A cross-disciplinary comparison of the approach to developing work ready plus graduates

Final project report

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Executive Summary

There are growing social and economic demands for graduates who can navigate the uncertainty and complexity of rapidly transforming employment contexts. Built on recent, international studies on graduate employability, and utilizing the *Work Ready Plus* Graduate Capability Framework (Fullan & Scott 2014; Scott, 2016), this study explored ways to develop key graduate capability items that are most relevant to graduate employability across five disciplines in a New Zealand tertiary education institution.

Adopting a "multiple site action research case study" design (Yin, 2017), the study followed cyclical stages of planning, acting, observing, and reflecting (Kemmis & McTaggart, 1988), and included five programmes in five disciplines as five action research cases. The five programmes were: New Zealand Certificate in Construction Trade Skills (Level 3), Diploma in Early Childhood Education (Level 5), Graduate Diploma in Health Studies (Level 7), Bachelor of Creative Technology (Level 7), Master of Management (Level 9).

The two-cycle action research was completed during the period January 2017 – April 2019. In Cycle 1, an initial model of graduate capability intervention was developed by each of the five cases. An initial model included: a certain number (5-12) of items chosen from the 38-item Graduate Capability Framework as focused capability items for intervention; a list of strategies addressing each focused capability item; and input from students, tutors, and researchers on the effect of the intervention.

By the end of Cycle 2, a revised model of graduate capability intervention was completed by each of the five cases. Each revised model included: eight focused capability items for intervention; formalised strategies fundamental to addressing the focused capability items; and reflection from students, tutors, and researchers on the effect of the intervention.

Data collection took place throughout all stages of the action research process and was interwoven with pedagogical documentation as routine teaching practice. The forms of data primarily included:

- student survey,
- individual and focused group interviews with students and teaching staff,
- recordings of selected staff meetings,

- scheduled meetings between the principal investigator and programme investigators, and
- student work samples.

Quantitative data were analysed using SPSS Version 24. Qualitative data were analysed using a range of analytical approaches according to the purpose of specific analyses, mainly including theoretical thematic analysis (Braun & Clarke, 2006) and ethnographic content analysis (Altheide, 1987).

The main findings of the study included the following two clusters:

1) Five models of graduate capability intervention. Generated in five disciplinary contexts, the five models addressed the "how" of the topic of graduate employability in a systematic and structured way. The five models were:
    - The New Zealand Certificate in Construction Trade Skills (Level 3) model: The 6R approach (rewording, recognising, remembering, reinforcing, reminding, and responding).
    - The Diploma in Early Childhood Education (Level 5) model: The Cedar-LED approach (contextualizing, explaining, defining, assessing, reflecting, labelling, exemplifying, and documenting).
    - The Graduate Diploma in Health Studies (Level 7) model: The MOVES approach (mixing, orientation, volunteering, employer, and simulation).
    - The Bachelor of Creative Technology (Level 7) model: The WOW-PLACE approach (workshop, outcome, work, plan, lecture, assessment, critique, and exhibition).
    - The Master of Management (Level 9) model: The GRAMMAR approach (group activity, relationship, advice, mentoring, marking, assessment, and resit policy).
2) Differences between the five capability intervention models. The differences were predominantly discipline determined. The key differences were:
    - The composition of the focused capability items was different across five programmes. There was not a single item that was selected by all programmes.

- The methods to select the focused capability items used by the five programmes were different.
- The strategies to address the focused capability items used by five programmes were underpinned by disciplinary pivotal concepts, including: *trade*, *disposition*, *simulation*, *design*, and *holistic*.
- The relationship between each capability intervention programme and the academic programme across five disciplines was different, indicating disciplinary differences in the intervention calibration.

An immediate effect of each of the five capability intervention programmes was preliminarily confirmed. Following participation in the study, the students' understanding of the importance of each focused capability item was deepened, their disposition to display those capability items reinforced, and their reflective thinking around the focused capability items enhanced. The long term effect was yet to be investigated.

The five capability intervention models exemplify how the *Work Ready Plus* Graduate Capability Framework can be implemented in order to enhance future graduate employability in tertiary education in New Zealand.

Chapter 1: Introduction

1.1. Rationale and aim of the study

In spite of the multiple purposes of tertiary education, graduate employability is a crucial indicator of the effectiveness of tertiary education, especially in today's changing times (Bennett, Richardson, Mahat, Coates, & MacKinnon, 2015a; Higdon, 2016; Molla & Cuthbert, 2015). Notions, concepts, and ideas around graduate employability have been presented in a plethora of literature (e.g., Higdon, 2016; Yorke，2006). Central to the concept *graduate employability* is the term *graduate attributes* which refers to graduates' skills, knowledge and their ability to find suitable employment (Bennett et al., 2015a). Developing graduate attributes is core responsibilities of tertiary institutions which need to distinguish themselves and attract students through achieving excellence in graduate employability (Bennett et al., 2015a). Closely related to *graduate attributes*, *graduate capability* is defined as,

> an integration of knowledge, skills, personal qualities and understanding used appropriately and effectively – not just in familiar and highly focused specialist contexts, but in response to new and changing circumstances. (Stephenson & Yorke, 1998, p.2)

The concept of *graduate capability* responds to the current social and economic need for developing future graduates who can navigate the uncertainty and complexity of rapidly transforming employment contexts (Bennett et al., 2015a). "Good ideas with no ideas on how to implement them are wasted ideas" (Scott, 2016, p.2). It is important to examine the practicality of the new concept central to graduate employability, and explore effective procedure and strategies to develop graduate capability which targets future employability. This project aimed to explore the ways to develop graduate capability in New Zealand tertiary education contexts. Specifically, as applied and practice based research, the project aimed to achieve two goals: (1) to investigate how graduate capability can be developed in different disciplinary contexts; (2) to improve the practice of the institution in which the project was conducted.

1.2. The institutional context of the study

Formed by amalgamation of the Bay of Plenty Polytechnic and Waiariki Institute of Technology in 2016, Toi Ohomai Institute of Technology is a New Zealand tertiary education organisation with campuses in Rotorua, Tauranga, and several other towns

in the Bay of Plenty region, making it the largest tertiary provider in the Bay of Plenty, and the third largest institute of technology in New Zealand. With 86 delivery sites, the institute offers its 13,000 students more than 200 courses from entry level certificates through to postgraduate level studies. The courses belong to a variety of specialties such as business, creative arts, engineering, forestry, health and nursing, education, hospitality, marine science, road transport, tourism, and trades. It aspires to be a network of purposeful connections with the community and industry, forming constellations of excellence, knowledge, people, partnerships and innovation throughout the region, united in the exchange of knowledge.

This project was in alignment with the institution's Strategic Plan 2013-2018 which identified employability as a strategic goal. In June 2013 the institution signed an MOU with Careers New Zealand which agreed to provide guidance in establishing key priorities for the institution using the *Career Development Benchmarks for Tertiary Education* (Careers New Zealand, 2016). In September 2013, the institution's Careers and Employability Centre was established. Following a comprehensive review, the Careers and Employability Centre was replaced in August 2015 with three newly established roles – employability coordinator, careers guidance advisor, and placement coordinator. The review report stated: "It is important to distinguish between emerging issues surrounding placement and employment options in post graduate area particularly for international students, and employability issues relating to vocational programmes serving domestic students where there are established/emerging industries and pathways" (Waiariki Bay of Plenty Polytechnic, 2015). The design of this project took into consideration these "emerging issues", for example, the selected five case study programmes included both undergraduate and postgraduate programmes, both domestic and international students, and both established and emerging industries.

Chapter 2: Literature review

In the context of changing work requirements and fast paced technological progress in changing times, there emerges a concerning gap between what the labour market needs and what the actual attributes the graduate possesses (Molla & Cuthbert, 2015). There are growing demands for graduates who can "navigate the uncertainty and complexity of rapidly transforming employment contexts" (Bennett et al., 2015a, p.1). Globally, tertiary education institutions are charged with the responsibility to incorporate graduate employability into their curriculum design. For example, British government policies require for institutional employability strategies, and "employability skills" learning had been made explicit in the curriculum of most British universities by 2016 (Higdon, 2016).

2.1. Graduate employability, graduate attributes, and graduate capability

Hillage and Pollard (1998) defined graduate employability as "the capability to move self-sufficiently within the labour market to realise potential through sustainable employment" (p.2). According to the Australian Chamber of Commerce and Industry and Business Council of Australia [ACCI/BCA] (2002), graduate employability refers to "skills required not only to gain employment, but to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions" (p.3). Knight and Yorke (2004) defined employability as "a set of achievements, understandings and personal attributes that make individuals more likely to gain employment and be successful in their chosen occupations" (p.9). Knight and Yorke's (2004) definition was reiterated in Yorke (2006, p. 8) and cited by a number of researchers (e.g., Bennett et al., 2015a). Yorke (2006) identified three dimensions that determine the construct of graduate employability - whether the student can actually obtain a job; whether the student can develop by his or her experience of tertiary education; and whether the student can make relevant achievements. Pool and Sewell (2007) suggested that employability meant having a set of "skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in which they can be satisfied and successful" (p.280). Pool (2017) recognised that employability incorporates the ability to maintain work over the career lifespan. Graduate employability was also defined as the student's ability to "discern, acquire, adapt and continually enhance the skills, understandings and personal attributes that make them more likely to find and create meaningful paid and unpaid work" (Oliver, 2015, p.56).

ACCI/BCA's definition of graduate employability highlighted the benefits of employability skills for both individuals and employers, which was criticized for its masking a drive for universities to produce "docile employees" (Boden & Nedeva, 2010). According to Bennett et al. (2015a), although Yorke's definition highlighted graduate achievements to be mastered prior to the entry into employment, he also acknowledged that employability was context dependent. It has been widely recognised that acquisition of appropriate attributes does not guarantee a chance of finding employment, and that being employable may still face the reality of being unemployed or underemployed (Bennett et al., 2015a).

It is most notable that the term "graduate attributes" is pivotal to all the definitions of graduate employability cited above. Spronken-Smith et al. (2013) noted that "skill" and its equivalents were often used in the secondary and tertiary vocational sectors, and "attributes" is used in the university sectors. At least one decade before there had been a tendency to use "attributes" to replace the word "skill". Spronken-Smith et al. (2013) acknowledged the significance of the shift from the use of the term generic skills to that of graduate attributes in universities. The significance was associated with the fact that more complex tasks in university education cannot be decomposed into discrete skills or competencies and that attributes "imply a more qualitative, holistic interpretation that is applicable to persons rather than skills" (Spronken-Smith et al., 2013, p.3). Spronken-Smith et al. (2013) endorsed that "attribute" is a better descriptor of the collection of what constitutes generic skills. Spronken- Smith et al. (2013) used the word "attribute" to describe single graduate outcomes and the word "profile" a collection of attributes. This line of literature explains how the term "graduate attributes" came into use.

The Australian Higher Education Council report *Achieving Quality* defined graduate attributes as "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" (Barrie, 2004, p.262). According to Barrie (2004), in Australia, most definitions of graduate attributes derived from this definition.

Bowden, Hart, King, Trigwell, and Watts (2000) defined "graduate attributes" as "the qualities, skills and understandings a university community agrees its students should develop during their time with the institution" (p.3). Bowden and colleagues pointed out that graduate attributes would "go beyond the disciplinary expertise or technical

knowledge that has traditionally formed the core of most university courses" (2000, p.3). Barrie (2004) provided a thoughtful review of how graduate attributes were defined in Australia. According to Barrie (2004), generic graduate attributes were generally recognised in Australia as being "the skills, knowledge and abilities of university graduates, beyond disciplinary content knowledge, which are applicable to a range of contexts" (p.262). Barrie (2004) identified four features of such a definition of generic graduate attributes. First, these attributes are generic since they are developed by the university as graduate outcomes regardless of the field of study. These attributes may be developed in various disciplinary contexts. Second, they are abilities to be possessed by a graduate of any undergraduate degree rather than entry-level skills. Third, these attributes are more than skills and attitudes and relate to a more global term that "can encompass new or alternative conceptions of wisdom and knowledge" (p.262). Fourth, these attributes "result from the usual process of higher education...[and] are not a set of additional outcomes requiring an additional curriculum" (p.262). According to Barrie (2004), university teachers and academics do not share a common understanding and academics "hold qualitatively different conceptions of the phenomenon of graduate attributes" (p.261).

Mostly relevant to this study, the term "capability" has been used to replace the word "attribute" by prominent scholars for the past two decades (Dowling & Hadgraft, 2013a; Stephenson, 1998; Stephenson & Yorke, 1998). Dowling and Hadgraft (2013a) described this phenomenon most explicitly, "To avoid problems with the multiple meanings of the commonly used words attribute and competency, some practitioners have adopted the term capability" (p.11). Stephenson (1998) provided comprehensive analysis of the concept of capability *vis-a-vis* the traditional terms such as knowledge and skill. Stephenson (1998) provided a general definition of capability as "an integration of confidence in one's knowledge, skills, self-esteem and values" (p.1). The definition is congruent with that in Stephenson and Yorke (1998), "[graduate capability is] an integration of knowledge, skills, personal qualities and understanding used appropriately and effectively - not just in familiar and highly focused specialist contexts, but in response to new and changing circumstances" (p.2). According to Stephenson (1998), "capability depends much more on our confidence that we can effectively use and develop our skills in complex and changing circumstances than on our mere possession of those skills" (p.1). Stephenson (1998) went on to elaborate,

> Capability is a necessary part of specialist expertise, not separate from it.

> Capable people not only know about their specialisms; they also have the confidence to apply their knowledge and skills within varied and changing situations and to continue to develop their specialist knowledge and skills long after they have left formal education. (p.2)

Stephenson (1998) argued that capability "is developed as much by the way students learn as by what they learn" (p.2), and emphasised students' experience of being responsible and accountable for their own learning. McGrath, Madziva and Thondhlana (2015) illuminated,

> Capabilities are "what a person is able to do or be" ... and the freedom to select from these. These are distinguished from functionings: what a person actually does, the life they actually live and their achieved wellbeing (or illbeing). This distinction highlights the importance of individuals' choices and opportunities rather than only their actual achievements. (p.4)

In spite of the many subtle differences between the two terms "attributes" and "capability" as reflected in their definitions cited above, a fundamental difference is that the term "graduate capability" addresses future employment contexts. Researchers have linked future employment contexts to changes and uncertainty, such as,

- "not just in familiar and highly focused specialist contexts, but in response to new and changing circumstances" (Stephenson & Yorke, 1998, p.2).
- "to become better at negotiating the messy, fuzzy, dilemma-ridden context of real-world life" (Fullan & Scott, 2014, p.4).

Drawing on studies over 10 years with successful early career graduates in nine professions, Scott (2016) confirmed that professional practitioners in today's changing context need to possess not only generic and role-specific skills and knowledge but also "a mutually reinforcing set of personal, interpersonal and cognitive capabilities" (p.6). According to Scott (2016), the items on top of the list of capabilities include: self-managing, remaining calm, learning from errors, tolerating ambiguity, persevering, keeping perspective, taking a hard decision, listening to and engaging with people from diverse backgrounds, diagnosing a problem, and making a decision.

2.2. Approaches to developing graduate employability

It is difficult to identify any research on ways to develop graduate capability in particular; in contrast, there are a number of studies focusing on developing graduate employability in general. In Australia, Kinash, Crane, Judd and Knight (2016) surveyed 705 people representing four stakeholder groups (students, graduates, employers, tertiary education institutions) on their perspectives on 12 strategies (i.e., capstone, career advice, extracurricular, international exchange, mentoring, networking, part-time work, graduate portfolio, professional association, social media, volunteering, and work experience) selected from the literature. Kinash and colleagues found discrepancies between the strategies reported in the literature and those perceived by the participants. Specifically, five of the 12 strategies listed on the surveys were not strongly supported by any of the stakeholder groups (Kinash et al., 2016). Grotkowska, Wincenciak, and Gajderowicz (2015) conducted interviews with managers of tertiary education institutions on the strategies to enhance graduate employability in six countries (i.e., Austria, Germany, Italy, Poland, Slovenia and Turkey) and revealed that a range of strategies were adopted including programme and curricula formation, flexibility of the study process, international orientation, teaching modes, practical orientation of academic studies, research activities, cooperation with employers and external bodies, recruitment services, and career counselling. Through examining a graduate internship programme in a UK university, Helyer and Lee (2014) reaffirmed a vital role of work experience in enhancing employability. Ferns and Lilly (2016) conducted a three-year case study where work integrated learning was implemented in an Australian university through industry and community relationships, an experiential curriculum, and co-curricular work experience opportunities, and found an authentic and holistic student experience to be essential for student employability. Ford, Thackeray, Barnes and Hendrickx (2015) investigated effects of peer assisted learning on developing employability attributes in a UK university, and found that peer learning roles helped student leaders to develop employability attributes including: confidence, leadership, time management and organisation, communication, and cultural awareness. Based on a case study of a one-year Biological Sciences Masters programme at a UK university, Dickinson, Binns and Divan (2015) formulated a strategy model for engaging employers in contributing to the design and delivery of the Masters programme to embed employability. Based on survey data from 415 students of four tertiary education institutions in Australia and case study data from 60 stakeholder representatives (graduates, employers and leaders),

Bennett, Richardson and MacKinnon (2015b) formulated a five-theme framework for developing employability, and the five themes are: developing skills and knowledge; developing self; developing career awareness; interacting with others; and navigating the world of work.

