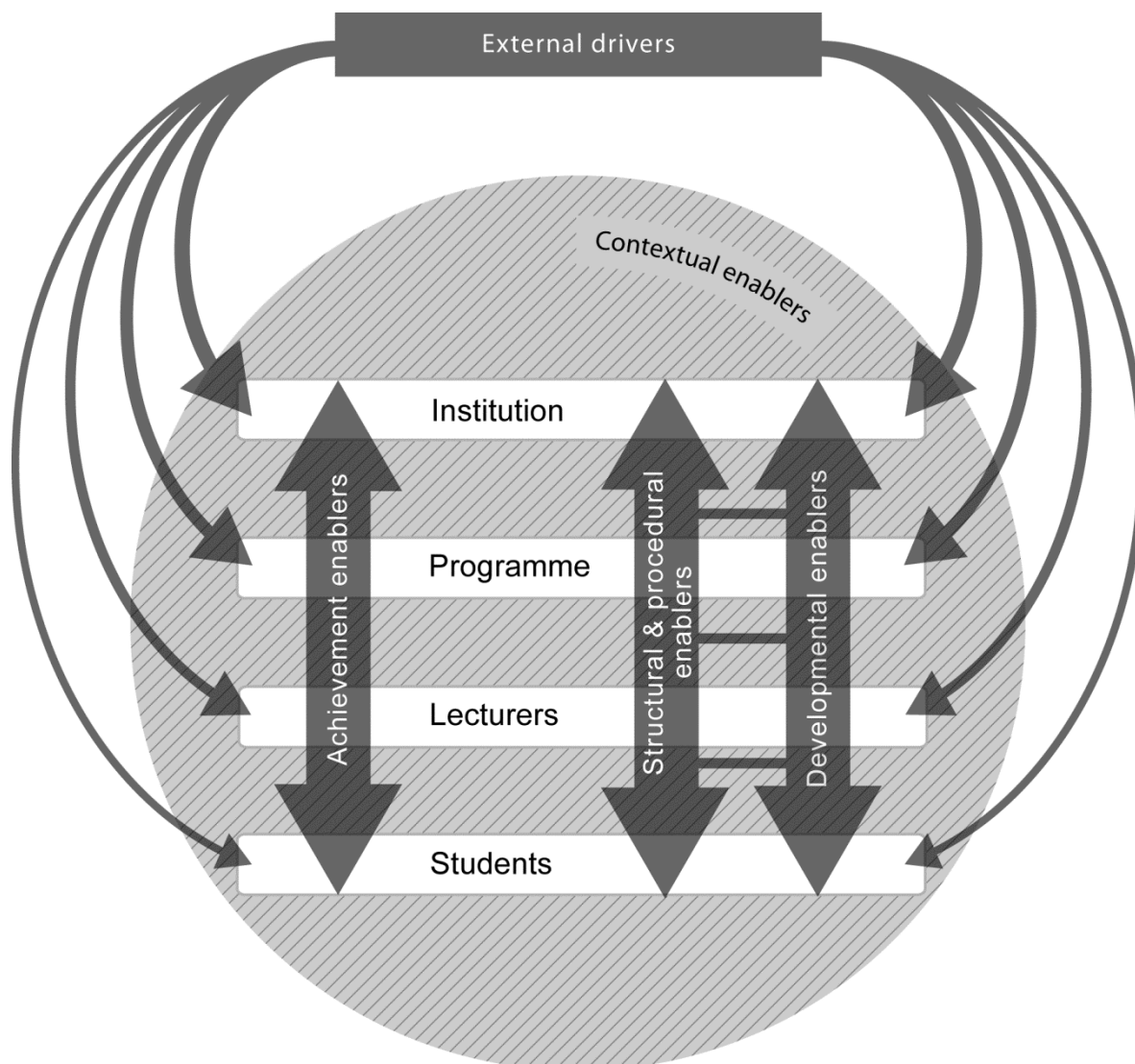
<b>Enablers</b>	<b>Institutional – what helps embed GOs at the institutional level?</b>	<b>Programme – what helps embed GOs at programme level?</b>	<b>Lecturer – what helps lecturers to embed GOs in their courses?</b>	<b>Students – what helps students to achieve GOs?</b>
<b>External</b> – forces to which institutions were required to respond or that they perceived they were responding, or should respond	<ul style="list-style-type: none"> <li>• The influence of statutory accreditation bodies (NZQA, CUAP)</li> <li>• The need for institutional branding and responding to the educational market</li> <li>• The need to keep abreast of international education trends</li> </ul>	<ul style="list-style-type: none"> <li>• Mandate from accreditation processes and professional bodies and trade organisations</li> <li>• Stakeholder involvement in developing GOs (employers, alumni, students)</li> <li>• Using alumni to help with programme quality</li> </ul>	<ul style="list-style-type: none"> <li>• Bringing in alumni or external practitioners</li> <li>• Using examples from the ‘real world’</li> <li>• Professional or discipline trends and practices</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing strategies that inform</li> <li>• Having clear links between GOs and employability skills and attributes</li> </ul>
<b>Structural and procedural</b> - those that facilitated or engaged staff and communities within the institution to become aware of or work towards change in practice in regard to GOs	<ul style="list-style-type: none"> <li>• Having strong proactive senior leadership for GO initiatives</li> <li>• Appointing key senior managers supportive of GO initiatives</li> <li>• Promoting a senior management team focus on GOs</li> <li>• Requiring curriculum renewal with a focus on GOs</li> <li>• Changing roles of committees to ensure oversight and promotion of GOs</li> <li>• Instigating policies and plans that include GPs</li> <li>• Giving staff designated authority to implement policy</li> <li>• Allowing time for curriculum renewal</li> <li>• Having oversight of monitoring process</li> </ul>	<ul style="list-style-type: none"> <li>• Supportive middle managers responsible for teaching and learning</li> <li>• Promoting a team focus to curriculum development</li> <li>• Having designated authority to implement policy</li> <li>• Having people familiar with regulatory and structural aspects of qualifications</li> <li>• Developing programme GP – GOs need to be contextualised</li> <li>• Requiring clear links between programme GP and institutional GP (if there is one)</li> <li>• Requiring strong links between GOs, learning outcomes and assessment (curriculum mapping)</li> </ul>	<ul style="list-style-type: none"> <li>• Access to information/people about regulatory and structural aspects of their programme</li> <li>• Teaching awards/promotion criteria/annual reviews that recognise and reward efforts to embed GOs</li> <li>• Guidelines for mapping the attributes to learning objectives and then to specific assessment and learning tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Clear articulation of learning outcomes and assessment with GOs</li> <li>• Involvement of students in developing GPs</li> <li>• Online and paper-based information material aimed at students</li> <li>• Structures and procedures in place to allow flexibility for study and programme completion</li> </ul>