Bowden, et al. (2000) reported a research project which was aimed to implement a systematic and explicit approach to cultivating and evaluating the development of relevant generic capabilities over a course of study. The project was participated in by five Australian universities and consisted of 13 case studies. The case studies were examples of the universities' established practice in terms of devising curricula, designing learning experiences and constructing appropriate assessment for capability. Key findings of the study included six principles for consideration in the development of capability programmes: (1) Desirable capabilities are most usefully formulated at both university and course level; (2) The development, practice and assessment of capabilities are most effectively achieved within the context of discipline knowledge; (3) Exposure to, and reflection on, a variety of teaching approaches and learning experiences fosters a focal awareness of capability development; (4) Assessment practices should align with course/subject goals and teaching/learning practice; (5) A package for assessing generic capabilities incorporates items designed for a range of purposes; (6) Students benefit from progressive feedback on the development of capabilities.

The above reviewed literature has three features. First, all studies dealt with graduate employability rather than graduate capability except for Bowden, et al. (2000). Second, the majority of the studies were based on the participants' perspectives (through survey or interviews) rather than based on an intervention process. Some studies were based on practices, but the practices were part of the business as usual, and the data were from routine programme evaluation processes (Ferns & Lilly, 2016; Ford, et al., 2015). Third, no research was of an intentional and cross-disciplinary comparison.

Some researchers addressed issues in relation to employability intervention or capability intervention in tertiary education. Bridgstock (2009) raised a question on the "balance between orthodox pedagogy and the broadened employability agenda" (p.39). Bridgstock (2009) articulated,

> In an already crowded tertiary curriculum, what balance of 'traditional'

> skills and knowledge and career management skills will produce optimal benefits to graduates? Just as under emphasis on career management will result in less favourable graduate employability levels, the sacrifice of important discipline- specific or generic skills in favour of job search and acquisition skills will likewise produce suboptimal outcomes. This balance will need to be monitored and adjusted in an ongoing manner. (p.39)

Bridgstock (2009) stated,

> For universities to fully engage with the graduate employability agenda, the careful integration of career management skill development into courses from first year is necessary, with ongoing input and feedback from faculties, industry, careers staff and students. (p.40)

Bridgstock (2009) also raised a question on the implication of disciplinary differences (along with geographical, social/cultural and individual differences) on graduate career management skill requirements, as she commented,

> Although all graduates will draw on each type of career management skill, a "one- size-fits-all" students approach will not suffice, as there will be discipline-based variability in terms of the knowledge and level of development required. Career management programmes will ideally involve academic staff, industry partners, careers service staff and students in both curriculum design and implementation... (p.39)

2.3. The New Zealand context and significance of the project

Graduate employability is on the government agenda in New Zealand. *The Tertiary Career Development Benchmarks* developed by Careers New Zealand (2016) provides a framework of requirements for tertiary institutions' career management competency. The framework includes four dimensions. Student career management competencies include developing self- awareness, exploring opportunities, deciding and acting, and transitions. Organisation engagement includes career development culture, leadership, and strategies and plans for career development. Student engagement includes career development information systems, programmes and services, and an integrated approach. Employer and industry engagement includes communication, and planned, strategic, organisation-wide approach.

Universities New Zealand (2015) provided information on how New Zealand

universities offered tailored career support for students and how the effectiveness of the support initiatives were evaluated. The initiatives included: connecting community organisations with students, and assisting international students to transition into the New Zealand work force; providing an official record of students voluntary and work activities at the university; creating a student leadership programme residential assistants and peer-assisted learning coordinators; helping students to develop leadership, social responsibility and employability skills; helping students create individualised career plans; and offering three month off-shore internships. The universities evaluate the effectiveness of such initiatives through programme review cycles and through other mechanisms including contracted research projects. For example, Universities New Zealand commissioned the Graduate Longitudinal Study of nearly 9000 graduates from 2011 to track graduates and understand the ongoing impact of a tertiary education. Other studies on the topic of graduate employability were predominantly funded by *Ako Aotearoa*. The completed research included: surveys or interviews on importance of attributes (Kusmierczyk & Medford, 2016a, 2016b); analysis of students' reflection on the benefits of work integrated learning (Martin & Rees, 2018); and interviews on teaching strategies for each of the employability skills (Duignan et al., 2018).

There was no research that specifically investigated strategies to develop graduate capability. In particular, in the context of a New Zealand tertiary institution, there lacks comprehensive, formalised, and theorized guidelines on practice of enhancing graduate employability in general and practice of developing graduate capability in particular. This study had been designed to, (1) meet the authors' institution's demand for research informed good practice addressing graduate employability; and (2) contribute to the existing body of literature by exploring and establishing a new approach to enhancing graduate employability in New Zealand.

Chapter 3: Theoretical Framework

As a study that explored approaches to developing graduate employability, it was imperative to find a conceptual framework that defined what needed to be developed. A review of literature revealed only very few potential options. The UK researchers Pool and Sewell (2007) developed a conceptual framework known as CareerEDGE which foregrounds five elements of employability: career development learning (Career), experience in work and life (E), degree subject knowledge, understanding and skills (D), generic skills (G), and emotional intelligence (E). The framework was used by Jollands et al. (2015) as a foundation for an Australian national study. While this framework was comprehensive, it was unfocused in terms of suitability for our study. Dowling and Hadgraft's (2013a) Graduate Capability Framework included: an overview of the discipline or specialisation; instructions and notes for users; and the set of Graduate Capabilities. Dowling and Hadgraft (2013b) conceptualized graduate capabilities into three strands: technical capabilities (e.g.,stormwater management and reuse, resource and waste management), process capabilities (e.g., investigator, modelling and analysis), and generic capabilities (e.g., ethics, communication, innovation, self-management, teamwork). This framework was limited to few disciplines and was not suitable for a study involving a range of disciplines.

In comparison, the *Work Ready Plus* Graduate Capability Framework (Fullan & Scott, 2014; Scott, 2016) suited this project best. The concept *Work Ready Plus* was first introduced in Fullan and Scott (2014), as they articulated, "In higher education we talk of graduates not only being 'work ready' for today but 'work ready PLUS' for tomorrow" (p.3). According to Fullan and Scott (2014), characteristics of "work ready plus" include: being sustainability literate, change implementation savvy, inventive, and embracing future-oriented values such as growth, consumption, ICT, and globalization. Fullan and Scott (2014) tied the notion of *Work Ready Plus* with "negotiating the messy, fuzzy, dilemma-ridden context of real- world life" (p.4).

Scott (2016) presented the *Work Ready Plus* Graduate Capability Framework that is comprised of five dimensions, with three of the dimensions under the strand of capability (personal capabilities, interpersonal capabilities, cognitive capabilities) and two (role-specific competence, generic competence) under competence. The five dimensions are interlocking and constitute 10 subscales of the capability scale, with each subscale containing a set of "operationally clear, user-validated items" (Scott,

2016, p.7). The capability scale “has been validated in studies of successful graduates in nine professions along with studies of educational leaders in schools, VET and Higher Education” (Scott, 2016, p.40).

The *Work Ready Plus* Graduate Capability Framework used in this study is comprised of three factor analysed sub-scales. The Personal Capability Sub-Scale (14 items) is made up of three interlocked components: self-awareness, decisiveness and commitment. The Interpersonal Capability Sub-Scale (10 items) is distinguished into two components: influencing and empathising with others. The Cognitive Capability Sub-Scale (14 items) is made up of three components: diagnosis, strategy, and flexibility and responsiveness (Appendix 1). In our study, the capability items were numbered for reference purposes. The personal capability items were numbered as Items 1.1-1.14, the interpersonal capability items were numbered as Items 2.1-2.10, and the cognitive capability items were numbered as Items 3.1-3.14.

The *Work Ready Plus* Graduate Capability Framework provided a promising theoretical framework for this project. The notion of “Work Ready Plus” transformed our understanding of graduate employability, and the validated Graduate Capability Framework enabled our teaching and research team to accurately comprehend, interpret and operationalise gradate capability.

Chapter 4: Methodology

Defined by its aim, the study was "approach" focused and intervention-driven. The aim of the study informed its design that integrated three methodic choices:

- A participatory action research design where the practitioners were agents of the change and co-researchers (Kemmis & McTaggart, 1988; McTaggart, 1991).
- A case study where a problem was investigated in its context (Yin, 2017).
- A multi-sited case study where multiple cases in multiple disciplines allowed cross-disciplinary comparison (Randell, Wilson, & Woodward, 2011; Yin, 2017).

The *Work Ready Plus* Graduate Capability Framework (Fullan & Scott, 2014; Scott, 2016) was used to conceptualise and operationalise graduate capability and develop the capability intervention programmes.

4.1. Research design

4.1.1. Participatory action research

Action research is an interventionist method which aims to develop knowledge useful to both research and practice (Susman & Evered, 1978). Social psychologist Kurt Lewin (1946) invented the term "action research", and described action research as a spiral of cycles each of which is composed of *planning, acting, observing, and evaluating*. Kemmis and McTaggart (1988) modified the cycle into *planning, acting, observing, and reflecting* (Figure 4.1). In this study, Kemmis and McTaggart's (1988) version was adopted. Specifically, this action research involved two cycles of *planning* an intervention programme, *acting and observing* the procedure and effect of the intervention programme, and reflecting on the procedure and effect.

Action research is in essence participatory. Researchers use the term "participatory action research" to differentiate action research from some other types of research which are typically conducted by researchers from the academy *on* people – making those people objects of research (McTaggart, 1991). As a collective initiative, participatory action research adheres to "ownership-responsible agency in the production of knowledge and the improvement of practice" (McTaggart, 1991, p.171). Our study was participatory action research, and its tenet was well illuminated by McTaggart (1991),

> Participatory actin research is NOT research done on other people. Participatory action research is research by particular people on their own

work, to help them improve what they do, including how they work with and for others. Participatory action research treats people as autonomous, responsible agents...it does not treat people as objects for research, but encourages people to work together as knowing subjects and agents of change and improvement. (p.181)

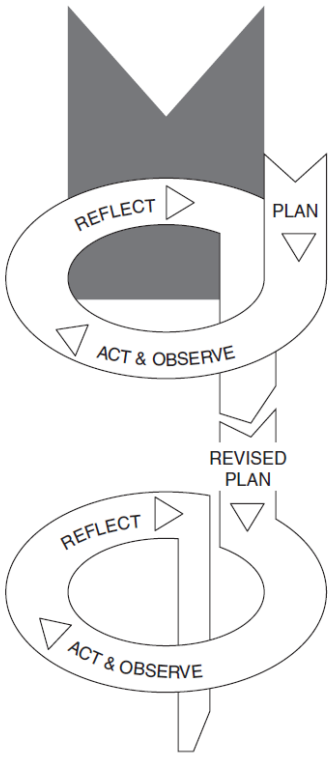

Figure 4.1.The Kemmis and McTaggart (1988) Action Research Spiral

4.1.2. Case study

As a model of empirical research, case study "investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 1994, p.13). Case study research is particularly useful when "a how or why question is being asked about a contemporary set of events over which the investigator has little or no control" (Yin, 1994, p.9). A strength of case study is it's enabling the researchers to investigate into a problem in its context. Also, case study research can be based on any mix of quantitative and qualitative approaches (Yin, 1994). Our study was conducted in a specific tertiary education institution and such a context of study was a major factor

that determined almost all aspects of the study. Therefore, case study suited our project.

4.1.3. Multi-sited case study

A multi-sited case study design can generate findings that have relevance beyond a single setting (Randell, et al., 2011). In this study, the multiple sites were also chosen as multiple disciplines for cross-disciplinary comparison (Ivankova, Creswell, & Stick, 2006; Morse, 2010). Through comparison, we were able to better determine the link between the nature of intervention and its context. The multiple sites design optimised the impact of the action research (Yin, 2017). In our study, five academic programmes were purposefully selected as five sites of the case study, or five action research cases:

New Zealand Certificate in Construction Trade Skills (Level 3)
Diploma in Early Childhood Education (Level 5)
Graduate Diploma in Health Studies (Level 7)
Bachelor of Creative Technology (Level 7)
Master of Management (Level 9)

The five cases represented five programmes that were in different disciplines and at various levels on the New Zealand Qualifications Framework.

4.2. Participants

Participants of this study were students and staff that were involved in the capability intervention programmes and provided data sought by the researchers.

4.2.1. The student participants

Student participants in Cycle 1 and Cycle 2 of the action research were different. In Cycle 1, the total number of the students who participated in the pre- and post-intervention surveys and the capability intervention programme was 163. In Cycle 2, the total number of the students who participated in the capability intervention programme was 91. Table 4.2.1 provided a breakdown of the number of participants across five programmes and some demographic information for both Cycle 1 and Cycle 2.

4.2.2. The staff participants

In Cycle 1 of the action research, the research team included a central research team and five programme research teams. The central research team consisted of three

persons: the principal investigator, the project manager, and the career adviser. The central research team met on a weekly basis to liaise with, facilitate, and support individual programme research teams. A programme research team conducted one of the action research case studies, and consisted of the programme investigator and the key teaching staff who developed and delivered the capability intervention programme. In Cycle 2, the research team included the principal investigator and five programme research teams. The principal investigator met with each programme investigator on a monthly basis to liaise with, facilitate, and support individual programme research teams.

Table 4.2.1. The Student Participants

Programme	Cycle 1	Cycle 2	Demographic information
New Zealand Certificate in Construction Trade Skills (Level 3)	27	28	Cycle 1: Gender: 42 male, 121 female. Average age: 29.6 years. Nationality: NZ, 65; India, 39; Philippine, 30; China, 5; Sri Lanka, 4; Nepal, 3; Other, 17. Cycle 2: Gender: 30 male, 61 females. Average age: 26.8 years. Nationality: NZ, 68; India, 15; China, 4; Other, 4.
Diploma in Early Childhood Education (Level 5)	47	32	
Graduate Diploma in Health Studies (Level 7)	25	16	
Bachelor of Creative Technology (Level 7)	10	9	
Master of Management (Level 9)	54	6	
Total	163	91	

Table 4.2.2 shows members of each of the five programme research teams in Cycle 1 and Cycle 2 respectively. In both Cycle 1 and Cycle 2, the principal investigator led the whole research project, and the five programme investigators led their respective case study. All members of the five programme research teams were staff participants.

Table 4.2.2. The Staff Participants

Programme	Cycle 1	Cycle 2
New Zealand Certificate in Construction Trade Skills (Level 3)	PI [a] (programme leader) and 2 tutors.	PI (programme leader, new) and 2 tutors.
Diploma in Early Childhood Education (Level 5)	PI (head of department) and 6 tutors.	PI (head of department) and 5 tutors.
Graduate Diploma in Health Studies (Level 7)	PI (tutor) and other 3 tutors.	PI (tutor) and other 3 tutors.
Bachelor of Creative Technology (Level 7)	PI (head of department) and 3 tutors.	PI (head of department, new) and 3 tutors.
Master of Management (Level 9)	PI (programme leader) and 5 tutors.	PI (programme leader) and 3 tutors.

[a] PI = programme investigator

4.3. The two cycles of the action research

The study went through two cycles, with each cycle following the stages of planning, acting, observing, and reflecting (See Table 4.3).

Table 4.3. The Two Cycles of the Action Research

Cycle	Stage	Actions
Cycle 1 (January – December 2017)	1. Planning: Developing the initial CIP[a]	(1) Getting familiar with the *Work Ready Plus* Graduate Capability Framework. (2) Selecting FCIs[b] for intervention. (3) Developing strategies to enhance the FCIs.
	2. Acting: Implementing the initial CIP	(1) Delivering the initial CIP. (2) Pedagogical documentation.
	3. Observing: Collecting data on the effectiveness of the initial CIP	(1) Questionnaire survey, individual interview, and focus group interview. (2) Selected pedagogical documentation.
	4. Reflecting: Analysing	(1) Analysing the qualitative and quantitative

	data on effectiveness of the initial CIP	data. (2) Identifying the strengths and limitations of the initial CIP.
Cycle 2 (January – December 2018)	1. Planning: Developing the revised CIP	(1) Identifying areas for improvement for the initial CIP. (2) Proposing and justifying modifications to the initial CIP.
	2. Acting: Implementing the revised CIP	(1) Delivering the revised CIP to the following cohort of students. (2) Pedagogical documentation.
	3. Observing: Collecting data on effectiveness of the revised CIP	(1) Focused conversations, informal meetings, and individual and focus group interviews. (2) Selected pedagogical documentation as data.
	4. Reflecting: analysing data on effectiveness of the revised CIP	(1) Analysing and synthesizing the qualitative data. (2) Making comparison between five action research cases.