**Table 7.2 (cont.)**

Enablers	Institutional – what helps embed GOs at the institutional level?	Programme – what helps embed GOs at programme level?	Lecturer – what helps lecturers to embed GOs in their courses?	Students – what helps students to achieve GOs?
<p><b>Developmental</b> – those that assisted staff/groups/departments to introduce and develop GOs and embed them in curricula, or undertake some curriculum development</p>	<ul style="list-style-type: none"> <li>• Being clear about the institutional role and relation to the GP(s)</li> <li>• Enabling beliefs about the role of GOs and teaching and learning</li> <li>• Providing academic development support through: <ul style="list-style-type: none"> <li>○ facilitating curriculum meetings</li> <li>○ workshops on GOs</li> <li>○ providing exemplars of embedding of GOs</li> <li>○ providing tools to assist in curriculum renewal</li> </ul> </li> <li>• Identifying champions</li> <li>• Implementing institutional projects</li> <li>• Recognising the time required for change</li> </ul>	<ul style="list-style-type: none"> <li>• Enabling beliefs about the role of GOs and teaching and learning</li> <li>• Champions</li> <li>• Recognition and support for the role of the discipline in developing/embedding GOs</li> <li>• Recognising and supporting staff ownership of their programme</li> <li>• Engaging all staff in curriculum renewal</li> <li>• Valuing programme staff input</li> <li>• Provision of academic development for support for the process and particularly for developing learning outcomes</li> <li>• Provision of teaching resources and planning tools such as curriculum mapping</li> <li>• Instigating formal and informal conversations about teaching and curriculum</li> <li>• Having good communication of the process and outcomes</li> <li>• Emphasising that improved efficiency will result</li> </ul>	<ul style="list-style-type: none"> <li>• Translation or enabling beliefs about the role of GOs and teaching and learning</li> <li>• Having collective ownership of the programme</li> <li>• Being committed to curriculum renewal</li> <li>• Recognition of the discipline</li> <li>• Access to teaching resources</li> <li>• Supportive teaching culture</li> <li>• Seeing curriculum change as a positive process</li> </ul>	<ul style="list-style-type: none"> <li>• Students supported in the development of their expectations and outcomes (knowledge and skills) of programme</li> <li>• Teaching environment that encourages students' awareness of the importance of access to knowledge of the benefits of the programme</li> <li>• Curriculum designed for contemporary/ flexible delivery methods that take account of busy lives</li> <li>• Teaching is student-centred and focuses on learning</li> <li>• Specific GOs are explicit in every part of the curriculum</li> <li>• Curriculum includes high-impact experiences to help graduates foster GOs</li> <li>• Scaffolding of skills made explicit to students to help their awareness of development</li> </ul>

Table 7.2 (cont.)

Enablers	Institutional – what helps embed GOs at the institutional level?	Programme – what helps embed GOs at programme level?	Lecturer – what helps lecturers to embed GOs in their courses?	Students – what helps students to achieve GOs?
<b>Achievement</b> – those that were concerned with how students are assisted to achieve a GP	<ul style="list-style-type: none"> <li>• Providing an institutionally supported ePortfolio framework</li> <li>• Providing advising and mentoring of students</li> <li>• Providing signature learning experiences (Smith 2011, Spronken-Smith, 2013)</li> </ul>	<ul style="list-style-type: none"> <li>• Having clear educational and employment pathways</li> <li>• Using contemporary/flexible delivery methods</li> <li>• Ensuring curricula focus on students</li> <li>• Having strong links between GOs, learning outcomes and assessment</li> <li>• Scaffolding of skills – to gradually develop GOs</li> <li>• Including high-impact educational experiences (<i>e.g.</i> service learning, inquiry – see Kuh, 2008)</li> <li>• Requiring ePortfolios</li> <li>• Involvement of students in developing GPs</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion of educational and employment pathways for graduates</li> <li>• Clearly articulating links between GOs and learning outcomes and assessment</li> <li>• Using signature pedagogies (see Shulman, 2005; Spronken-Smith, 2013) and high-impact educational experiences (Kuh, 2008)</li> <li>• Using assignments which require reflection on learning and articulation of the knowledge, skills and values being developed</li> </ul>	<ul style="list-style-type: none"> <li>• Clear and explicit educational and employment pathways</li> <li>• Access to contemporary, flexible delivery methods</li> <li>• Strong, explicit links between GOs, learning outcomes and assessment</li> <li>• Experience of student-focused curricula: teaching assessment and evaluation</li> <li>• Personal contact with relevant staff</li> <li>• Encouraging extra-curricular activities</li> </ul>
<b>Contextual</b> – generic institutional and/or individual cultural/affective qualities that crossed the four forms described above and made them more or less effective	<ul style="list-style-type: none"> <li>• A positive emotional health of the institution</li> <li>• Good communication</li> <li>• An institutional culture that focuses on student learning</li> <li>• Giving GOs a high profile</li> <li>• Having an alertness to the context of programmes and programme coordinators</li> <li>• Creating space for discussions on GOs and how to embed them</li> </ul>	<ul style="list-style-type: none"> <li>• High staff morale</li> <li>• Good communication</li> <li>• A departmental culture that focuses on teaching</li> <li>• Creating time and space for discussions for curriculum renewal</li> <li>• Having an alertness to the context of lecturers</li> </ul>	<ul style="list-style-type: none"> <li>• Encouragement and support for a student-centred approach to teaching</li> <li>• Working in an institution/department that values GOs</li> <li>• Valuing staff and providing positive working context</li> <li>• Providing positive feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Having visible GPs</li> <li>• Having GPs that make sense</li> <li>• Discussing the purpose of higher education</li> <li>• A student-centred institutional/programme culture with a strong emphasis on pastoral care</li> <li>• Personal contact with relevant staff</li> <li>• Explicit interest shown in graduate destinations</li> </ul>



**Figure 7.5: Conceptual framework of enablers for engagement with a graduate outcome agenda**

## 7.5 Limitations of study

Our study has provided some much-needed data on the current policies and practices regarding GOs in higher education institutions in Aotearoa New Zealand. However, there are some limitations to our study that we need to explain. Ideally we wanted to provide a comprehensive stocktake across the higher education sector reporting on engagement with GOs for universities, polytechnics and wānanga. However, we only gained a 48 *per cent* response rate to our survey. Whilst this is a good response by higher education research standards, it meant that rather than being able to provide a comprehensive stocktake of the status of play, our study is more of an exploratory one. Moreover, it was unfortunate that we did not get any wānanga participating, so we are unable to comment on their level of engagement with GOs. In collecting data for our stocktake, we targeted leaders of teaching and learner centres, since we felt they were the group most likely to know about initiatives and whether policy was being enacted. It was clear from our data that bringing about curriculum change can be highly political, and thus it was not surprising that our survey respondents and interviewees were quick to point out that the view being shared was a personal one, rather than representing the institution. Whilst this may limit what conclusions we can draw, we do feel that we have a strong dataset, and one from a group of

leaders who are, in this case, the most relevant, since they often oversee the enactment of curriculum initiatives.

In selecting our case studies of good practice, we had hoped for wide disciplinary coverage but our cases were dominated by vocational courses. We suspect that there is a lack of engagement with GOs by science and humanities programmes, and future research should explore this proposition. Although we used similar protocols of data collection across the cases, inevitably there is some variability in how data were collected and analysed. We wanted each team member to have some ownership over the reporting of their cases, and so, although a similar template was used to report cases, there is some variability in the use and presentation of these.

# Chapter 8: Conclusions and Recommendations

## 8.1 Introduction

In this chapter we revisit the objectives of our study and summarise the key findings. We then provide a set of recommendations regarding how to promote engagement with graduate outcomes. Finally, we provide some suggestions for future research.

## 8.2 Objectives and key findings

Our study aimed to explore how higher education institutions in Aotearoa New Zealand are engaged with graduate outcomes (GOs). Specifically we sought to:

1. Identify current policy and practice regarding GOs in higher education institutions in Aotearoa New Zealand
2. Identify indicators of the impact (benefit) on students and staff of good practices relating to GOs
3. Determine the necessary conditions and possible strategies for the effective development of policies and practices regarding GOs.

The key findings in relation to the research questions are given below, followed by a set of recommendations for institutions wanting to engage with a GO agenda.

### 8.2.1 Policy and practice

The focus on and concern with GOs was patchy across the polytechnic and university sector. That is, there are areas where GO engagement is strong, and other areas where there is less evidence of engagement. In general, polytechnics were more engaged in this agenda than the universities. The main reasons for the stronger engagement in the polytechnics may have been due to the influence of the NZQA and the teaching-focused culture. Conversely, the focus of the universities was less with the GO agenda and more on research. These foci likely reflect the key roles of the two sectors. However, a focus on research by universities does not mean they should neglect engaging with a GO agenda and indeed many are well engaged with such an agenda.

Institutions with strong engagement with GOs demonstrated strong senior leadership in the area and the necessary enabling structures. Institutions with a less well-developed GO agenda tended to lack central leadership, focused resources, and appropriate supporting structures in the GO area. Instead, they often relied on individuals as champions. There was better engagement by higher education institutions with the planning, systems and delivery of GOs, but much weaker engagement with assessment and evaluation of GOs and professional development support for GOs.

### 8.2.2 Benefits to students and staff and indicators of impact

It was clear from our analysis that any engagement with GOs was beneficial for both students and staff. The very act of having to think about GOs was found to be developmental, shifting thinking about the purpose of higher education and the nature of the particular degree being studied or taught. Through engagement with a GO agenda, students were more aware of what knowledge, skills and values were being fostered, how their courses were structured to achieve a graduate profile and what employment and educational pathways were available. In our study many students reported a lack of knowledge about GOs, and yet they wanted to know about them to inform their choice of courses, their study and

future opportunities. For staff, engagement with a GO agenda promoted collegiality and efficiency, and encouraged them to think deeply about their teaching.

Indicators of the impact (benefit) of engagement with a GO agenda for students included:

- students being aware of a graduate profile for their programme
- students seeing strong links between the graduate profile and the learning outcomes and assessment in their courses
- students tracking their progress towards attaining the graduate profile
- students knowing a range of employment options resulting from their degree
- students being aware of further educational pathways.

Indicators of the impact (benefit) of engagement with a GO agenda for lecturing staff included:

- a sound understanding of the graduate profile for their programme
- holding a 'translation' or an 'enabling' conception (Barrie, 2006) of graduate attributes, so that academics feel some responsibility to foster attributes in their students
- having clear links between the graduate profile and the learning outcomes and assessment in their courses
- assisting students to track their progress towards attaining the graduate profile
- ensuring that students know about the employment options resulting from their degree
- ensuring that students are aware of further educational pathways.

### 8.2.3 Conditions and strategies to promote engagement

Five key enablers for engagement with the GO agenda were identified:

- A. *External drivers*: forces to which institutions were required to respond or that they perceived they were responding, or should respond
- B. *Structural and procedural enablers*: those that facilitated or engaged staff and communities within the institution to become aware of or work towards change in practice in regard to GOs
- C. *Developmental enablers*: those that assisted staff/groups/departments to introduce and develop GOs and embed them in curricula, or undertake some curriculum development
- D. *Achievement enablers*: those that were concerned with how students are assisted to achieve a GP
- E. *Contextual enablers*: generic institutional and/or individual cultural/affective qualities that crossed the four forms described above and made them more or less effective.

Moreover, a framework (Figure 7.5) was proposed to show how these enablers are related, as well as a range of strategies for engagement with GOs at each level: institutional, programme, lecturer and student (Table 7.2).

## 8.2 Recommendations

For institutions wanting to promote a GO agenda we make the following recommendations:

- Promote a culture within the institution that values teaching. This includes a culture that focuses on student learning, gives GOs a high profile and has an alertness to the context of programmes and programme coordinators. Moreover, space should be made available to have institution-wide discussions about GOs and how to embed them.
- Take advantage of external drivers where possible, as these are a powerful enabler.