[a] CIP = capability intervention programme [b] FCIs = focused capability items

4.3.1. Cycle 1 of the action research

Cycle 1 was completed during the period January - December 2017. In terms of the main focus of the research work, the cycle included four stages.

4.3.1.1. Stage 1: Development of the initial capability intervention programme

This was the *planning* stage of Cycle 1 which included the following steps -

1) The whole research team took time to get familiar with Scott's (2016) *Work Ready Plus* Graduate Capability Framework (Appendix 1).

2) According to the graduate profiles and other self-defined criteria, from the 38-item *Work Ready Plus* Graduate Capability Framework, each of the five programme research teams chose their own focused capability items for intervention.

3) According to the focused capability items, each of the five programme research teams developed their own strategies to enhance the focused capability items.

4.3.1.2. Stage 2: Implementation of the initial capability intervention programme

This was the *acting* stage of Cycle 1 which included the following elements –

1) Each of the five programme research teams delivered the initial capability intervention programme.

2) Each of the five programme research teams made effort to keep relevant pedagogical documentation.

4.3.1.3. Stage 3: Collection of data on effectiveness of the initial capability intervention programme

This was the *observing* stage of Cycle 1 which included the following elements –

1) A myriad of forms of data were collected, mainly including questionnaire survey, individual interview, and focus group interview. Appendix 2 shows the Graduate Capability Questionnaire for the survey, and Appendix 3 shows the interview questions for the staff and students.

2) Each of the five programme research teams provided the principal investigator with selected pedagogical documentation as data.

4.3.1.4. Stage 4: Analysis of data on effectiveness of the initial capability intervention programme.

This was the *reflecting* stage of Cycle 1 which included the following elements –

1) The data from the questionnaire survey were analysed using SPSS Version 24. The data from the individual and focus group interviews were analysed using thematic analysis (Braun & Clarke, 2006).

2) The central research team met with each of the five programme investigators more oftenand the meetings were more focused on identifying the strengths and limitations of the initial capability intervention programme.

4.3.2. Cycle 2 of the action research

Cycle 2 was completed during the period January – December 2018. Aligning with Cycle 1, this cycle also included four stages.

4.3.2.1. Stage 1: Development of the revised capability intervention programme.

This was the *planning* stage of Cycle 2 which included the following elements –

1) Each of the five programme research teams identified areas for improvement for the initial capability intervention programme based on the findings from Cycle 1.

2) Modifications to the initial capability intervention programme were proposed and justified.

4.3.2.2. Stage 2: Implementation of the revised capability intervention programme.

This was the *acting* stage of Cycle 2 which included the following elements –

1) Each of the five programme research teams delivered the revised capability intervention programme to the following cohort of students.

2) Each of the five programme research teams made a conscious effort to keep relevant pedagogical documentation.

4.3.2.3. Stage 3: Collection of data on effectiveness of the revised capability intervention programme.

This was the *observing* stage of Cycle 2 which included the following elements –

1) Qualitative data were collected, mainly including focused conversations, informal meetings, as well as individual and focus group interviews with staff and students. The interview questions were same as those used in Cycle 1 (Appendix 3).

2) Each of the five programme research teams provided the principal investigator with selected pedagogical documentation as data.

4.3.2.4. Stage 4: Analysis of data on effectiveness of the revised capability intervention programme.

This was the *reflecting* stage of Cycle 2 which included the following elements –

1) The qualitative data were analysed.

2) The findings from Cycle 1 and Cycle 2 were synthesised and the capability intervention models were formulated.

3) Comparisons between five action research cases were performed.

4.4. Data collection methods

4.4.1. The purposes of data collection

Different to many other empirical studies, in addition to serving as evidence of

change or no change, data collection in this action research fulfilled dual purposes.

1) Purpose 1: Describing the practice. What the initial and revised capability intervention programme looked like largely depended on how the staff and students described it.

2) Purpose 2: Evaluating the effect of the practice. Aspects of the effect included: change to the students' knowledge and skills around the focused capability items, change to the capacity of the teaching staff to engage in the capability intervention and action research initiative.

4.4.2. The main forms of data

In this study, research data collection and pedagogical documentation were interwoven and took place throughout the cyclical stages of planning, acting, observing, and reflecting. The main data collection methods included:

1) The Graduate Capability Questionnaire.

   The Graduate Capability Questionnaire (Appendix 2) was developed fully in accordance with the *Work Ready Plus* Graduate Capability Framework (Appendix 1). The questionnaire was administered before and after the implementation of the initial capability intervention programme in Cycle 1. Both online and paper-based options were made available to the student participants. The surveys were used to determine whether there was any statistically significant change to the students' self-reported level of focused capability items as a result of the initial intervention programmes. All items were rated on a five-point Likert-type format (1 = strongly disagree to 5 = strongly agree).

2) Individual and focus group semi-structured interview with the students.

   The interviews took place in a classroom or interview room of the department. At least one focus group interview (3-15 students) was conducted for each programme in each cycle. The interview questions were:

   - Your department has been helping students develop a list of capability items that are important for future employability. Please go through this list and tell me which of them are particularly important and why.
   - How did your department help you to develop these capability items? For

example, what did your tutors do to help you understand these capability items?

- How much have you learned about these capability items as a result of what your department has done? Can you give me some examples?
- What else do you think your department can do to help you develop these capability items in the future?

3) Individual and focus group semi-structured interview with the teaching staff.

The teaching staff were interviewed individually and in groups of 3-5. The interviews took place in a staff office or interview room of the department. The interview questions were:

a. I have a list of your focused capability items here. Please go through this list, and tell me which ones are particularly important and why.

b. I would like to know more about how your department helps students to develop the capability items. For example, what have the tutors done to help students understand these capability items? Could you give me some examples?

c. How much do you think your students have learned about these capability items as a result of what your department has done? Can you give me some examples?

d. What else do you think your department or yourself can do to help students develop these capability items in the future?

4) The principal investigator meetings with programme investigators.

The regular meetings with all five programme investigators had a focus and were audio recorded. Compared to formal interviews, these regular meetings were more likely to capture flashes of insights and inspirations.

5) Pedagogical documentation.

The pedagogical documentation included photos, videos, teaching material, and student work. The examples were: posters on the classroom wall, photos of a

guest speaker giving a talk to students, video of a session when students were brainstorming strategies to enhance the focused capability items, student art pieces that evidenced the implementation of focused capability items.

4.4.3. The key features of data collection

Due to its purposes, data collection of the action research had several characteristics.

(1) Qualitative data were fundamental.

The action research was not of an experimental or quasi-experimental design, hence the complexity of the factors influencing the effect of the practice. Some of the potential factors included: the student's prior level of a capability, the impact of the academic programme, and the students' career aspiration, and myriad contextual and personal circumstances. Given the lack of control of the variables, a qualitative approach to evaluating the effect of the intervention, instead of a quantitative approach, was fundamental.

(2) The "how" was the focus of data collection.

The "how" dealt with in this research included relevant details that were important for understanding and implementing the strategies. The details included the contexts in which a strategy was formulated and implemented, observed outcomes of the implementation, unobserved potential outcomes, and possible better options in the future.

(3) The informal ways of data collection were valued.

This study attached great importance to the informal ways to collect data such as "teacher chat" coined by the Diploma in Early Childhood Education (Level 5) team. Different to the formal interview data, the data collected from the informal ways were intuitive, fortuitous and inspirational in terms of usefulness for conceptualisation and theorisation.

4.4.4. The features of data collection in individual action research cases

Each of the five action research cases was unique in terms of their approach to data gathering.

(1) New Zealand Certificate in Construction Trade Skills (Level 3)

The main method was regular "reflective meetings" between the principal

investigator and the programme investigator. In the beginning, the programme investigator expected externally given strategies. The small team allowed the principal investigator to access staff input easily. The data from the students were not as informative as expected since the trade students were generally not comfortable with the interviews, and were reluctant to give enough thought to the interview questions.

(2) Diploma in Early Childhood Education (Level 5)

The principal investigator was affiliated with this programme, and the programme investigator remained unchanged in both cycles. The informal, frequent "teacher chat" was an important method of data collection. On the "teacher chat" occasions which had no set agenda, the team met and chatted about anything in relation to the research project. By chatting, some important topics that were not planned for were brought up for in-depth discussion. The "teacher chat" method led to a series of "fortuitous" meaningful findings.

(3) Graduate Diploma in Health Studies (Level 7)

Students were interviewed individually and in focus groups when all planned strategies had been implemented. Two tutors presented their folder of pedagogical documentation relating to the research, and three tutors were interviewed. Emails were sent to relevant tutors soliciting their personal feelings about the research journey. A good paper trail was kept to record the delivery of the capability intervention programme, for example, meeting rosters and a flow chart of the programme development process.

(4) Bachelor of Creative Technology (Level 7)

The meetings between the principal investigator and programme investigator formed a primary source of data. The programme investigator arranged staff meetings, nominated students for interview, and chose student work samples exemplifying the strategies. The tutors provided thoughtful, comprehensive written responses to the questions asked by the principal investigator. The students' responses to the interview questions were unique in that they tended to "hijack" the interview and raise their questions.

(5) Master of Management (Level 9)

The students expressed their thoughts on prominent issues in their academic

learning. The master's students showed less interest in the *Work Ready Plus* Graduate Capability Framework than their current problems, frequently attempting to divert the interview topic. The tutors adamantly questioned the legitimacy of the design of the study due to their quantitative research background.

4.5. Data analysis

Analyses of data were performed in this action research to: (a) summarise, synthesise, and formalise practices and perspectives; (b) formulate and theorise capability intervention models; (c) capture inherent relations between the models and their contexts; (d) identify the differences between the different models.

For the quantitative data, relevant analyses were run through IBM SPSS Amos 24. For the interview data, theoretical thematic analysis (Braun & Clarke, 2006) was adopted. As a method for identifying, analysing and reporting patterns or themes within data, theoretical thematic analysis is "driven by the researcher's theoretical or analytic interest in the area ... [and] tends to provide less a rich description of the data overall, and more a detailed analysis of some aspect of the data" (Braun & Clarke, 2006, p.84). For all other informal forms of data and relevant pedagogical documentation (e.g., student work samples, "teacher chat", classroom observations, etc.), ethnographic content analysis (Altheide, 1987) was used. Ethnographic content analysis is characteristic of "the reflexive and highly interactive nature of the investigator, concepts, data collection and analysis" (Altheide, 1987, p.68), and is a process of "reflexive movement between concept development, sampling, data collection, data coding, data analysis, and interpretation" (Altheide, 1987, p.86).

All data were analysed by the principal investigator who shared and consulted the process with respective programme investigators and programme research team members.

4.6. Trustworthiness

To examine trustworthiness of a participatory action research project, traditional criteria of validity and reliability for quantitative studies were not appropriate. Anderson, Herr and Nihlen's (1994) five validity criteria for practitioner research (democratic validity, outcome validity, process validity, catalytic validity, dialogic validity) were widely cited, and were used to assess validity and trustworthiness of this study. To meet democratic validity, we ensured that the multiple perspectives of

all of the participants in the study were accurately represented. To meet outcome validity, we endeavoured to ensure that the action planned for and taken in the study led to the solution of the problem. To meet process validity, we conducted the study in a dependable and competent manner. To meet catalytic validity, we aimed for the results of the study being a catalyst for action. To meet dialogic validity, we had the research reviewed by peers. Details of how we met these criteria can be found in relevant sections of this report.

4.7. Ethical considerations

Several ethical issues were considered and addressed. First, voluntary participation and informed consent were adhered to. Potential participants were fully informed of the research project and their absolute freedom to choose not to participate, refuse to answer any questions, discontinue provision of data, or withdraw from the research completely. No academic or financial rewards or penalties were associated with any decision to participate or not participate in the study. Second, privacy and confidentiality were protected. No questions that infringe participants' privacy were asked in any formal or informal data collection at any stage. All original data and the completed consent forms were held in a locked cupboard that was only accessible to the lead researchers, and only members of the research team had access to completed questionnaires for the purposes of data analysis. Third, no exploitation of researcher-participant relationship was allowed. Some of the researchers were teaching or otherwise supporting students who were eligible to participate in this study. Measures were taken to ensure distance between the researchers and their role as tutors of the student participants. For example, a member of the team, who was not responsible for teaching a particular group, administered the questionnaire for any other team member who was the class tutor at the time.

In addition, due to its participatory action research design, this project involved an ethical issue with regard to its research group members as articulated by Locke, Alcorn, and O'Neill (2013). The action research team respected all those who had an interest in the focus of the research as stakeholders, and were transparent in respect of the assumptions they made in relation to the topic or aspects of the research design. The research team members had the right to discontinue or renegotiate the grounds for their participation, be communicated with in jargon-free language that maximises their understanding, and had their feelings respected and counted as research information where appropriate. Also, all those whose knowledge and skills,

practices, and identities were actively engaged in the research were entitled to be officially included in the action research team.

Chapter 5: Findings

The findings of the study included four parts: (1) The five models of capability intervention; (2) The differences between the five models of capability intervention; (3) Impact of the research project; (4) Data on Māori learners.

5.1. The five models of capability intervention

Having been trialed in two cycles of the action research, the five capability intervention programmes in the five action research cases were formulated into five models. Each of the five models comprised: the focused capability items, strategies to develop the focused capability items, and evaluation of the effect of the model. Below reports the five models separately. For each model, three dimensions were reported in detail: focused capability items including the selection method; strategies to develop the focused capability items; and implementation of the strategies. Findings from Cycle 1 and Cycle 2 were collated and presented together. Since evaluation of the effect of the models was mainly performed by the principal investigator across all action research cases, it will be reported collectively.

5.1.1. The New Zealand Certificate in Construction Trade Skills (Level 3) model

5.1.1.1. Focused capability items

Method of selection:

1) The programme investigator/head of department proposed a list of 12 items;
2) The programme investigator consulted the teaching team leader on the suitability of the proposed items;
3) The teaching team leader took the proposed items to the team meeting and the focused capability items were finalized.

Initial focused capability items:

1.1. Deferring judgment and not jumping in too quickly to resolve a problem

1.2. Understanding my personal strengths and limitations

1.3. Being willing to face and learn from my errors

1.4. Bouncing back from adversity

1.5. Maintaining a good work/life balance and keeping things in perspective

1.6. Remaining calm under pressure or when things take an unexpected turn

1.9. Tolerating ambiguity and uncertainty

1.10. Having energy, passion and enthusiasm for my profession and role

1.11. Wanting to produce as good a job as possible

1.12. Being willing to take responsibility for projects and how they turn out

1.13. Willingness to persevere when things are not working out as anticipated

1.14. Pitching in and undertaking menial tasks when needed

Revised focused capability items:

In the revised programme, the selected items were reduced from 12 to 8. The decision to reduce the items was proposed by the principal investigator and supported by the programme investigator. The deleted 4 items and reasons for the deletion are shown in Table 5.1.1 below. Justifications for the item reduction were:

(1) The principal investigator noticed from the student interviews that the 12 items were overwhelming for the Level 3 trade students;

(2) For convenience of cross-programme comparison, the total number of focused capability items among different programmes should ideally be equal.

Table 5.1.1. Revision to the Focused Capability Items - The New Zealand Certificate in Construction Trade Skills (Level 3)

Deleted items	Reason for deletion
1.1. Deferring judgment and not jumping in too quickly to resolve a problem	Too complicated and not typical
1.9. Tolerating ambiguity and uncertainty	Too complicated and not well relevant
1.12. Being willing to take responsibility for projects and how they turn out	Similar to another selected item (1.11).
1.14. Pitching in and undertaking menial tasks when needed	Not typical

5.1.1.2. Strategies

The initial strategies included:

1) Rewording each of the 12 focused capability items to make it easy for the Level 3 trade students to understand. Appendix 4 included all reworded focused capability items.

2) Having student meetings or allocating sessions to introduce all the focused capability items.

3) Reinforcing the items through naturally occurring conversations on students' experiences related to individual items.

4) Making and displaying in classroom and workplace posters that contain all reworded 12 items.

5) Guest speaker. The career service advisor of this institution and our central research team member were invited to deliver formal PowerPoint presentations on the 12 focused capability items.