- Ensure that a careful balance is struck between GOs desired by external agencies and those desired by the institution; ideally a graduate profile should blend both sets of outcomes.
- Where external drivers are lacking, institutions should consider instigating curriculum renewal with a focus on GOs. The focus of curriculum renewal should be seen as a means to improve student learning, not driven by compliance.
- Any curriculum renewal processes should include:
  - strong leadership from above *i.e.* senior management must be seen to be supporting and promoting this renewal. this helps create a context where teaching is valued
  - strong leadership at the departmental and programme levels
  - the assistance of academic or educational developers in facilitating conversations about GOs and teaching towards them
  - ownership of the process by the teaching staff *i.e.* as many teaching staff as possible should be directly involved in curriculum renewal
  - the development of a contextualised graduate profile for the programme. Ideally students and other stakeholders should be involved in developing this profile
  - a focus on generating learning outcomes and assessment well-aligned with the graduate profile. Curriculum-mapping tools provide a useful resource for this, especially under the guidance of an academic developer
  - allowing at least a couple of years for curriculum renewal to occur.
- Ensure that structural and procedural enablers are in place to assist with a GO agenda including:
  - changing roles of committees to ensure oversight and promotion of GOs
  - instigating policies and plans that include graduate profiles
  - giving staff designated authority to implement policy
  - monitoring of attainment of GOs. This may be via periodic reviews, graduate opinion surveys, and alumni and employer surveys. As with any evaluative processes, the results of the evaluations should be fed back to staff and students, and used to improve the learning experiences for the students
  - having strong links between structures and processes.
- Ensure that developmental enablers are in place. Key aspects of this include:
  - being clear about the institutional role and relation to GPs
  - providing academic development support that includes facilitation of curriculum meetings, workshops on GOs, providing exemplars of embedding GOs and providing tools to assist in curriculum renewal
  - allowing sufficient time for change – at least a couple of years.
- Pay attention to achievement enablers. This could include assisting students to track their attainment of GOs through an institutionally supported ePortfolio framework or advising and mentoring of students.

Moreover, a sequence of steps should be followed to embed GOs within the institution (details are provided in Spronken-Smith *et al.*, 2013b). They are:

1. Deciding who is going to be responsible for driving curriculum renewal around GOs
2. Determining whether your institution should have an institutional graduate profile (*i.e.* a set of generic attributes that all graduates will have), programme-specific ones, or both
3. Developing contextualised graduate profiles for programmes
4. Gaining leverage from enablers of engagement with GOs:
  - a. Drawing on external drivers
  - b. Creating the context for curriculum renewal
  - c. Ensuring enabling structures and processes are in place
  - d. Ensuring developmental enablers are in operation

- e. Activating achievement enablers
- 5. Monitoring progress of embedding GOs and using feedback to improve the learning experiences for students.

In conjunction with this full report we have developed a Guide, summarising key findings to assist institutions to engage with GOs (Spronken-Smith *et al.*, 2013a). Alongside the Guide we have also developed three toolkits that provide advice and instruments respectively for senior managers, heads of departments and programme directors, and lecturers, to assist them in engaging with GOs (Spronken-Smith *et al.*, 2013b-d).

## 8.2 Future research

Our study has provided new insights into the engagement of higher education institutions in Aotearoa New Zealand with GOs. Some useful avenues for future research that would extend our study include determining how wānanga are engaged with GOs. Unfortunately none of the three wānanga participated in our study and this gap should be addressed. We had hoped to provide more cases of good practice from humanities and science programmes. As noted earlier, we suspect that there is a lack of engagement with GOs by humanities and science programmes, and future research should explore this proposition. Our research has shown that strong leadership from senior management is crucial to achieving strong engagement with a GO agenda. We did not collect much data from senior managers, so further research should be conducted with this group, given their importance in curriculum renewal processes. Finally, our analysis hinted at a strong relation between orientations to higher education and conceptions of graduate attributes in students, and this relation could be further investigated.

# Acknowledgements

Our thanks to: Ako Aotearoa for funding this research and especially Kirsty Weir for her patience and advice; Eve McMahon for information regarding the involvement of NZQA in GOs, the peer reviewers Shirley Wilson and Calvin Smith for their constructive feedback; the initial guidance of Simon Barrie; and the assistance of Gala Hesson with graphics.

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# Appendix A: Graduate Attributes Stocktake Survey

As discussed in the email, this project is exploring the current practice and policy around graduate attributes in higher education institutions in New Zealand. We hope that you can take the time to fill out this questionnaire. It has been designed to allow you to describe, in a systematic way, if, why and how your institution engages with graduate attributes.

Please note that by completing the survey, you will be able to be identified by the research team. However, in reporting on survey data we will only be reporting on aggregated or anonymised data, so you will not be linked to the data you (or your institution) provide. We guarantee your confidentiality in providing data and only anonymised data will be reported.

We are happy to provide you with a summary of findings so you can compare the results from your institution to aggregated data from other (unnamed) institutions.

By filling out this questionnaire, you are hereby consenting for these data to be collected, and for any resulting data to be included in publication.

We are also seeking volunteers for a follow-up interview of up to an hour, to discuss the survey findings in more depth. Near the end of the questionnaire you will find a box to check, should you be willing to be interviewed. Consequently if you are selected for a follow-up interview, you will be sent further information and a consent form.

If you have any queries about the research please contact Associate Professor Rachel Spronken-Smith (rachel.spronken-smith@otago.ac.nz; Ph (03) 479-7929)

Note that you can enter and exit the survey several times so you do not to complete it in one go. Just remember to save your answers and when ready you can submit. The survey should take about 20 minutes and the link is open until July 20.

1. Briefly, what do you understand by the term 'graduate attribute' or 'graduate outcome'?\*
2. Briefly, what do you understand by the term 'graduate profile'?\*

## Section 1: Institutional characteristics

3. We are asking for the name of your institution to help aggregate data. Note that your institutional results will NOT be publicly reported by name in any situation. If desired, we can send you a copy of your results compared to aggregate data for other institutions.