6) *Ad hoc* discussion. The tutor spent 10 minutes to talk about the 12 items to the students, and asked them for examples from the course. Then the students were given post-it notes for writing down the ideas, and the post-it notes were displayed on the board. The students were encouraged to talk about their ideas while sticking the post-it notes on the board.

7) Reinforcing the posters. The posters were printed in triplicate, and the tutors were able to reinforce each item by holding it up and showing to the students.

8) Photo taking. The tutor took photo of relevant activities to impress the students with the fact that these items are important.

9) Reminding. The tutors directly reminded the students of the focused capability items by pointing to the students the posters displayed.

By the end of Cycle 2, the strategies were formulated into what we called a 6R approach (Figure 5.1.1). The 6 Rs stand for rewording, recognising, remembering, reinforcing, reminding, and responding.

1) Rewording. The Level 3 trade students had difficulty in understanding the items which were expressed in "big words". In the very beginning of the research

project, the programme investigator and tutors decided to create their own version of the items that was expressed in “simple words”.

2) Recognising. The tutors helped the students to recognise the importance of the selected items. For example, the tutors talked about the importance of the items, and the students stuck ‘post-it’ notes on the board.

3) Remembering. The tutors helped the students remember the content of the selected items. Posters were designed, printed, and displayed on the walls of the classroom and at the entrance of the building.

4) Reinforcing. The tutors directed the students to the display. The tutors talked to the students about the items in daily conversations.

5) Reminding. The tutors reminded the students of the items, e.g., the posters were made in triplicate for the tutors to hold up and show the students at any time.

6) Responding. The tutors responded to and commended the students when they enacted a capability item, e.g., the tutor took photo of relevant activities and showed the students in response to their learning.

As Figure 5.1.1 shows, the 6Rs represent six strategy sets which were generally sequential.

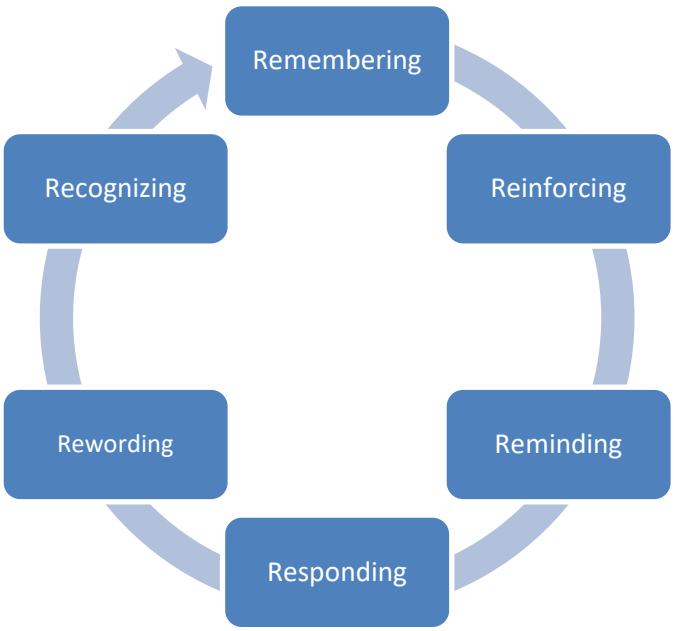

Figure 5.1.1. The 6R Approach

5.1.1.3. Implementation

Key highlights of the implementation process were:

1) Three tutors were involved in the delivery of the initial model. At the teaching team meeting, the team leader and the programme investigator introduced to the team the 12 focused capability items and the planned strategies.

2) All the 12 items were re-worded by one tutor and posters made as prompts for the tutors to introduce those items to the students in the introductory classes.

3) Posters were displayed in the classroom.

4) The tutors timely reminded the students of one or more of the focused capability items. Such reinforcement happened naturally when the students' learning experience pointed to certain capability items, e.g. wanting to produce as good a job as possible (1.11), being willing to take responsibility for projects and how they turn out (1.12), and being willing to persevere when things are not working out as anticipated (1.13).

5) The tutors were comfortable with such timely reinforcement, including informal, natural, and short conversations on the items with the students. They insisted that such capability items should not be taught separately but be instilled into the students' minds during the naturally occurring normal teaching.

6) The teaching team acknowledged the importance of documenting such "naturally occurring" events and moments, but were not in the position to complete such "onus" of documentation by themselves.

7) The teaching team were opposed to the idea of "filming" the relevant teaching moments as data collection or pedagogical documentation. They believed that once it was filmed, it would become contrived and unreal.

5.1.2. The Diploma in Early Childhood Education (Level 5) model

5.1.2.1. Focused capability items

Method of selection:

1) At the local advisory committee (LAC) meeting, the programme investigator/head of department invited each of the members to select their top five items;

2) All items selected by the LAC members were collated and five items were determined as the LAC version of focused capability items;

3) At the teaching team meeting, both the 38-item Graduate Capability Framework and the five LAC recommended items were discussed and decision on the final five focused capability items made by the teaching team.

Initial focused capability items:

1.13 Willingness to persevere when things are not working out as anticipated

2.7 Giving and receiving constructive feedback to/from work colleagues and others

2.8 Empathising and working productively with people from a wide range of backgrounds

3.11 Setting and justifying priorities for my daily work

3.13 Making sense of and learning from experience

In the revised model, the focused capability items were increased from 5 to 8. The decision to add the items was proposed by the principal investigator and supported by the programme research team. The three added items and the reasons for the addition are shown in Table 5.1.2 below. Justifications for the item reduction were:

1) The principal investigator noticed from the teacher meetings and student interviews that more than five items had actually been covered in the capability intervention implemented by the teaching team;

2) For convenience of cross-programme comparison, the total number of focused capability items among five programmes should ideally be equal.

Table 5.1.2. Revision to the Focused Capability Items – Diploma in Early Childhood Education (Level 5)

Added items	Reason for addition
1.5. Maintaining a good work/life balance and keeping things in perspective	Essential for early childhood teachers who are predominantly female and have more family responsibilities.
1.6. Remaining calm under pressure or when things take an unexpected turn.	Early childhood teaching is a stressful job which involves intensive emotional labour
2.10. Developing and contributing positively to team-based programmes.	Teamwork is not only important but also essential to early childhood teaching.

5.1.2.2. Strategies

Strategies described in Cycle 1:

For Item 1.13

- Reading books containing the theme or value of perseverance with difficulty.
- Conversation around difficult scenarios such as having a sick child and how all the barriers to learning had been removed finally.
- Collective reflection on the challenging aspects of practicum.
- Role playing scenarios on practicum including discussion over how to overcome the challenges.
- Practicum debriefing: The first two or three most difficult days.
- Case study: Persevere to resubmit assignment.

For Item 2.7

- Practicum debriefing.
- Triadic meeting of practicum attended by the visiting lecturer, student teacher and associate teacher.

- Peer assessing.
- The new communication paper – assessment.

For Item 2.8

- Group work activities in class.
- Purposive and strategic grouping of students - mechanism to separate students.
- Discussion over working with groups.

For Item 3.11

- Goal setting in class for practicum and other papers - timetable, daily goals, justification, calendar.
- Daily work planner for learning outcomes, e.g., priorities for te reo.
- Selection of readings - why these readings rather than those readings are selected.
- Learning priorities for each class - what knowledge or skill can be taken home.

For Item 3.13

- Practicum debriefing.
- Conversation about learning from other papers.
- Sharing family and childhood experience with pictures and linking it with learning.
- Sharing direct and indirect experience with children and babies and linking it withlearning.

In Cycle 2, it was foregrounded that learning disposition is a pivotal concept in early childhood teaching, as below excerpt illustrated,

> I think using disposition is a very useful thought because in that way it is kind of embedded in our programme too, which is related to what we expect our students to be doing, role modeling, visible learning. This was also what we did with the early childhood children. That's our model, they understand what dispositions are needed for themselves to be a good early childhood teacher. [Tutor 01, E]

The Early Childhood team chose “disposition” as an umbrella term that covered all focused capability items, and this was because dispositions were not only the learning goals of the students but also the learning goals of young children. The Early Childhood version of strategies highlighted the different dimensions of the practice forming and fostering dispositions. By the end of Cycle 2, the strategies were formalised and acronymically labeled as a Cedar-LED approach - contextualizing, explaining, defining, assessing, reflecting, labelling, exemplifying, and documenting (See Figure 5.1.2).

1) Contextualising. The tutors interpreted the focused capability items as dispositions in the early childhood education context (e.g., resilience, perseverance, empathy, contribution, critical thinking, planning, reflecting).

2) Explaining. The tutors explained to the students what a disposition was.

3) Defining. The students defined a disposition in their own language, specifically, the students described in writing what each disposition looked like in own words. For example, resilience was defined as: “Treat the problem that occurs as something to learn from”; “Keep trying and carry on”.

4) Assessing. The students assessed their level of the disposition and the degree of importance for their own learning and children’s learning.

5) Reflecting. The students reflected on and wrote down their strategies to strengthen each disposition in themselves, for example, “How can I strengthen this disposition (resilience) in myself? – I need to learn from my mistakes more and to move on.”

6) Labelling. The students described what had happened, was happening, and was going to happen, in relation to the dispositions, specifically, the students named or denominated the disposition.

7) Exemplifying. The tutor wrote a learning story about how a student displayed a certain disposition to bring that to the students’ consciousness and make it visible.

8) Documenting. The students wrote down any moments when they displayed a certain disposition.

The eight components of the Cedar-LED model were generally sequential but the

whole cyclical process could be repeated with one disposition or different dispositions.

Figure 5.1.2. The Cedar-LED Approach

5.1.2.3. Implementation

Key highlights of the implementation process were:

1) Due to inter-connectedness of the focused capability items, the tutors who dealt with individual items worked collaboratively;

2) Individual tutors were capable of both planning and improvising strategies in classrooms.

3) The programme was nested in a three-year bachelor programme, and the focused capability items were something the teaching staff must address in their class in any way, therefore, the research project enhanced their normal teaching.

4) Pedagogical documentation stood out in the implementation, and it took a number of forms:

    - Teaching resources and records. The examples included: calendar charting the assessment schedule, story books, practicum observation record,

practicum folder. There was a box for collection of any evidence relevant to the project.

- Photos. It was a tradition for the tutors to take photo of interesting and memorable moments such as role play, acting, and competition as part of group activities or assessments.
- Tutor reflective notes. These notes were taken by the tutors when they had a question, thought, or idea. They were sometimes simply a memo. Since they did not have to be properly written or otherwise time consuming, they were kept on regular basis.
- Video recordings. The tutors were keen to have some teaching episodes filmed to document a teaching and learning event.

5.1.3. The Graduate Diploma in Health Studies (Level 7) model

5.1.3.1. Focused capability items

Method of selection:

1) A list of 12 focused capability items was proposed by the programme investigator according to the graduate profile;
2) The proposed items were given to the teaching team for feedback and all team members endorsed the proposed items.

Initial focused capability items:

1.3. Recognising and learning from errors

1.5. Maintaining good work/life balance; keeping things in perspective

1.11. Motivation to do as good a job as possible

1.14. Participating, including completion of menial tasks when needed

2.3. Working with senior 'staff' without being intimidated

2.7. Giving and receiving constructive feedback to/from colleagues and others

2.9. Listening to differing points of view before coming to a decision

2.10. Developing and contributing positively to team-based programmes

3.1. Diagnosing underlying causes of a problem and taking appropriate action to

address it

3.2. Recognising how seemingly unconnected activities are linked

3.4. Identifying core issue from a mass of detail

3.13. Making sense of and learning from experience

In the revised model, the selected items were reduced from 12 to 8.

The decision to reduce the items was proposed by the principal investigator and supported by the programme investigator. The deleted four items and the reasons for the deletion are given in Table 5.1.3 below. Justifications for the item reduction were:

(1) The principal investigator noticed from the teacher and student interviews that some items had never been mentioned by the teachers or students hence a question about their relevance or importance;

(2) For convenience of cross-programme comparison, the total number of focused capability items among five programmes should ideally be equal.

Table 5.1.3. Revision to the Focused Capability Items - Graduate Diploma in Health Studies (Level 7)

Deleted items	Reason
1.14. Participating, including completion of menial tasks when needed	Hard to define “menial tasks” in a particular context.
2.3. Working with senior “staff” without being intimidated	Not universally an issue
3.1. Diagnosing underlying causes of a problem and taking appropriate action to address it	Context-bound metacognition hard to self-evaluated
3.2. Recognising how seemingly unconnected activities are linked	Context-bound metacognition hard to self-evaluated

5.1.3.2. Strategies

Initial strategies:

For Item 1.3

- Interactive class activities; practical opportunities for students to apply and practice new skills in safe learning environment.

For Item 1.5

- Orientation – time management session; supporting students to identify and plot due dates of all semester assessments; checkpoints over semester to support progress and balance.

For Item 1.11

- Activities to support and encourage students to use rubrics to self-assess and improve work before submitting.

For Item 1.14

- Deliberate actions to engage all students in class activities (reflective activities) For Item 2.3
- Face to face assessment and reflection (e.g. mini interviews, 1:1 reflection sessions).

For Item 2.7

- Peer assessment opportunities in class activities and assessments.
- For Item 2.9
- Group activities within classes and assessment; input from all group members; regular and deliberate mixing of peer groups.

- Activities to encourage appreciation of diversity within and between groups.

For Item 2.10

- Reflection activities regarding group work.

For Items 3.1, 3.2, 3.4, and 3.13

- Critical analysis activities within class and assessments.
- Problem solving activities; diagnostic opportunities and activities; case studies to explore concepts and approaches.
- Reflective activities and assessment.

The teaching team of this programme remained stable and therefore the initially developed strategies were retained. Notably, the team put great weight on providing students with practical experience, as a tutor illuminated,

> The work in health is so practical, so we are getting driven by what we know from we working in the health and from the students constantly wanting the practical elements, so we're trying really hard to embed employability, because we can't take them out with the patients, they are not suitable, other courses are just naturally practice based, there is naturally employability in it because they are doing the skills in class that they are going to do in the job. We have to teach them to transfer it. So I think the difference is not only context based but also programme specific. [Tutor 01, H]

By the end of Cycle 2, strategies were formalised and acronymically labeled as an MOVES approach – mixing, orientation, volunteering, employer, simulation (see Figure 5.1.3).

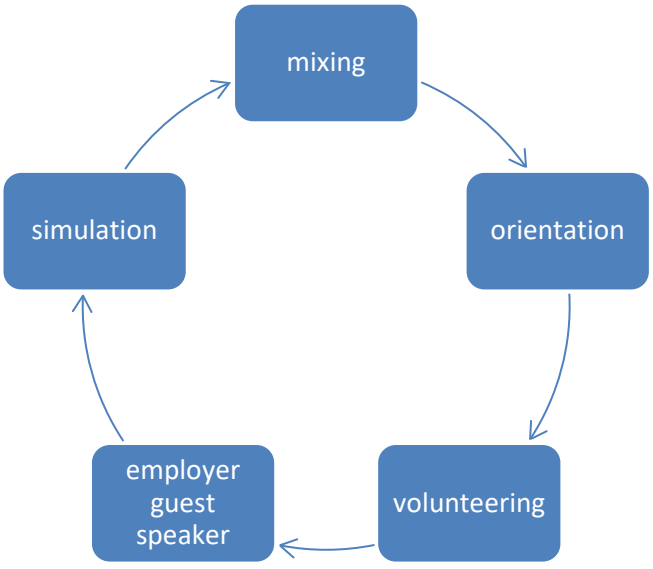

Figure 5.1.3. The MOVES Approach

(1) *Mixing.* Regular and deliberate mixing of peer groups was practiced in teaching.

(2) *Orientation*. During the orientation week, workshops were facilitated with a focus on the focused capability items.

(3) *Volunteering*. The students were supported to gain practice experience through voluntary work that reflects the expectations of the industry.

(4) *Employer guest speaker.* Current employers were invited as guest speaker to talk to the students about the focused capability items.

(5) *Simulation.* Scenarios, case-based, simulated type of work was implemented to help the students develop the focused capability items.

The one-year academic programme did not include a placement component although the target employment environment was the health sector which highly demanded work experience. It was hard for the students to find a relevant paid job, hence voluntary work experience brought into play.

5.1.1.3. Implementation

Key highlights of the implementation were:

- Due to its involvement with an institutional employability enhancement initiative, the programme was able to adopt a more structured approach, i.e., at the inception of the project, the programme investigator was able to develop a list of strategies already being used to address each of the focused capability items.
- The teaching team of the programme were familiar with the focused capability items and the strategies because of their previous participation in the institutional initiative on employability. Therefore, they were more prepared to deliver the initial intervention programme.
- The programme investigator was not part of the teaching team, allowing her time and opportunity to coordinate, liaise and join the teaching team in collecting evidence of the practices. There was strong culture of research on employability among the programme research team.
- The programme investigator facilitated regular meetings with the teaching team to reflect on their own practices and exchange ideas on how to better deliver the intervention programme.

- As part of the process of constructing personal profile and teaching portfolios, the teaching team kept reflective entries which formed a part of the qualitative data.

5.1.4. The Bachelor of Creative Technology (Level 7) model

5.1.4.1. Focused capability items

Method of selection:

- Six items were selected by the programme investigator/head of department according to “design and creative process” and “designer’s way of knowing”;
- The selected items were linked back to the graduate profile.

Initial focused capability items:

1.2. Understanding my personal strengths and limitations

1.12. Being willing to take responsibility for projects and how they turn out

2.7. Giving and receiving constructive feedback to/from work colleagues

2.9. Listening to different points of view before coming to a decision

2.10. Being able to develop and contribute positively to team-based programmes

3.8. Thinking creatively and laterally

In the revised model, the focused capability items were increased from 6 to 8. The decision to add the items was proposed by the principal investigator and supported by the programme investigator. The two added items and the reasons for the addition are shown in Table 5.1.4 below. Justifications for the item reduction were:

(1) The principal investigator noticed from the teacher and student interviews the relevance and importance of certain capability items that were not included in the initial model;

(2) For convenience of cross-programme comparison, the total number of focused capability items among five programmes should ideally be equal.

Table 5.1.4. Revision to the Focused Capability Items - Bachelor of Creative Technology (Level 7)

Added items	Reason
3.5. Seeing and then acting on an opportunity for a new direction.	Seeking an opportunity for a new direction is the core of most creative activities
3.11. Setting and justifying priorities for my daily work.	The creative activities are unpredictably time demanding hence the extreme importance of being prioritised.

5.1.4.2. Strategies

The initial strategies used in Cycle 1:

(1) Strategies addressing "understanding my personal strengths and limitations" (Item 1.2):

- Self-reflection through design and development of marketing plan and strategies as well as goal setting and planning for the future – realising limitations and considering how to overcome those;
- Lectures and workshops around fears of starting and running a business and operating within the creative sector in relation to proposing for projects, funding, residencies etc.;
- Reflections of this nature materialised in the student's journals and evaluative writing, but often come to the fore in one on one sessions between teacher and student and sometimes even in all class critiques.

(2) Strategies addressing "thinking creatively and laterally" (Item 3.8):

- A learning outcome for the course required students to design and develop innovative concepts for an identified market – thus within an assessment they were required to develop and design innovative products and services that extended from the research they had conducted within the previous assessment;
- One lecture in particular provided a specific methodology as to how one could define their practice as being innovative (creative), which was tied into one of

the learning outcomes;

- This was documented by the individual student within a journal that was assessed in relation to creative thought process;
- Demonstrated in individual art and design work, students were encouraged to work to a self-initiated brief that could start out as a question or statement that they needed to solve visually;
- The course investigated the proposal process and students were encouraged to think creatively when considering proposal outlines and how their work might be aligned with them.

(3) Strategy addressing "giving and receiving constructive feedback to/from work colleagues" (Item 2.7):

- Fortnightly critiques or checkpoints which could be in a class or group situation or one on one.

(4) Strategies addressing "listening to different points of view before coming to a decision" (Item 2.9):

- Fortnightly critiques or checkpoints which could be in a class or group situation or one on one;
- Feedback from other students was captured and written down, and the student in mention was asked to respond to this either in the critique or through the progress evident in their work next time they present, and the student's visual journal was where this information was captured.

(5) Strategies addressing "being willing to take responsibility for projects and how they turn out" (Item 1.12):

- Students were notified early of their assessments and their demands and could then organise themselves to meet deadlines and submit assessments to meet required outcomes;
- Students were required to hand in their project based assessments by the due date and time as set out within their assessment brief;
- Students understood the process for extensions and resubmissions and understood potential penalties for late submissions - rubric within assessments

clearly outline differing qualitative and quantitative levels;

- Students received fortnightly “action plans” detailing what they needed to do in order to finish their assessment work, artist statements and their overarching creative projects, and the action plans also detailed what was needed to technically and conceptually develop creative work and get ready for display standards;
- Students were encouraged to set their own objectives and follow through with the project to completion.

(6) Strategies addressing “being able to develop and contribute positively to team-based programmes” (Item 2.10):

- Students in turn contributed and participated in fortnightly critique sessions, which was a supportive environment where students both contribute and receive input about their work from fellow classmates not just their teacher - when all students attended and participation was at its highest a team environment felt to be at its strongest;
- Students (as part of their assessment) partook in a group art and design show at the end of first semester and at the end of year, which was a collaborative experience with students needing to take on different roles in order for it to work fairly and to maximise pre-existing strengths;
- Implementing and carrying out a list of shared duties and tasks for end of semester art and design shows or exhibitions was a chance for the students to operate as a team.

By the end of Cycle 2, strategies were formalised and acronymically labeled as a WOW-PLACE approach - workshop, outcome, work, plan, lecture, assessment, critique, exhibition (Figure 5.1.4).

(1) *Workshop*. The teaching staff ran workshops on certain topics such as starting a business operating within the creative sector, which addressed Item 1.2 (understanding personal strengths and limitations).

(2) *Outcome.* Learning outcomes for the courses required students to address the focused capability items. For example, the students were required to design and develop innovative concepts for an identified market, addressing Item 3.8 (thinking

creatively and laterally).

(3) *Work.* The students were encouraged to work on individual art and design work including a self-initiated brief that can start out as a question or statement that they needed to solve visually, addressing Item 3.8 (thinking creatively and laterally).

(4) *Plan.* The fortnightly action plans detailed what the students needed to do in order to finish their assessment work, artist statements and their overarching creative projects, addressing Item 1.12 (taking responsibility for projects).

(5) *Lecture.* In the lectures, the terminology around capability was described to the students. For example, one teaching staff provided a specific methodology as to how one could define their practice as being innovative, which was tied into one of the learning outcomes and addressed Item 3.8 (thinking creatively and laterally).

(6) *Assessment*. Students were required to hand in their project based assessments by the due date and time as set out within their assessment brief, addressing Item 1.12 (taking responsibility for projects).

(7) *Critique.* The fortnightly critiques or checkpoints were in a class or group situation or one on one during which feedback from other students was captured and written down and the student was to respond to the feedback, addressing Item 2.9 (listening to different points of view).

(8) *Exhibit*. The end of semester/year art and design show/exhibition was a collaborative experience with students needing to take on different roles in order for it to work fairly and to maximise pre-existing strengths, addressing Item 2.10 (contributing to team-based programmes).

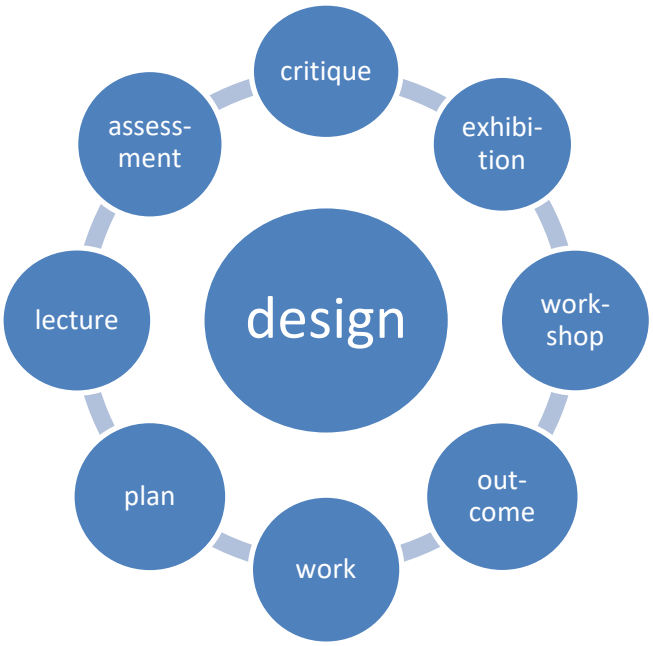

Figure 5.1.4. The WOW-PLACE Approach

5.1.4.3.Implementation

Key highlights of the implementation process were:

- The programme investigator illuminated, “None of these things are new, these are all part of what I would describe as the ‘creative cycle’, this is a part of what our students learn.”
- The programme held that all strategies were embedded in five courses as part of the teaching and learning process. The five courses that were delivered in Cycles 1 and 2 were: CREA.6107 Marketing Strategies for Creatives; CREA.7101 Creative Incubator; CREA.7103 The Refinery; CREA.7104 The Innovation – Proposal; CREA.7105 The Innovation – Creative Project.
- The focused capability items were considered by the teaching team to be an inherent part of “designers’ way of knowing” and the “process of designing and creating”.
- The programme research team asserted that they were not “implementing” any intervention programme or additional strategies and that all what happened was what happened as usual. Therefore, the implementation of the WOW-PLACE approach or model was simply delivery of their structured, intentional, and routine teaching.

5.1.5. The Master of Management (Level 9) model

5.1.5.1. Focused capability items

Method of selection:

(1) The programme investigator/programme leader emailed all 38 graduate capability items to students and staff and invited their rating of the importance of each item;

(2) Based on statistical analysis of the survey results, the programme investigator, in consultation with the principal investigator, identified seven “the most important” items to be focused capability items.

Initial focused capability items:

1.2. Understanding my personal strengths and limitations

1.3. Being willing to face and learn from my errors

1.5. Maintaining a good work/life balance and keeping things in perspective

1.10. Having energy, passion and enthusiasm for my profession and role

1.11. Wanting to produce as good a job as possible

2.10. Being able to develop and contribute positively to team-based programmes

3.13. Making sense of and learning from experience

In the revised model, the focused capability items were increased from 7 to 8. The decision to add the item was proposed by the principal investigator and supported by the programme investigator. The added item and the reason for the addition are shown in Table 5.1.5 below.

Table 5.1.5. Revision to the Focused Capability Items - Master of Management (Level 9)

Added item	Reason
2.4. Motivating others to achieve positive outcomes	The ability to motivate others is an essential part of management and leadership

Justifications for the addition were:

(1) The principal investigator noticed from the teacher and student interviews the importance of one item that was not included in the initial model;

(2) For convenience of cross-programme comparison, the total number of focused capability items among five programmes should ideally be equal.

5.1.5.2. Strategies

The strategies used in Cycle 1:

For Item 1.2

- Open, interactive, oral question linking to a particular paper.
- Case study presentation: Allocating parts based on group members' skills and individual strengths, e.g., calculating, editing etc.
- Brainstorm as icebreaker: Pairing students into groups and asking them to solve a problem and to scaffold their limitation.

For Item 1.3

- Mindset change: Building students' confidence through sharing past experience, and acknowledging "I can make a mistake".
- Resit policy: Giving students the opportunity to re-submit for them to learn from their past experience.

For Item 1.5

- In class open dialogue on work-life balance, e.g. on students' personal life, stress, culture, and this can be done by every tutor as part of pastoral care.

For Item 1.10

- Graduate profile: Linking this capability to students' future career goal and the industry expectation.
- Guest speaker: Motivating students by people from the industry.
- Career guidance: Encouraging students to see the adviser.

For Item 1.11

- Leveraging marking rubrics and encouraging students to do proper work and promote quality assignment (i.e., proper formatting etc.) through the use of marking rubrics.
- Sample of previous students' work (exemplar) as a guide on what an A or A+ work looks like.

For Item 2.10

- Grouping: Crossing the ethnicity boundary.
- Group work: Developing team spirit.
- Peer marking.
- Peer review: Evaluating, and being evaluated by, team members.

For Item 3.13

- Critical analysis of the past work.
- Formative assessment: Evaluating students' past experience.

By the end of Cycle 2, strategies were formalised and acronymically labeled as a GRAMMAR approach - group activity, relationship, advice, mentoring, marking, assessment, resit policy (See Figure 5.1.5).

(1) *Group activity*. Group work was arranged to develop focused capability items, for example, in a case study group presentation, duties such as calculating and editing were allocated based on group members' skills and strengths;

(2) *Relationship*. A positive bond between the teaching staff and the students was the pre-requisite for capability development in the teaching context. Open dialogue was held in class on capability related issues such as work-life balance which might be relating to students' personal life, stress, and culture.

(3) *Advice*. The students were encouraged to see the career adviser. Depending on what advice the student was seeking, different focused capability items were addressed.

(4) *Mentoring.* Mentoring was provided throughout the course for those students who had difficulty in developing certain focused capability items.

(5) *Marking.* Marking of assessment was a valuable opportunity to develop certain focused capability items. In particular, peer marking was an effective way to address Item 1.2 (personal strengths and limitations).

(6) *Assessment*. As a subsidiary purpose, assessment was designed to address certain focused capability items. For example, rubric was revised with the intent to address Item 1.11 (producing as good a job as possible).

(7) *Resit policy*. The resit policy provided the students with the opportunity to learn from their past experience, and addressed Item 1.3 (facing and learning from errors).

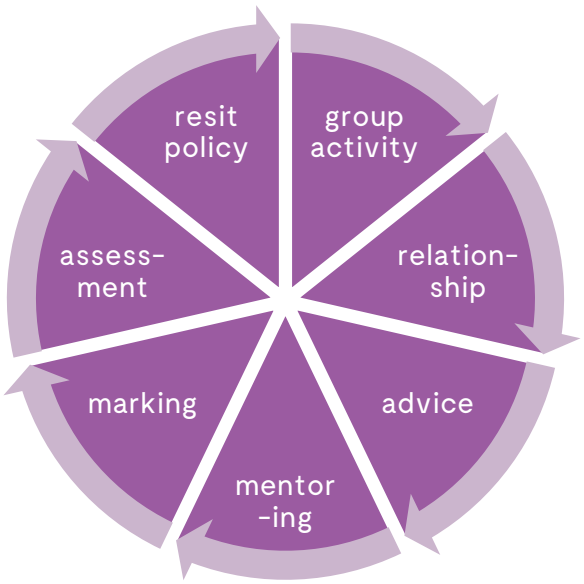

Figure 5.1.5 The GRAMMAR Approach

5.1.5.3.Implementation

Key highlights of the implementation were:

- The programme team were resistant to the use of the word “strategy” and preferred to use “tactic” instead. One long meeting of the principal investigator

with the teaching team including the programme investigator resulted in a list of "tactics" tackling each of the focused capability items.

- The teaching team emphasised their dual roles – a role in teaching and a role in pastoral care. They addressed the focused capability items predominantly as part of their effort to help the students with their wellbeing.
- Most of the teaching team had quantitative research background, and therefore, particularly in the early stage of the study, they questioned the legitimacy of the action research design of the study.
- To meet a minimum sample size for statistical analysis, the students on the Postgraduate Certificate in Management (Level 8) programme were also included in Cycle 1.

5.2. Comparison between the five capability intervention models

Comparisons were made on three dimensions: (1) Focused capability items and method of selection; (2) Strategies to address focused capability items; (3) Conceptual relationship between each capability intervention programme and the hosting academic programme.

5.2.1. Comparison on the focused capability items and method of selection

Comparison on the different selection methods across the five programmes is shown in Table 5.2.1.1 below. It is notable, except for the Master of Management (Level 9) programme where students were consulted through questionnaire survey, no student perspective was sought. The programme investigators and/or programme leaders (heads of department) made the final decision. In the Early Childhood Education programme, when there was discrepancy on the top five important capability items between the LAC and the teaching team, the choice of the teaching team prevailed.

Table 5.2.1.1. Comparison on the Method of Selecting the Focused Capability Items

C	E	H	CT	M
P/HoD proposed 12 items	LAC proposed 5 items	P proposed 12 items based on graduate profile	P/HoD proposed 6 items based on design circle	P/PL surveyed students and staff
P/HoD consulted teaching team	ECE team proposed 5 items	Teaching team endorsed	P/HoD linked them back to graduate profile	Statistical analysis selected 7 items
PI proposed reduction to 8 items	PI proposed increase to 8 items	PI proposed reduction to 8 items	PI proposed increase to 8 items	PI proposed increase to 8 items

Note: C = Construction Trade Skills; E = Early Childhood Education; H = Health Studies; CT = Creative Technology; M = Management; PI = principal investigator; P = programme investigator; PL = programme leader; HoD: Head of Department; LAC = local advisory committee;

As shown in Table 5.2.1.2, the focused capability items were different across five programmes. There was not a single item that was selected by all programmes. A total of 19 out of 38 items (50%) were selected. The most selected items were Item 1.5 and Item 2.0. Except for the Bachelor of Creative Technology (Level 7) programme, all other four programmes selected Item 1.5 (maintaining a good work/life balance and keeping things in perspective). Except for the New Zealand Certificate in Construction Trade Skills (Level 3) programme, all other programmes selected Item 2.10 (developing and contributing positively to team-based programmes). Among the 19 selected capability items, 7 items were selected by 1 programme only.