Name of institution:

4. What type of institution are you in?

Please check the boxes that apply:

1. Polytechnic
2. University
3. Wānanga
4. Educational focus is mainly on sub-degree qualifications
5. Educational focus is mainly on undergraduate qualifications
6. Educational focus is mainly on a mix of undergraduate and postgraduate qualifications
7. Other, please specify

5. How would you rate the research intensity in your institution?

very strong   strong   reasonable   weak   very weak

6. How would you rate the teaching culture in your institution?

very strong   strong   reasonable   weak   very weak

## **Section 2: Presence of graduate attributes and profiles in the institution**

*Definitions in this survey:*

A 'graduate attribute' is used synonymously with 'graduate outcomes'.

A 'graduate profile' is typically a list of graduate attributes (or outcomes) at either institutional level and/or for a degree programme.

At the institutional level, a graduate profile may also be known as 'generic graduate attributes', if the attributes are common to all graduates, irrespective of programme of study.

An 'outcome statement' is NZQF terminology and includes a graduate profile, education pathways (that identify other qualifications that a graduate can enrol into after completing this qualification) and employment pathways or contribution to the community (that identify the areas in which a graduate may be qualified to work, or the contribution they may make to their community).

The term 'graduate descriptor' is used to cover all the above terms.

7. How does the institution express its expectations about the qualities of graduating students? If there are any web links to this information, please provide them.

8. Does your institution have graduate descriptors - either at an institutional level or for programmes? Please check all items that apply:

- No – we do not have graduate descriptors
- Yes – there is an overall institutional graduate descriptor for ALL our graduates (if web link available please provide in box below)
- Yes – there are graduate descriptors for ALL our degree programmes (if web link available please provide in box below)
- Yes – there are graduate descriptors for SOME of our degree programme. Please list those that have them, or provide web links.

Comments and/or links

Some institutions have a single set of generic graduate attributes that cover all programmes. Others have graduate attributes that apply to individual programmes. If any of these situations apply to you please continue. If you do not use graduate descriptors at all please finish the survey here and we thank you for your participation.

Note that this next set of questions apply to generic graduate attributes that cover all programmes – *i.e.* an institutional graduate profile. If you do not have an institutional graduate profile just leave the answers blank.

9. If you do have graduate descriptors at the institutional level, what do they include? Check all that apply and if possible provide web links to them:

- Lists of generic attributes or outcomes
- Lists of subject-specific attributes or outcomes
- Education pathways
- Employment pathways
- Contribution to the community

Please provide any links to these

10. If applicable, please provide any further general comments about what graduate descriptors include in your institution. If you have nothing extra to add to Q9 please leave blank.

11. Why does your institution have graduate descriptors?

12. Please provide an example of a graduate profile, or a link to a website where it resides.

13. Are there any graduate profiles for general BA and BSc degree programmes in your institution? If so please detail which programmes and/or provide a link.

14. Are there any linkages in your institution's strategic plan between graduate attributes and student learning? If so please detail or provide a link to the website where it resides.

15. Do graduate attributes feature in any key policies? If so please detail or provide a link to the website where information can be found.

16. If you have them, do institutional excellence in teaching and learning awards emphasise engagement with graduate attributes?

17. Have there been any recent 'strategic shifts' in the institutional 'game plan', for example organisational systems, committee structures, revised policies, that might prioritise graduate attributes? If so, please provide details.

### **Section 3: Development of graduate attributes in the institution**

18. Does your institution employ any formalised or published framework or model for the development of graduate attributes?

If yes, please provide details or linkages:

19. If you have an institutional graduate profile of generic graduate attributes, why was this developed? Please check all that apply and for explanation of answers provide comments in question 20 below.

- It was an institutional initiative – please explain below
- It was a grass-roots initiative – please explain below
- Other – please elaborate below
- Not applicable

20. Please provide explanations of answers to question 19 here.

21. If you have graduate profiles for your qualifications, why were these developed?

Please check all that apply and provide further detail in question 22 below.

- It was an NZQA requirement
- It was a CUAP requirement
- It was an institutional initiative – please explain
- It was a grass-roots initiative – please explain
- Other – please elaborate below

22. Please provide explanations of answers to question 21 here.

23. What process(es) was(were) used to develop graduate attributes?

Please describe. For example they may have been done by committee, course teams, individuals, managers, staff developers *etc.* Please also comment on any consultation that may have occurred as part of the process.

24. Are industry, professional bodies or other community stakeholders involved in the development of graduate attributes in your institution?

#### **Section 4: Use of graduate attributes in the institution**

In the following questions we want you to check all the ways that graduate descriptors are used in your institution.

25. Graduate descriptors are used for administrative purposes:

Please check all that apply.

1. They are required in the documentation for approval of new programmes
2. They are encouraged in documentation for approval of new programmes
3. They are required in the documentation for approval of new courses
4. They are encouraged in the documentation for approval of new courses
5. They are used to determine creditation of prior learning
6. Other, please specify

26. Graduate descriptors are used for pedagogical purposes. Please check all that apply:

1. They are mapped through the curriculum in all degree programmes so that they intentionally align with learning outcomes or objectives
2. They are mapped through the curriculum in all degree programmes so that they intentionally align with assessment tasks
3. They are mapped through the curriculum in some degree programmes so that they intentionally align with learning outcomes or objectives
4. They are mapped through the curriculum in some degree programmes so that they intentionally align with assessment tasks
5. They provide guidance for students regarding the attributes they should have acquired by the time of graduation
6. They form the basis for teaching and learning strategies and assessment in all degree programmes
7. They form the basis for teaching and learning strategies and assessment in some degree programmes
8. Other, please specify

27. Graduate descriptors are used for other purposes. Please check all that apply:

1. They provide guidance for employers and other stakeholders about the attributes of our graduates
2. They are used to inform the provision of extra-curricular activities
3. They are used for quality enhancement
4. They are used for quality assurance
5. Other, please specify

28. How are teaching staff informed about graduate descriptors?

29. How are managers and leaders informed about graduate descriptors?

30. Does your institution have any programme or professional development support to promote the use of graduate attributes in curricula? If so please describe who provides the support, how it is funded, and the nature of the support.

31. Are policies used for the communication of graduate attributes to staff and students? If possible please provide a link to these policies.

32. How are students informed about graduate attributes?

33. In what ways does your institution help students to actively track their progress towards attainment of graduate attributes? Please give an example of how this is done.