Table 5.2.1.2. Comparison on the Focused Capability Items

Capability Item	C	E	H	CT	M
1.2. Understanding my personal strengths and limitations					
1.3. Being willing to face and learn from my errors					
1.4. Bouncing back from adversity					
1.5. Maintaining a good work/life balance and keeping things in perspective					
1.6. Remaining calm under pressure or when things take an unexpected turn					

1.10. Having energy, passion and enthusiasm for my profession and role
1.11. Wanting to produce as good a job as possible
1.12. Being willing to take responsibility for projects and how they turn out
1.13. Willingness to persevere when things are not working out as anticipated
2.4. Motivating others to achieve positive outcomes
2.7. Giving and receiving constructive feedback to/from colleagues and others
2.8. Empathising and working productively with people from a wide range of backgrounds
2.9. Listening to differing points of view before coming to a decision
2.10. Developing and contributing positively to team-based programmes
3.4. Identifying core issue from a mass of detail
3.5. Seeing and then acting on an opportunity for a new direction.
3.8. Thinking creatively and laterally
3.11. Setting and justifying priorities for my daily work.
3.13. Making sense of and learning from experience

Note: C = Construction Trade Skills; E = Early Childhood Education; H = Health Studies; CT = Creative Technology; M = Management

There were reasons for the difference, mainly related to the discipline and industry. It was also likely that the different method of selecting the items (Table 5.2.1.2) contributed to the difference.

5.2.2. Comparison on the strategies to address focused capability items

Across five programmes, some strategies were used by more programmes than other strategies, and the overall approach of each programme reflected the disciplinary characteristics. Table 5.2.2 shows the approach and central concept of each programme.

Table 5.2.2. Comparison on Strategies to Develop Focused Capability Items

C	E	H	CT	M
The 6 R approach	The Cedar-LED approach	The MOVES approach	The WOW-PLACE approach	The GRAMMAR approach
Reword, Recognise, Remember, Reinforce, Remind, Respond	Contextualise, Explain, Define, Assess, Reflect, Label, Exemplify, Document	Mixing, Orientation, Volunteering, Employer, Simulation	Work, Outcome, Workshop, Plan, Lecture, Assess, Critique, Exhibit	Group activity, Relationship, Advice, Mentoring, Marking, Assessment, Resit policy
Trade	*Disposition*	*Simulation*	*Design*	*Holistic*
Capabilities were taught like trade skills.	Capabilities were seen as dispositions in early childhood teaching.	The lack of workplace experiences was addressed by simulation.	Capabilities were seen as essential to a design circle.	Capabilities were addressed in a holistic way.

Note: C = Construction Trade Skills; E = Early Childhood Education; H = Health Studies; CT = Creative Technology; M = Management.

The disciplinary feature of each model was apparent. The key feature of the strategies used by each programme can be represented by one keyword. The strategies used by the Construction Trade Skills programme was closely related to the term *trade*. The focused capability items were understood by the teaching team as a kind of trade skills, and therefore, the strategies were much like those used for teaching the students to master trade skills. The term *disposition* was the backdrop of all strategies used by the Early Childhood Education programme since learning disposition was a central concept underpinning all learning and teaching in the sector. For the Health Studies programme, the term *simulation* struck the chord in the heart of the programme. Since the health sector literally involved matters of life and death, clinical experience for its future employees was of paramount importance. It was remarkable that there was no professional experience component in the one-year graduate

diploma course. For this reason, it was not a surprise that all members of the team placed great weight on *simulation*. The importance of the term *design* to capability development in the Creative Technology programme was just like the importance of design to the creative industry. *Holistic* was the term for the Master of Management programme mainly because this master's programme did not have a specific career path. Since the graduates from this Management programme did not have a target profession or occupation, compared to students from other four disciplines, they probably needed to possess more capabilities, which explained the programme's holistic approach to capability intervention.

5.2.3. Comparison on relationship between the capability intervention programme and the hosting academic programme

There were differences between the five disciplines in the relationship of the capability intervention programme with the hosting academic programme, which was a prominent finding given that all five capability intervention models were part of the same action research project. The research team borrowed the concept of "set", "sub-set" in mathematics and portrayed the five different relationships. The relationships were illustrated with Venn diagrams. In each diagram, U = universe (sum experience of a student in the institution), A = hosting academic programme, C = capability intervention programme.

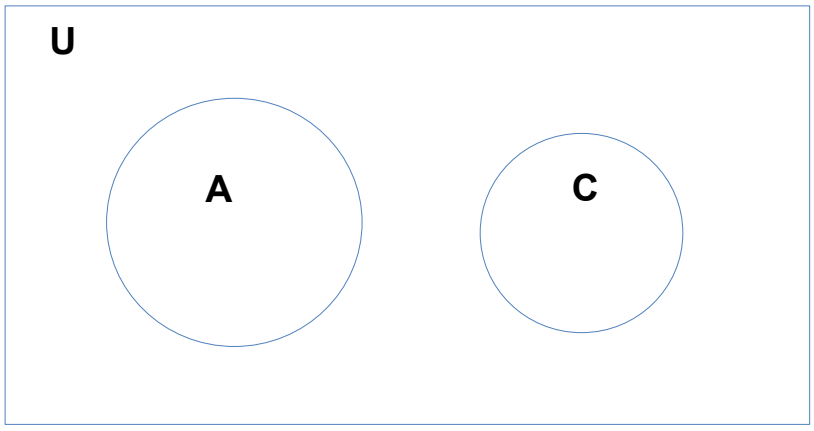

Figure 5.2.3.1 Relationship between the Construction Trade Skills programme and the capability intervention programme

For the Construction and Trade Skills programme, the capability intervention programme (C) was additional, separate from the hosting academic programme (A) although most of the strategies were enacted during the scheduled class time or delivery of the normal course content. Although the capability intervention

programme had an impact on the students, staff, and teaching practice, the hosting academic programme remained intact in essence. Similarly, the capability intervention programme was not dependent on the academic programme. This relationship is illustrated in Figure 5.2.3.1.

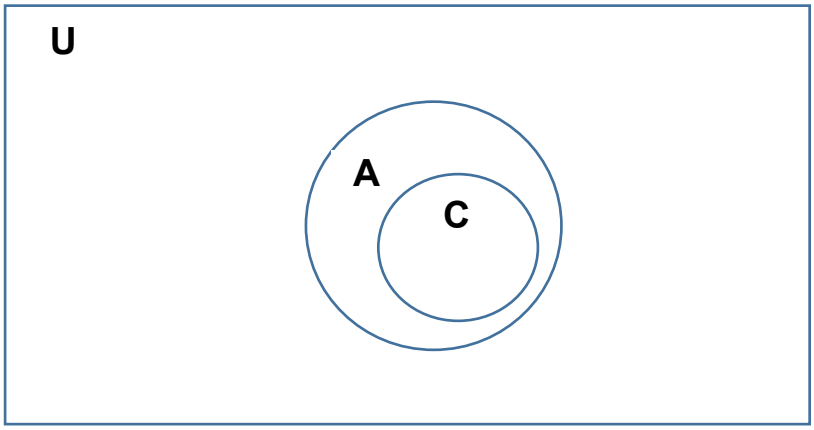

Figure 5.2.3.2 Relationship between the Early Childhood Education programme and the capability intervention programme

For the Early Childhood Education programme, the capability intervention programme, centred around disposition, was naturally embedded in the academic programme. The intervention programme was largely newly added, although the teaching staff claimed "it was already there and it was just a matter of naming, pointing, and linking". The added intervention programme became a natural part of the academic programme comfortably and complemented the academic programme. This relationship is illustrated in Figure 5.2.3.2.

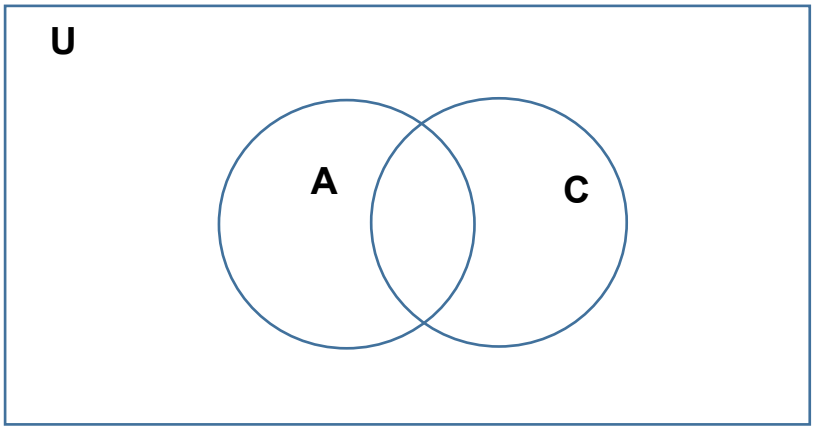

Figure 5.2.3.3. Relationship between the Health Studies programme and the capability intervention programme

For the Health Studies programme, the capability intervention programme was added, and maintained its own identify as a planned, structured employability initiative. A and

C intersected in certain areas, and they enhanced each other. The two programmes were collaborative and mutual beneficial, for example, work experience was created for dual purposes (bridging the gap between theory and practice and developing capability). This relationship is illustrated in Figure 5.2.3.3.

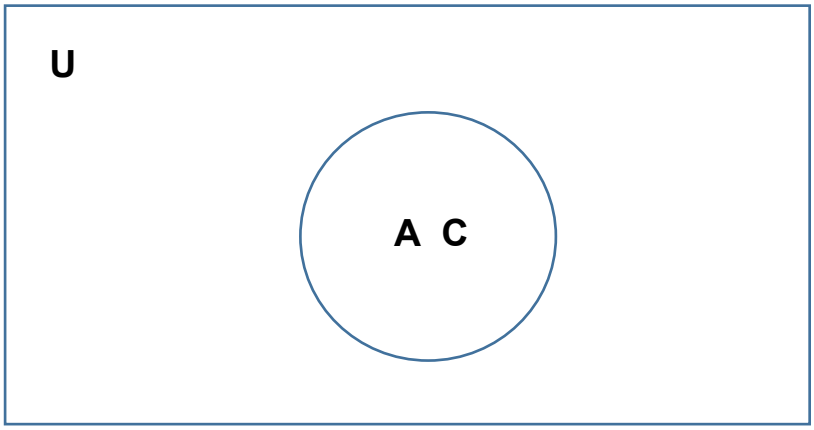

Figure 5.2.3.4. Relationship between the Creative Technology programme and the capability intervention programme

For the Creative Technology programme, A and C were identical. They were the same entity in essentially all senses. It was the documentation and analysis by the researchers that created such a conceptually separate capability intervention programme, and there was no change to the practice or the programme as a result. This relationship is illustrated in Figure 5.2.3.4.

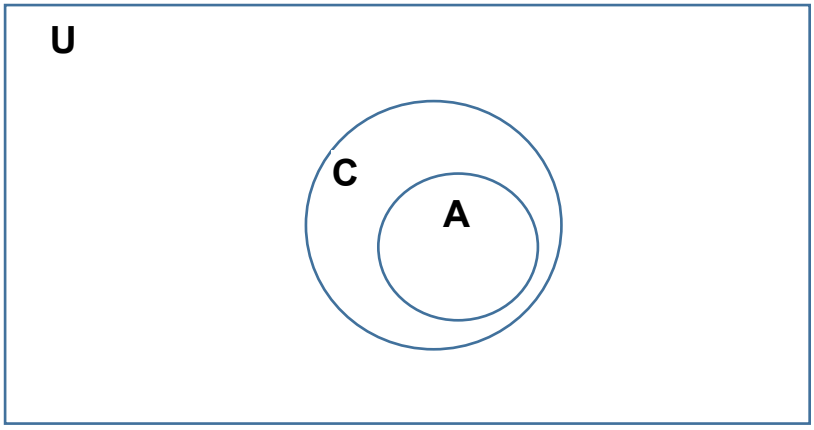

Figure 5.2.3.5. Relationship between the Master of Management programme and the capability intervention programme

For the Management programme, the capability intervention programme was conceptually larger than the academic programme. This is because A was considered

only one avenue of success in securing graduate employability. Also, changes were made to A because of C, not the other way around. C permeated in a wide range of areas including teaching, assessment, and pastoral care. This relationship is illustrated in Figure 5.2.3.5.

The relationship between each capability intervention programme and the hosting academic programme was unwittingly established by the teaching and research team of each discipline, which to a certain extent represented the nature of the programme and the discipline. The different relationships also reflected calibration of capability intervention.

5.3. Impact of the capability intervention models

The impact of the capability intervention models was entwined with that of the research project. The two main groups that were impacted by the process were the participating learners and the research and teaching team.

5.3.1. Impact on learners

5.3.1.1. Results of the quantitative analysis

- The independent-samples *t*-tests were performed to determine the magnitude of mean differences in the students' self-reported scores on the focused capability items between the pre- and post-intervention surveys in Cycle 1. As Table 5.3 shows, no statistically significant differences were found across five programmes.

  Table 5.3 Comparisons on the Level of Graduate Capability between the Pre- and Post- Intervention Surveys

programme	**Pre survey M (SD)**	**Post survey M (SD)**	***t (df)***	***p***
Construction Trade	3.94 (.40) N = 27	4.18 (.46) N = 18	1.88 (43)	.068
Early Childhood	4.11 (.51) N = 47	4.12 (.78) N = 45	1.67 (65)	.055
Health Studies	4.31 (.34) N = 25	3.93 (.48) N = 21	3.13 (44)	.056
Creative Technology	4.38 (.43) N = 10	4.48 (.39) N = 9	0.52 (17)	.609
Management	4.60 (.31) N = 52	4.34 (.59) N = 21	2.51 (71)	.150

- As part of the quantitative analytical process, we obtained the psychometric

properties of the Graduate Capability Questionnaire (Appendix 2). For personal capability, the Cronbach's alpha coefficients were 0.73, 0.55, and 0.76 for self-awareness, directiveness, and commitment respectively. Confirmatory Factor Analysis (CFA) showed sound model fit indices (x^2/df = 2.69; RMSEA = .068; SRMR = .047; CFI = .93; GFI = .92; NFI = .89), supporting acceptable construct validity. For Interpersonal capability, the Cronbach's alpha coefficients were 0.79 and 0.75 for influencing and empathising respectively. CFA showed sound model fit indices (x^2/df = 1.93; RMSEA = .050; SRMR = .033; CFI = .98; GFI = .96; NFI = .95), supporting acceptable construct validity. For cognitive capability, the Cronbach's alpha coefficients were 0.77, 0.85 and 0.68 for diagnosis, strategy, and flexibility and responsiveness respectively. CFA showed sound model fit indices (x^2/df = 2.51; RMSEA = .064; SRMR = .042; CFI = .95; GFI = .93; NFI = .92), supporting acceptable construct validity. Overall, as reported in Scott (2016), the Graduate Capability Framework had sound reliability and validity although the Cronbach's alpha coefficients for the constructs *directiveness* and *flexibility and responsiveness* were not satisfactory.

5.3.1.2. Findings from the qualitative analysis

- The project changed the students' attitudes and dispositions relating to graduate employability to a certain extent. The participating students had stronger awareness of the importance of personal, interpersonal and cognitive capabilities, had enhanced self-efficacy in future employability, and made progress in graduate capability development.
- Completing the 38-item paper or online Graduate Capability Questionnaire was meaningful experience for all survey participants in terms of enhanced understanding of graduate capability. The language used in the survey questions familiarised the students with the terminology which was the foundation for a thorough understanding of the graduate capability items. The individual and focus group interviews were perceived by the students to be educational experiences.
- Compared to learners from other programmes, the Construction Trade Skills students overcame challenges in understanding the many technical terms in the personal, interpersonal and cognitive capability items and benefitted from the reworded version of the items. The majority of the trade students were less expressive in the interviews. The Early Childhood Education students enjoyed

the classroom activities purposely designed for developing dispositions. They completed several types of written work including mind maps and forms. They were supported to understand the theoretical underpinning of what they were expected to do and formulate their own strategies. The Creative Technology students became more cognizant of the close link between the competencies for creating art and design work and the capabilities for future employability. The Health Studies students had many opportunities to experience what future jobs in the health sector looked like and in what ways they should be prepared for those jobs. The Management students had the opportunity to have dialogues about a range of issues with the tutors, researchers and their peers around future employability.

- A remarkable impact of the capability intervention programmes on the students was the enhanced ability to reflect on issues related to graduate capability, which is a progress in the capability development journey. One theme of reflection emerging from the interviews concerned whether and to what extent capability was teachable. The students took different perspectives on the theme. The diverse perspectives on capability development were evidence of the students' learning on graduate capability, and were part of the positive impact of the capability intervention models and the research project.

  Perspective 1: "It is my upbringing"

  > I think for a lot of people it happens just as the way you were brought up. I learned a lot of my time management and organisational skill from my dad growing up on the farms, he had expectations such as things should be done in a certain way and on time, I don't think you can learn any of that from an institution like this. [Student 05, CT]

  This perspective acknowledged the importance of parental influence which went beyond the institutional capability intervention. The students who held such a view were affirming that they would have no problems with capabilities since they had been taught those capabilities by their parents.

  Perspective 2: "It has to be self-taught"

  > Something you need to learn on your own because no one can actually teach you how to prioritize these, for example, it is your own life, they can give us input, yeah it can't be a mentor thing, they can't

> say you must do this way, they just give input and suggestions, not something we are going to get told to do, there does not need to be an assignment on that. I think it's a personal thing that people have to do for themselves. [Student 05, E]

> It depends on individual items, I think it is very personal and you can't teach it. You can teach the techniques how to do reflection on your own experiences, but you have to draw the decision and conclusion by yourself. (Student 02, H)

This perspective showed the students' role construction with regard to capability development. They believed that it was the students' own responsibility to develop the different capability items. Such positive role construction was highly relevant to developing capabilities.

Perspective 3: "It is teachable but not at this late stage of tertiary education"

> Do I think whether most of them can be taught in an institution? No, not when you come to this level, not in tertiary level of study, I don't think, too late, these have to be developed probably in primary, [laugh] you know all of this is... [Student 02, CT]

> I picked up any of these skills before I became a student here. Okay, "setting and justifying priorities...", that's just time management, I learned that in a work environment. I think I've picked up most of these skills from working, not from here. I learned a lot of these from work, because it's their infrastructure and their system, things like time management, the way I learned time management was we were allocated eight hours of work a day, if we didn't complete the work, then in our contract we had to work for free at the weekend, so that's one way to get somebody to do it, so it teaches you, you have to get that work done in the allocated time. [Student 05, CT]

This perspective mirrored the students' metacognitive self-reflection on their past journey to graduate capability development, which was beneficial for their future initiative to further develop their graduate capabilities.

Perspective 4: "It depends on how you teach"

> I do think it is teachable, but not by a tutor in the front trying to teach

> us, that's not going to work, and I don't know how they could. I think it is teachable by having the whole support from your class, your teachers and classmates, everyone's support. [Student 04, E]

This perspective focused on the approach to developing graduate capability and acknowledged the usefulness of capability intervention.

Perspective 5: "It is already being taught to us"

> Okay, I think we are already doing "taking responsibility for projects and how they turn out" because we have to be doing that for the Level 7 papers, that's how learning is self-directed, mostly for our classmates, we have classroom here but mostly we go home and work in our studio on our project, we have to make sure that our project is done on time. [Student 03, CT]

> You can't separate capability development from academic learning. The knowledge that our tutors have imparted to us actually also gives us insight like for example as to why I am doing this, it helps me understand more the reason why I should do this, it gives more meaning to what I am doing, it drives me pushes me to do these things. [Student 05, M]

This perspective highlighted the students' recognition of the capability intervention which is evidence of their learning.

- The students showed some enlightening thoughts on learning and teaching individual capability items which were also part of the positive impact of the capability intervention models and the research project, as exemplified below.

> Being willing to *learn from my errors* is very important for us in this carpentry course, since we make a lot of errors doing carpentry work, e.g. putting a nail in a wrong spot, or cutting the timber in a wrong way, using the wrong nails, not wearing safety gear, we learn quite quickly not to make same mistakes from the tutors, or from other classmates who know better. [Student 04, C]

> A nurturing, cohesive *community of learning* where you have a sense of belonging is important, and with that level of relationship, all capability items you are talking about here will be easily fixed.

[Student 07, E]

> Even the institution has the ability to make us learn all of things [capability], it actually depends on the person, how he gets what the institution is trying to say, I don't think there is one way for the institution to help us with all these items, students have different needs in this respect, so I think it needs to be *individualized*. (Student 07, H)

> Some items are *culturally bound*, for example, "working with senior staff within and beyond my organisation without being intimidated" basically comes from the culture where these senior people are more valued members of the society, it can be taught because here in NZ the culture is different, less formal, more open, you can just explain to people. (Student 08, H)

5.3.2. Impact on team

- Impact on team was part of the accountability requirement for an *Ako Aotearoa* funded research project. The impact of the capability intervention models and the research project on the teaching and research team was two-fold, as a reflective practitioner and as a practitioner researcher.
- The five programme research teams were formed and grew with the project. This was visible throughout the reflective and reflexive action research journey. The project had profound impact on not only the key researchers coordinating the five case studies but also the five programme research and teaching teams. The exploratory and evolving nature of our action research provided excellent opportunities for the programme teams to reflect while doing and to learn from doing, thus improve not only their teaching strategies but also their research capacity.
- The mode and degree of impact on team varied from programme to programme. By and large, the action research project offered an opportunity for the programme teams to deepen their understanding of the essence of applied and practice based research, including the difference between good practice and good research. The programme teams had also become proficient in switching between the practitioner and researcher roles, and become more knowledgeable on the challenges that may arise from any collaborative research in real life

situations.

- Examples of impact on reflective practice

  > Although it is already embedded, if you sit back and reflect, we are doing a good job, we are doing it deliberately, trying to achieve something, you have to be able to articulate it to some degree, even just some sort of structure or platform, model, something to drive them, then say here is the framework you can use and it suits your industry and your area. (Tutor 04, H)

  > We don't know whether it's going to help, because we literally don't know whether they will act differently had we not told them this stuff. I guess I am interpreting it as important as whether it will change the students' outcome and employability because of their disposure to these activities, so we don't know whether they are employable or not employable, whether they have changed, whether they ended up because of what they've gone through. [programme investigator, C]

  > Because of this research project, the teaching staff are not only implementing the strategies as part of their everyday teaching but also able to articulate and justify the strategies, which in turn deepens their understanding of the many dimensions of the selected capability items. They are now able to "describe" their practice with a high level of consistency across subjects, which is a very important outcome of this project. (programme investigator, CT)

- Examples of impact on research capacity

  > An operational manual (for developing capability) is not needed, that will be over-manualised, there is some guidelines we can provide, there could be some sort of ways to...because you don't want to separate things, you want to embed this stuff you got. The guidelines could provide ways of what you've got, could be like something in your programme documents that specify what you will do about this and what language do you use focusing on employability. (Tutor 03, H)

> For accountability purpose, maybe staff assessment for each programme, people involved have to get together to just fill out we've done this, what we're planning to do, there could be like a tool box, it's not a manual. Otherwise people will look at it and feel well I don't know where I could start, oh here are some things we don't do. It is something from the ground up, from the values, beliefs, what's the most appropriate for the programme they deliver. (Tutor 01, H)

> All tutors on the teaching team happened to be quantitative researchers who had little or no direct experience with a practice-based, qualitative study, particularly an action research project. There had been several in-depth discussions in the research meetings on the features of qualitative research. What was done provides a lot for them to critique and reflect on. This kind of experience excited their interest in qualitative research. (programme investigator, M)

5.4. Māori learners

In Cycle 1, the total number of Māori learners was 21 (10 male, 11 females) with an average age of 28.2, accounting for 12.9% of the total number of surveyed participants from the five programmes. Specifically, 11 Māori learners were from the Construction Trade Skills programme, 9 from Early Childhood, 1 from Creative Technology, 0 from Health Studies, and 0 from the Management programme. Table 5.4.1 shows the results from the pre-delivery survey. In average, Māori learners scored higher on the personal capability items than the cognitive capability items.

Table 5.4.1: Māori Learners' Self-Reported Initial Level of Capability

	M	**SD**
Personal capability (14 items)	3.93	.31
Interpersonal capability (10 items)	3.88	.52
Cognitive capability (14 items)	3.72	.46
3 highest scored items -		
Producing as good a job as possible	4.86	.36
Facing and learning from my errors	4.67	.48
Taking responsibility for projects and how they turn out	4.19	.75
3 lowest scored items -		

Adjusting a plan of action in response to problems that are identified during its implementation.	3.24	.54
Recognising how seemingly unconnected activities are linked	3.29	.72
Remaining calm under pressure or when things take an unexpected turn	3.29	1.01

The full score of an item on the 5-point Likert scale was 5.00, and the average scores of both the highest scored items and the lowest scored items were well above 3.00. Specifically, the three highest scored capability items were "producing as good a job as possible" (4.86), "facing and learning from my errors" (4.67), and "taking responsibility for projects and how they turn out" (4.19). The three lowest scored capability items were "adjusting a plan of action in response to problems that are identified during its implementation" (3.24), "recognising how seemingly unconnected activities are linked" (3.29), and "remaining calm under pressure or when things take an unexpected turn" (3.29).

The three highest and lowest scored items of Māori learners were not congruent with those of their non-Māori counterparts. For example, the non-Māori learners perceived "tolerating ambiguity and uncertainty" to be the most challenging capability item (See Table 5.4.2), in contrast with the most challenging capability item perceived by the Māori learners.

Consistent with the whole sample, there was no statistically significant change to the mean score of the focused capability items as a result of the capability intervention programme among Māori learners.

Table 5.4.2: Non-Māori Learners' Self-Reported Initial Level of Capability

	M	SD
Personal capability (14 items)	4.14	.46
Interpersonal capability (10 items)	4.16	.46
Cognitive capability (14 items)	4.04	.49
3 highest scored items -		
Producing as good a job as possible	4.73	.60
Facing and learning from my errors	4.64	.58
Having energy, passion and enthusiasm for my profession	4.51	.78

3 lowest scored items -		
Tolerating ambiguity and uncertainty	3.56	.94
Recognising how seemingly unconnected activities are linked	3.65	.78
Identifying the core issue from a mass of detail in any situation	3.79	.83

In Cycle 2, a total of 33 Māori learners were enrolled on three of the five programmes. The New Zealand Certificate in Construction Trade Skills (Level 3) programme had the largest number of Māori learners (17 out of 28), Diploma in Early Childhood Education (Level 5) enrolled 11 Māori students (out of 22), and Bachelor of Creative Technology (Level 7) enrolled 5 Māori students (out of 9). No Māori learners were enrolled on Graduate Diploma in Health Studies (Level 7) or Master of Management (Level 9).

Māori learners were not singled out and compared with non-Māori learners on the effect of the capability intervention models. From selection of the focused capability items, selection of strategies, to evaluation of impact of the models, Māori students were treated in the same way as the way non-Māori students were treated. More details of the numbers of Māori learners of each of the five programmes including the age and gender distribution are presented in Tables 5.4.3-5.4.7 below.

Table 5.4.3: Number of Māori Learners: New Zealand Certificate in Construction Trade Skills (Level 3)

	Number	Age		Gender	
		M	SD	Male	Female
Māori	17	24.9	10.5	12	5
Non-Māori	11	32.2	11.5	11	0
Total	28	27.8	11.3	23	5

Table 5.4.4. Number of Māori Learners: Diploma in Early Childhood Education (Level 5)

	Number	Age		Gender	
		M	SD	Male	Female
Māori	11	26.5	6.9	0	11
Non Māori	11	19.9	2.6	0	11
Total	22	23.2	6.1	0	22

Table 5.4.5. Number of Māori Learners: Graduate Diploma in Health Studies (Level 7)

	Number	Age		Gender	
		M	SD	Male	Female
Māori	0	-	-	0	0
Non Māori	16	27.8	5.0	1	15
Total	16	27.8	5.0	1	15

Table 5.4.6. Number of Māori Learners: Bachelor of Creative Technology (Level 7)

	Number	Age		Gender	
		M	SD	Male	Female
Māori	5	30.4	12.8	1	4
Non Māori	4	39.8	11.8	0	4
Total	9	34.6	12.6	1	8

Table 5.4.7. Number of Māori Learners: Master of Management (Level 9)

	Number	Age		Gender	
		M	SD	Male	Female
Māori	0	-	-	0	0
Non Māori	6	32.7	7.5	4	2
Total	6	32.7	7.5	4	2

Key Kaupapa Māori protocols were adhered to when interviewing the Māori students. Prior to both individual and focus group interviews, the interviewer introduced to the Māori participants the "participatory action research" nature of the study which was well compatible with the key Kaupapa Māori principles including sovereignty, self-determination, governance, autonomy, and independence (Walker, Eketone, & Gibbs, 2006). The participatory action research upheld ownership-responsible agency in the production of knowledge and the improvement of practice (McTaggart, 1991), and allowed the staff and students to be part of it rather than its objects. The participatory action research treated all participants as autonomous, responsible agents (McTaggart, 1991), and Māori students in particular. Therefore, the Māori students' voice were heard and respected. The Māori students expressed their endorsement of

the focused capability items, supported teachers' strategies, and believed that teachers' role was important in developing capabilities in students.

Chapter 6: Discussion

The action research project generated five capability intervention models for developing *work ready plus* graduates. The five models reflected some of the key features of the five disciplines. The five disciplines ranged from emerging disciplines (e.g., Bachelor of Creative Technology, Level 7) to generalist discipline (e.g., Master of Management, Level 9) (Judd, et al., 2015). Our project corroborated and put in practice the *Work Ready Plus* Graduate Capability Framework, which extends previous work on the graduate capability framework (Bennett, et al., 2015a; Bridgstock, 2009; Pool & Sewell, 2007). The five models not only helped the researched institution with its graduate employability agenda, but also made meaningful contribution to the existing knowledge about graduate employability. In the light of the findings from the project, several issues are worth discussing and reflecting on, including: capability intervention models and their significance; focused capability items and how they should be determined; strategies to develop the focused capability items; effectiveness of the intervention programmes; calibration of graduate capability intervention; and the *Work Ready Plus* Graduate Capability Framework.

6.1. Capability intervention models and and their significance

In our action research project, capability intervention took place in each of the five cases and generated five models. Each model was named after the acronym for the keywords of the key strategies used to develop capability, including the 6R approach (rewording, recognising, remembering, reinforcing, reminding, responding), the Cedar-LED approach (contextualizing, explaining, defining, assessing, reflecting, labelling, exemplifying, documenting), the MOVES approach (mixing, orientation, volunteering, employer, simulation), the WOW-PLACE approach (workshop, outcome, work, plan, lecture, assessment, critique, exhibition), and the GRAMMAR approach (group activity, relationship, advice, mentoring, marking, assessment, resit policy). Although the name denoted the strategies only, each model was unique not only in strategies, but also in focused capability items and how the intervention sat with the academic programme.

The models were generated by the practitioners from the within rather than given by the outsiders. All members of the programme research team were practitioners who

made all the decisions on all aspects of the intervention models. It was true that the principal investigator made proposals at different stages of the action research, but it was the practitioners who scrutinised, accepted or declined the proposals. The practitioners had autonomy and self-determination throughout the action research process. All practitioners believed the intervention programme to be context bound and should be developed by themselves. Also, the models were implemented at departmental levels and did not have to rely on institution-wide policy changes. These are evidence of the practicality of graduate capability intervention.

"Modelling" the capability intervention was in a sense theorisation of the capability development practice. With the model, the practitioners acquired a theoretical perspective on their practice and became more confident in developing graduate capability. In the beginning of the research, the practitioners were not so confident in how the intervention would unfold. For example, the Construction Trade Skills programme expected the principal investigator to provide them with "some resource". By the end of Cycle 2, when the intervention programme had evolved into a full-fledged model, the practitioners were proud of their accomplishment and cherished their unique model, as the Early Childhood Education team acclaimed, "This is our model!"

Since capability intervention should be context bound, it is important to keep in mind that the five models generated in this study were only five examples, and there certainly are more models to be discovered. Ideally, every programme in every discipline in every tertiary education institution should have one unique model. Therefore, it is against the tenet of our research to generalise any of the five models to other settings. The value of the five models, however, lies in providing five exemplars that demonstrate how practitioners of a tertiary education institution can take an action and do something about graduate capability. In this sense, the five models are exemplary rather than prescriptive.

6.2. Focused capability items and how they should be determined

"Focused capability item" was one of the most frequently used terms in this study. Use of the term "capability item" was not without controversy in literature, especially among scholars who oppose to reductionism. For example, Stephenson (1998) insisted on not to "define capability in reductionist terms, seeking ever more separately measurable competences" (p.1). By coining the term "focused capability item", this study endorsed the reductionist approach of itemising capability. Also, the word

“focused” recognised the importance of prioritisation in determining the content of an intervention programme. In this study, focused capability items were “the most important” capability items perceived by each programme team.

The composition of focused capability items was different across five disciplines, with not a single item selected by all five disciplines and only two items selected by four of the five disciplines. At least two factors had caused the differences. First, each discipline or industry had different requirements or specifications on qualified employees. For examples, for people who are in a managerial or teaching role, greater weight is placed on “motivating others to achieve positive outcomes” (Item 2.4) while the same capability item may not be equally important to a computer software writer. While there certainly are universally important capability items in changing and uncertain times, for students in the five different disciplines, “the most important” capability items were different. Second, the influence of job market. Difficulty in finding employment is different in different industries (Judd et al., 2015), which may affect how the educators prioritise graduate capability items. For example, due to the difficulty in finding relevant employment, capability items that were essential to setting up and running own business became prioritised in the Creative Technology discipline.