#### **Section 5: Measurement of graduate descriptors in the institution**

34. In what ways do you measure progress towards achievement of graduate attributes? Please detail.

35. In what ways is achievement of the institutional graduate profile monitored? Please check all that apply:

1. Not applicable
2. Assessment of student work is always aligned with the institutional graduate profile
3. Assessment of student work is mostly aligned with the institutional graduate profile
4. Assessment of student work is sometimes aligned with the institutional graduate profile
5. Assessment of student work is occasionally aligned with the institutional graduate profile
6. Surveys of graduates ask for perceptions of achievement of all graduate attributes
7. Surveys of graduates ask for perceptions of achievement of some graduate attributes
8. Data are collected as part of assurance of learning for accreditation purposes
9. Data are collected as part of quality assurance processes
10. Data are collected as part of the graduating year review process
11. Surveys of alumni request feedback on attainment of all graduate attributes
12. Surveys of alumni request feedback on attainment of some graduate attributes
13. Feedback from employers is sought regarding the attributes of graduates they employ
14. Other, please specify

36. In what ways is achievement of the graduate profiles for your qualifications monitored? Please check all that apply.

1. Not applicable
2. Assessment of student work is always aligned with the graduate profile
3. Assessment of student work is mostly aligned with the graduate profile
4. Assessment of student work is sometimes aligned with the institutional graduate profile
5. Assessment of student work is occasionally aligned with the graduate profile
6. Course evaluations always request feedback on learning of all programme graduate attributes
7. Course evaluations always request feedback on learning of some programme graduate attributes
8. Course evaluations sometimes request feedback on learning of all programme graduate attributes
9. Course evaluations sometimes request feedback on learning of some programme graduate attributes
10. Surveys of graduates ask for perceptions of achievement of all programme graduate attributes
11. Surveys of graduates ask for perceptions of achievement of some programme graduate attributes
12. Data are collected as part of the graduating year review process
13. Data are collected as part of assurance of learning for accreditation purposes
14. Data are collected as part of quality assurance processes
15. Surveys of alumni (*i.e.* previous graduates) request feedback on attainment of all programme graduate attributes
16. Surveys of alumni request feedback on attainment of some programme graduate attributes
17. Feedback from employers is sought regarding the attributes of graduates they employ
18. Other, please specify

37. If your institution is monitoring the achievement of graduate descriptors, why does it do so? If not applicable please leave blank.

38. In what ways are staff and students informed about students' attainment of the graduate profile? Please detail.

#### **Section 6: Overall engagement with graduate descriptors**

39. Please rate your institution's engagement with the planning of graduate descriptors.\*

For example, for very strong engagement, they might be embedded in the institution's and/or department's strategic plans and policy documents, with clear communication to students and staff.

very strong engagement , strong, reasonable, weak, very weak engagement

40. Please rate your institution's engagement with the systems of graduate descriptors.\*

For example, for very strong engagement, they might be embedded in the institution's and/or department's systems for programme and course approval

very strong engagement , strong, reasonable, weak, very weak engagement

41. Please rate your institution's engagement with the delivery of graduate descriptors.\*

For example, for very strong engagement, they might be taught through curricula and extra-curricular activities

very strong engagement , strong, reasonable, weak, very weak engagement

42. Please rate your institution's engagement with the assessment of graduate descriptors.\*

For example, for very strong engagement, they would be routinely assessed within the curriculum

very strong engagement , strong, reasonable, weak, very weak engagement

43. Please rate your institution's engagement with the evaluation of graduate descriptors.\*

For example, for very strong engagement, they would be evaluated post-graduation from graduates and other stakeholders.

very strong engagement , strong, reasonable, weak, very weak engagement

44. Please rate your institution's engagement with the professional development support for graduate descriptors.\*

For example, for very strong engagement, professional development would be available for both staff and students.

very strong engagement , strong, reasonable, weak, very weak engagement

45. "Graduate attributes should be driving learning in higher education institutions." To what extent do you agree or disagree with this statement?

Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree

46. Please explain your rating in question 45.

47. Any other comments about graduate descriptors?

48. If you are willing to be contacted for either a face-to-face or telephone interview to follow up on survey findings, please give your contact details below. Please note that the contact details will only be held for purposes of contacting you – not stored with response data from survey as these data remain anonymous.

Contact details:

# Appendix B: Survey for Teaching Staff in Case Studies

This research is part of a national project exploring engagement with graduate attributes/outcomes/profiles in New Zealand universities and polytechnics. As part of this study we are showcasing examples of good practice and your degree programme has been selected as a case study. The comments you provide will be valued and make a contribution to wider educational practices in higher education.

Please note that if you fill out this questionnaire, you are consenting to the collection of data and its publication. Your anonymity in completing this survey is guaranteed, but your data will be linked to the teaching team for your programme.

We are seeking volunteers for a meeting of about an hour, to discuss your programme in more depth. Please fill in the box near the end of the survey if you are willing to participate. If you are selected for a focus group or interview, you will be sent further information and a consent form.

1. What is the name of your institution?
2. What is the name of your programme?
3. According to you, which of the following best define the meaning of graduate attributes? Please select one and circle it:
  - a) Adequate literacy and numeracy skills that are fundamental to learning
  - b) Generic skills that sit apart from but which complement the disciplinary knowledge that you teach
  - c) The ability to translate or apply disciplinary knowledge in the real world and with real world problems
  - d) Tools to enable students to shape and transform knowledge to meet new challenges
  - e) Other?
4. How did you find out about the graduate profile/attributes associated with your programme?
5. How are expectations about the qualities of graduating students expressed in your programme?  
Please check all that apply.
  - ☐ As the generic institutional graduate profile
  - ☐ As a graduate profile specific to this degree
  - ☐ Education pathways are included
  - ☐ Employment pathways are included
  - ☐ Don't know      ☐ Other, please specify:
6. Are your graduate profile/attributes linked to departmental or institutional plans and policies? If so, in what way?
7. In what ways are employability and/or professional skills aligned with graduate attributes in your programme?



8. When were graduate profile/attributes introduced in your programme? If you don't know just leave blank.
9. Was a particular model or framework used for the development of graduate profile/attributes? If so, please describe.
10. In what ways were you encouraged to introduce and use graduate attributes in your curriculum?
11. What process(es) was(were) used to develop graduate profile/attributes? Please describe or leave blank if you do not know.
12. Were industry, professional bodies or other community stakeholders involved in the development of graduate profile/attributes in your degree? If so, please describe in what ways.
13. Are you aware of any resources, programme or professional development support to assist you to design/use graduate profile/attributes in your curriculum? Please detail who provides the support and the nature of the support (e.g. within your programme, within your School or Department, within your institution).
14. In what ways do your students become aware of the graduate profile/attributes?
15. In what ways are individual students expected to track their progress towards attainment of graduate profile/attributes?
16. In what ways is the achievement of graduate profile/attributes monitored at programme/degree level?
17. In what ways is the achievement of graduate profile/attributes monitored at course level?
18. Are you expected to report on the achievement of graduate attributes? If so, to whom?
19. As a member of the programme teaching team, are you made aware of the attainment of the graduate attributes/profile in your programme? If so, how?
20. Any other comments about graduate attributes in your programme?
21. If you are willing to be contacted for either an interview or a focus group to follow up on survey findings, please give your contact details below. Please note that the contact details will only be held for purposes of contacting you – not stored with response data from survey as these data remain anonymous.

No ☐

Yes ☐

If yes, please give contact details (name, email or phone)

Contact details:

### Some information about you

22. Your gender is: ☐ Male ☐ Female ☐ Other

23. What is your ethnicity?
24. What is your nationality?
- ☐ New Zealand citizen or permanent resident
- ☐ International
25. How many years have you been teaching at tertiary level?
26. Please list any teaching qualifications or awards you have:
27. What sort of contract are you on? Please circle all that apply:
- a. Teaching only
  - b. Research and teaching
  - c. Fixed-term contract
  - d. Permanent contract
  - e. Full-time
  - f. Part-time
  - g. Other, please specify:
28. How many years have you been teaching in this programme?
29. What is your role in the teaching team? Please circle all that apply.
- a. Programme coordinator
  - b. Course coordinator
  - c. Teach in one or more papers in the programme
  - d. Contributed to the design of the programme
  - e. Contributed to the design of one or more papers in the programme
  - f. Other

**THANK YOU FOR PARTICIPATING IN THIS SURVEY!**

## Appendix C: Survey for Students in Case Studies

This research is part of a national project exploring students' understandings of the outcomes of degree programmes. Your programme has been selected as a case study of good practice. The comments you make will be of value to this study, and indeed for future improvements in the programme.

Please note that if you fill out this questionnaire, you are consenting to the collection of data and its publication. However, your anonymity in completing this survey is guaranteed.

We are seeking volunteers for a meeting of about an hour, to discuss the survey findings in more depth. Please fill in the box near the end of the survey if you are willing to participate. If you are selected for a focus group, you will be sent further information and a consent form.

### SURVEY

1. What is the name of your institution? \_\_\_\_\_
2. What is the name of your programme? \_\_\_\_\_
3. Please circle your year of study in this programme:      1      2      3      4
4. Have you been provided with a description of the expected outcomes of this programme? If so, what kinds of things do they include?
5. If you know the graduate outcomes of your programme, how did you become aware of them?  
Please check items that apply:  

☐ Not applicable as I don't know what they are  
☐ There was a description on the programme web page  
☐ There was a description in programme materials (*i.e.* course book, programme guide)  
☐ Other – please specify:
6. If you know the graduate outcomes of your programme, when did you become aware of them?
7. Is a description of graduate outcomes important to you? If so, why?
8. How might you use graduate outcomes?
9. Are you aware of any links between the assessment tasks and the graduate outcomes in your programme? If so, please provide examples
10. In what ways are you informed about your achievement of the graduate outcomes of your programme? Please detail.
11. In what ways are you helped to track your progress toward achieving the graduate outcomes?
12. What are the possible pathways for further education you can take following completion of your programme?

13. How did you become aware of the education pathways?
14. What are the possible employment opportunities/pathways that are open to you following completion of your programme?
15. How did you become aware of the employment opportunities?
16. If you are willing to participate in a focus group to follow up on survey findings, please provide your name and email address. Please note that contact details will only be held for purposes of contacting you – not stored with response data from survey as these data remain anonymous.

Name:

Email address:

**Some information about you**

17. Your gender is: Male ☐ Female ☐ Other ☐
18. Please circle your age group:  
< 17                  17-19                  20-21                  22-24                  25-34                  >35
19. Is this your first tertiary qualification? If not, please list your previous qualifications.
20. What is your ethnicity?
21. What is your nationality?  
☐ New Zealand citizen or permanent resident  
☐ International student
22. Please indicate if you are studying part-time or full-time.  
☐ Full-time  
☐ Part-time

**THANK YOU FOR PARTICIPATING IN THIS SURVEY!**

## Appendix D: Interview Questions for Teaching Staff in Case Studies

1. What are your leadership/administrative responsibilities for the programme?
2. (For PBRF-eligible staff) What are your areas of research and how do they relate to the programme?
3. How long have you been teaching? Tell me a bit about your teaching experience.
  - a. What role have you played in this programme?
  - b. How have you helped with its development (or not)? Do you feel some ownership in the programme?
4. What are your current areas of teaching in the programme?
5. Switching a little: What does the term graduate attribute mean to you?  
  
Probes: How do you see that? Can you explain a little more?
6. Why are GAs used in your programme?
7. Can you give me an example of some graduate attributes that you teach?
  - a. In what ways are they evident in your course *e.g.* outcomes, teaching episodes, assessment?
  - b. How do you know that you should 'cover' them in your teaching?
  - c. How do you know if your students have achieved the requisite GAs?
  - d. How do you understand the relation between the GAs that you teach and those that are the outcomes of the entire programme?
  - e. In what ways are the inclusion of GAs monitored in your programme?
  - f. What do you consider the most important GAs in your programme?
8. Do you have any departmental or institutional support to develop/teach/assess GAs? If not, what would help?
9. What is your personal view of graduate attributes and their use in your programme?
10. How do you think that students perceive GAs in your programme? Do you think they understand why they are there?
11. For programme convenors: do you wish to be involved in the analysis/write-up of the case study?

# Appendix E: Interview/Focus Group Questions for Students in Case Studies

Please provide flip chart of similar for the group to record their responses.

1. Setting aside the knowledge you have acquired or will acquire in your subject, what key skills, attributes or qualities do you expect to gain by the time you have completed your degree?  
(Group to brainstorm – create a list on flip chart)

**Probe:** What do you think the term ‘graduate attribute’ means?

2. The handout provides you with a summary of the graduate profile for your degree – the skills and attributes that the university thinks you should have when you graduate.

**Probes:** Using the handout, discuss and record your responses to the following questions with your group:

- a) Which attributes are explicitly taught in the courses in which you have studied?
- b) How did you find out about them?
- c) Do you associate some graduate attributes with particular papers or are they more generally taught across the whole programme? Can you provide some examples?
- d) Which of the attributes have you acquired through extra-curricular activities *i.e.* with friends or student associations or in other ways?

**Probe** for final year students only:

- e) In which year were these attributes most emphasised?

3. In your experience, which of these attributes are assessed and in what ways?  
How do you know when you’ve achieved specific attributes?
4. In what ways could the graduate attributes associated with your programme be taught/assessed differently and why?
5. Do you track your progress of acquiring various attributes? If so, how?
6. Why are graduate attributes important? What are the benefits or the problems associated with them? (Brainstorm and record in group)
7. What is the relation between the graduate attributes of your programme and possible employment?
8. Are there any changes to the programme you might recommend that would further your progress towards achieving the graduate attributes?

## Appendix F: Use of Graduate Outcomes in the Higher Education Institutions Surveyed

In this appendix further details are provided regarding how the institutions use graduate outcomes for administrative purposes (Table F.1), pedagogical purposes (Table F.2) and other uses (Table F.3).

**Table F.1: The reported use of graduate outcomes (GOs) for administrative purposes in higher education institutions** (P is polytechnic and U is university)

Institution	GOs required in the documentation for approval of new programmes	GOs encouraged in documentation for approval of new programmes	GOs required in the documentation for approval of new courses	GOs encouraged in the documentation for approval of new courses	GOs used to determine creditation of prior learning
P1	X		X		X
P2	X				X
P3	X		X		
P4	X				
P5	X		X		X
P6	X		X		
P7	X		X		X
U1	X		X		
U2	X		X		
U3		X		X	
U4	X				
U5	X		X		X
U6	X			X	
U7	X		X		X

**Table F.2: The reported use of graduate outcomes (GOs) for pedagogical purposes in higher education institutions** (P is polytechnic and U is university)

Institution	Mapped and aligned in <u>all</u> programmes with learning outcomes	Mapped and aligned in <u>all</u> programmes with assessment	Mapped and aligned in <u>some</u> programmes with learning outcomes	Mapped and aligned in <u>some</u> programmes with assessment	Provide guidance for students regarding the attributes they should acquire
P1	X	X			X
P2	X	X			X
P3	X	X			X
P4	X				X
P5			X	X	X
P6	X	X			X
P7	X	X			X
U1	X	X			X
U2	X	X			X
U3	X			X	
U4			X	X	
U5			X		
U6			X	X	X
U7			X	X	X



**Table F.3: The reported use of graduate outcomes (GOs) for other purposes in higher education institutions** (P is polytechnic and U is university)

Institution	GOs provide guidance for employers and other stakeholders about the attributes of graduates	GOs are used to inform the provision of extra-curricular activities	GOs are used for quality enhancement	GOs are used for quality assurance	Other uses
P1	X	X	X	X	
P2	X	X	X	X	Marketing
P3	X		X	X	Marketing
P4	X	X	X	X	
P5				X	
P6	X				
P7	X		X	X	
U1	X			X	
U2	X	X	X	X	
U3	X			X	
U4			X		
U5	X			X	
U6	X		X	X	
U7	X	X	X	X	

**Table F.4: Methods of monitoring the institutional graduate profile (GPI) in the institutions**

Note that P1, P5, P7, U1 and U7 have no institutional profile and P4 and P6 did not answer this question.

	P2	P3	U2	U3	U4	U5	U6	Total (/7)
Not applicable								5
Assessment <u>mostly</u> aligned with the institutional graduate profile			X					1
Assessment <u>sometimes</u> aligned with the institutional graduate profile				X	X		X	3
Assessment <u>occasionally</u> aligned with the institutional graduate profile						X		1
Graduate survey on achievement of <u>all</u> GAs ( <i>i.e.</i> GPI)			X		X			2
Graduate survey on achievement of <u>some</u> GAs	X	X		X			X	4
Data collected for accreditation purposes		X	X		X		X	4
Data collected as part of QA processes	X	X	X		X	X	X	6
Data collected as part of graduating year review processes	X	X	X	X			X	5
Feedback from employers		X	X	X		X	X	5

**Table F.5: Methods of monitoring the graduate profiles for qualifications (GPPs) in the institutions**

Note: P4 did not answer this question.

	P1	P2	P3	P5	P6	P7	U1	U2	U3	U4	U5	U6	U7	Total (/13)
Assessment <u>always</u> aligned with the graduate profile		X			X									2
Assessment <u>mostly</u> aligned with the graduate profile	X		X			X	X	X						5
Assessment <u>sometimes</u> aligned with the graduate profile		X							X	X		X	X	5
Course evaluations <u>always</u> on achievement of <u>all</u> GAs ( <i>i.e.</i> GPP)			X					X						2
Course evaluations <u>always</u> on achievement of <u>some</u> GAs	X													1
Course evaluations <u>sometimes</u> on achievement of <u>some</u> GAs		X					X		X		X	X	X	6
Surveys of graduates re achievement of <u>all</u> GAs ( <i>i.e.</i> GPP)								X						1
Surveys of graduates re achievement of <u>some</u> GAs	X		X	X					X			X	X	6
Data collected as part of graduating year review process	X		X		X			X	X		X	X	X	8
Data collected for accreditation purposes			X	X		X		X	X	X	X	X	X	9
Data collected as part of QA processes	X		X	X	X	X		X	X	X	X	X	X	11
Alumni survey on achievement of <u>all</u> GAs ( <i>i.e.</i> GPP)								X						1
Alumni survey on achievement of <u>some</u> GAs					X		X						X	3
Feedback from employers	X		X	X	X		X	X	X		X	X	X	10