The five programme teaching teams played a key role in determining focused capability items. Due to the “polytechnic” nature of the institution where this study took place, the five programmes were largely vocational. Predominantly, the teaching staff had a strong industry background and maintained a close relationship with employers. The teaching staff had up-to-date information on what capabilities the employers expected the students to possess. Also, the teaching staff had firsthand knowledge of what capabilities the students were currently lacking. Therefore, the teaching staff were best informed in terms of making the decision on what capability items were to be prioritised for intervention. The five programme teaching teams were well aware that they were in the best position to make the choice on focused capability items. A typical example was from the Early Childhood Education team. When making the decision, the team consulted their local advisory committee (LAC); however, they did not fully adopt the LAC version of focused capability items. It was interesting to notice how the programme teams negotiated between the rhetoric (e.g., “stakeholders’ input”, “student voice”) and pragmatism (i.e., “getting things done”). In this study, except for the Master of Management (Level 9) students who

were consulted through questionnaire survey, no student perspective was sought on which capability items should be selected for intervention.

6.3. Strategies to develop focused capability items

The variety of strategies to develop focused capability items across the five disciplines was prominent. Some strategies were purpose-made, namely, they were created specifically for developing certain capability items. For example, “rewording” was creation of the Construction Trade Skills teaching team, and “labelling” was developed and heavily relied on by the Early Childhood Education programme. When the programme team developed a strategy, they were always targeting a particular focused capability item although one strategy was sometimes used for developing multiple focused capability items. A strategy was always developed and implemented in a specific context - what the strategy was going to be used for. Therefore, it is inappropriate to comment on validity of a strategy without linking the strategy to specific focused capability item(s). Also, it is inappropriate to talk about strategies in general without considering their specific purposes. The strategies and the focused capability items always needed to be matched up, and the concept of “model” and “modelling” enabled and ensured such connections.

It is worth noting how the strategies to develop the focused capability items were developed in each discipline. The generative process can be called a metacognitive reflective process. For almost all the strategies, the practitioners felt they had already been using those strategies that were embedded even prior to the research project. The difference is that, with the set of properly labelled strategies generated from the study, the practice became more conscious and intentional, as Tutor 04 from the Health Studies programme illuminated,

> Although it is already embedded, if you sit back and reflect ... we are doing it deliberately, trying to achieve something, you have to be able to articulate it to some degree.

The strategies in this study were formalised through reflection. Formalised strategies are convenient to understand, remember, implement, and communicate, which is important for an intervention programme that can easily be compromised due to the heavy teaching and learning schedule of an academic programme. However, the formalised strategies are by no means rigid or remain unchanged, instead, depending on the outcome of “observing” and “reflecting”, the strategies can be enriched, adjusted, and improved, and this process is

cyclical, not only in action research but also in teaching practice.

6.4. Effectiveness of the intervention programmes

Since there is a problem with assessing capability (Lester, 2014), there certainly is a problem with evaluating the effect of intervention programmes aiming to change capability. In this study, we "assessed" the level of each focused capability item by asking the students to complete a 5-point Likert-type Graduate Capability Questionnaire (Appendix 2), and we found no statistically significant difference between pre- and post-intervention surveys. The lack of a statistically significant difference by no means negates the effect of the capability intervention programmes. Instead, it confirms that, due to the non-experimental design of the action research and complexity of the factors influencing graduate capability, a quantitative approach does not fit the purposes of the study.

It should be noted that the lack of statistically significant effect of the intervention programmes was also due to the changing participants in the two action research cycles. For convenience of project management, each cycle of the action research lasted for one year. Given that the majority of the five programmes were a one-year programme, the individual students were only able to participate in one cycle of the intervention. It can be expected that if the students had participated in both cycles, the statistical results might have been different.

Apart from the quantitative questionnaire survey, this study used other ways to assess the effect of the capability intervention programmes including interview data on the perception of both the students and the teaching team about the benefits of the intervention programme. One striking benefit was the students' deepened understanding of the meaning of the focused capability items and in-depth reflection on the issues around graduate capability. In this study, the effect of the intervention programmes on the teaching staff was also examined, and a positive effect confirmed. Since the teaching staff are a fundamental factor influencing capability intervention, a positive effect on the teaching staff can be construed as an indirect positive effect on the students in the long run.

The effect of the capability intervention programmes on individual students was limited compared to that of the academic programmes which were officially accredited, prescribed, and contained compulsory assessments. To both the student and staff participants, this research project was significantly less important than

scheduled teaching sessions. While teaching and attending classes and completing assignments were compulsory, participating in this project was voluntary given that "voluntary participation" is a fundamental ethics principle in research. The research ethics allowed the participants to withdraw at any time prior to the data analysis of the project. The teaching staff and students were often overwhelmed by the heavy load of academic learning and teaching, which sometimes affected their commitment to this study.

6.5. Calibration of graduate capability intervention

At the outset of the study, the idea of targeting a selection of "focused capability items" was embraced by all programme teaching and research teams, and it was unanimously agreed that the 38 items of the *Work Ready Plus* Graduate Capability Framework (Scott, 2016) were too many for intervention. Hence the question: How many are "too many"? In Cycle 1 of the action research, when there was no recommended number of the focused capability items, the number of focused capability items selected by each of the five programmes was 12, 5, 12, 6, 7 respectively. In Cycle 2 of the action research, two recommendations on the number of focused capability items were made by the principal investigator and agreed by the programme investigators. First, the number of focused capability items across all five disciplines be equal for the convenience of cross disciplinary comparison. Second, the number of the focused capability items for all five disciplines be eight which was the average of the numbers of initial focused capability items of the five disciplines. The changes were made in a research scenario and mainly for research related reasons. Then the question arises: In non-research situations, how many focused capability items are an optimal number for graduate capability intervention? The question points to the scale or magnitude of intervention in individual programmes or calibration of intervention across several programmes in one institution.

To answer the "how many" question, three facets need to be taken into consideration. First, to what extent graduate capability development has been included in the institution's graduate profiles and the learning outcomes of individual courses. This will have a significant impact on what should be done at the programme or department level about graduate capability. Second, how early the institution starts addressing graduate capability among the tertiary students. In her research, Bridgstock (2009) concluded that the embedded graduate employability initiative should start from the first year, and continue until the final year, of the tertiary

education so that the tertiary education institution can fully engage with the graduate employability agenda. In our action research, most programmes (except for the Bachelor in Creative Technology programme) were a one-year programme, and therefore, needed a larger scale of intervention. Third, how the intervention programme sits with the academic programme. In our study, five types of relationship were identified between the capability intervention programme and the academic programme. Depending on the different types of such relationship, the scale of the extra capability intervention will vary. For example, in the Creative Technology discipline, the capability intervention programme and the academic programme were identical, and apparently the magnitude of capability intervention as such was smaller compared to other disciplines. The five types of relationship delineated in this study existed in a research scenario. In non-research situations, more factors need to be considered including, for example, resource allocation (e.g. staffing, class scheduling) and outcome assessment.

In practice, calibration of capability intervention programmes in individual tertiary institutions may also be affected by the leaders' own understanding of, and belief about, graduate capability. For example, Stephenson (1998) warned against the practice of "separate development of capability" that is often referred to as "bolt-on capability". Also, Bridgstock (2009) raised a question on the "balance between orthodox pedagogy and the broadened employability agenda" (p.39). It is certain that there is not a so-called optimal scale or magnitude of the capability intervention programmes that applies to all tertiary institutions, rather, it is context bound and can only be determined after all contextual factors are considered.

6.6. The *Work Ready Plus* Graduate Capability Framework

This study put in use the *Work Ready Plus* Graduate Capability Framework. As part of the quantitative analytical process, we examined the psychometric properties of the Graduate Capability Questionnaire and validated the Framework in a New Zealand tertiary education context. Consistent with the finding in Scott (2016), the Graduate Capability Framework had sound construct validity in our study. The study showed that, across all the five disciplines, all the most important capability items had been included in the Graduate Capability Framework, which was confirmed through analysis of the diverse forms of data. No new graduate capability items had emerged that were not included in the Graduate Capability Framework. Also, our study showed that the items on the Graduate Capability Framework were easy to be operationalised. The

teaching staff and students were able to define a capability item in context and give examples. Overall, the Graduate Capability Framework was found to be beneficial for both the study and the teaching practice.

One question can be asked in relation to the *Work Ready Plus* Graduate Capability Framework: To what extent is the Framework culturally and ethnically sensitive? Scott (2016) did not provide much information on cultural sensitivity of the Framework. In our study, the participants came from different cultural and ethnic groups, including Māori, Pasifika and a range of other cultures, however, the effect of culture and ethnicity was not examined. Although the Framework was understood well by the Māori students, and there did not seem to be any issues, there is certainly a need for the dimension of culture and ethnicity to be considered if the *Work Ready Plus* Graduate Capability Framework is going to be revised.

6.7. Contributions of the project

The project made several contributions. Within the sampled institution, it provides research informed good practice to enhance graduate capability utilizing an internationally recognised theoretical framework. It not only benefits the student participants, but also helps build up a team of reflective practitioners and practitioner researchers. Outside the sampled institution, this project exemplifies how the Work Ready Plus Graduate Capability Framework can be implemented in New Zealand tertiary institutions. The findings from the project including the disciplinary differences in focused capability items, strategies, and intervention calibration are enlightening to other researchers and practitioners who are in the position to engage in similar teaching and research projects. In addition, the project made contribution to the existing literature. The project is one among the few, if any, research projects that implement a conceptual framework for graduate capability. The previous studies in similar areas were mostly survey or interview based. The cross-disciplinary multiple sites case studies uncovered several new conceptions regarding graduate capability development, including the notion of “focused capability items” and the variability of the relationship between capability intervention programme and existing academic programme.

6.8. Limitations to the project

During Cycle 1 of the action research, the institution underwent major restructures, and as a result, over half of the project team members had to give up their role in this

project. Consequently, at several time points, the intervention and data collection were disrupted to a varying extent, hence diminished quality of the intervention programmes and the data. Although this was beyond the control of the research team and was remedied in Cycle 2, it should be acknowledged as a limitation. Largely related to the organizational restructures which significantly disrupted the progression of the action research, we were unable to interview our graduates and their employers within the tight timeframe, hence the lack of data from the employers and graduates.

6.9. Future direction

The action research journey enabled us to give much thought to a number of issues in relation to graduate capability. It is necessary to further investigate to what extent the student participants of the action research are going to benefit from the implementation of the *Work Ready Plus* graduate capability intervention models. Longitudinal research can be designed to examine learners' enhanced self-efficacy in future career success, learners' progress in capability development perceived by their educators, and graduates' enhanced capabilities perceived by their employers. More data collection and analysis strategies can be used to gauge the mode of change, for example, ongoing evaluative and reflective feedback from all internal and external stakeholders, and post-project follow-up studies. It is also helpful to examine the division of roles and responsibilities among stake holders in relation to graduate capability intervention. Student researchers or beginner researchers can choose to focus on one or two facets of one of these issues, for example, the employers' perception of the focused capability items in a particular sector. Other topics for future research include: How do the findings of the project relate to the New Zealand government's *Tertiary Career Development Benchmarks*? How do the capability intervention programmes better accommodate the different needs of students from diverse social and cultural backgrounds? How can the five models of capability intervention be best utilised for the development of other models in other settings?

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Appendix 1. The Work Ready Plus Graduate Capability Framework

	Personal capability
Self Awareness	1.1.Deferring judgment and not jumping in too quickly to resolve a problem
	1.2. Understanding my personal strengths and limitations
	1.3. Being willing to face and learn from my errors
	1.4. Bouncing back from adversity
	1.5. Maintaining a good work/life balance and keeping things in perspective
	1.6. Remaining calm under pressure or when things take an unexpected turn.
Decisiveness	1.7. Being willing to take a hard decision
	1.8. Being confident to take calculated risks
	1.9. Tolerating ambiguity and uncertainty
Commitment	1.10. Having energy, passion and enthusiasm for my profession and role
	1.11. Wanting to produce as good a job as possible
	1.12. Being willing to take responsibility for projects and how they turn out
	1.13. Willingness to persevere when things are not working out as anticipated
	1.14. Pitching in and undertaking menial tasks when needed
	Interpersonal capability
Influencing	2.1. Influencing people's behaviour and decisions in effective ways
	2.2. Understanding how the different groups that make up my university operate and influence different situations
	2.3. Being able to work with senior staff within and beyond my organisation without being intimidated
	2.4. Motivating others to achieve positive outcomes
	2.5. Working constructively with people who are 'resistors' or are over-enthusiastic
	2.6. Being able to develop and use networks of colleagues to solve key workplace problems
	2.7. Giving and receiving constructive feedback to/from work colleagues and others
Empathising	2.8. Empathising and working productively with people from a wide range of backgrounds
	2.9. Listening to different points of view before coming to a decision
	2.10 Being able to develop and contribute positively to team-based programmes

(Continued)

	Cognitive Capability
Diagnosis	3.1. Diagnosing the underlying causes of a problem and taking appropriate action to address it
	3.2. Recognising how seemingly unconnected activities are linked
	3.3. Recognising patterns in a complex situation
	3.4. Being able to identify the core issue from a mass of detail in any situation
Strategy	3.5. Seeing and then acting on an opportunity for a new direction
	3.6. Tracing out and assessing the likely consequences of alternative courses of action
	3.7. Using previous experience to figure out what's going on when a current situation takes an unexpected turn
	3.8. Thinking creatively and laterally
	3.9. Having a clear, justified and achievable direction in my area of responsibility
	3.10 Seeing the best way to respond to a perplexing situation
	3.11. Setting and justifying priorities for my daily work
Flexibility & responsiveness	3.12. Adjusting a plan of action in response to problems that are identified during its implementation
	3.13. Making sense of and learning from experience
	3.14. Knowing that there is never a fixed set of steps for solving workplace problems

Appendix 2:

Graduate Capability Questionnaire

Name_____ Student ID _____

Please circle the right number (1 = strongly disagree; 2 = disagree; 3 = undecided; 4 = agree; 5 = strongly agree) to indicate the extent to which you agree or disagree each of the below statements. This survey will take approximately 10 minutes. Thank you for your time.

1. I am capable of maintaining a good work/life balance and keeping things in perspective.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
2. I want to produce as good a job as possible.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
3. I am capable of bouncing back from adversity.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
4. I understand how the different groups that make up my institution operate and influence different situations.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
5. I am capable of tracing out and assessing the likely consequences of alternative courses of action.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
6. I am capable of tolerating ambiguity and uncertainty.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
7. I am capable of seeing the best way to respond to a perplexing situation.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
8. I am capable of deferring judgment and not jumping in too quickly to resolve a problem.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
9. I am capable of giving and receiving constructive feedback to/from work colleagues and others.						

Strongly Disagree	1	2	3	4	5	Strongly Agree
10. I am capable of having a clear, justified and achievable direction in my area of responsibility.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
11. I am capable of listening to different points of view before coming to a decision.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
12. I am confident to take calculated risks.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
13. I am capable of adjusting a plan of action in response to problems that are identified during its implementation.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
14. I am capable of recognising how seemingly unconnected activities are linked.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
15. I am capable of diagnosing the underlying causes of a problem and taking appropriate action to address it.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
16. I am capable of making sense of and learning from experience.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
17. I am capable of thinking creatively and laterally.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
18. I am capable of empathising and working productively with people from a wide range of backgrounds.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
19. I am able to develop and use networks of colleagues to solve key workplace problems.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
20. I am capable of seeing and then acting on an opportunity for a new direction.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
21. I am capable of recognising patterns in a complex situation.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
22. I am willing to persevere when things are not working out as anticipated.						
Strongly Disagree	1	2	3	4	5	Strongly Agree

23. I am able to identify the core issue from a mass of detail in any situation.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
24. I am capable of remaining calm under pressure or when things take an unexpected turn.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
25. I have energy, passion and enthusiasm for my profession and role.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
26. I am capable of motivating others to achieve positive outcomes.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
27. I am able to develop and contribute positively to team-based programmes.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
28. I am able to work with senior staff within and beyond my organisation without being intimidated.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
29. I am capable of pitching in and undertaking menial tasks when needed.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
30. I am willing to take responsibility for projects and how they turn out.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
31. I am willing to face and learn from my errors.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
32. I know that there is never a fixed set of steps for solving workplace problems.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
33. I am capable of using previous experience to figure out what's going on when a current situation takes an unexpected turn.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
34. I am capable of influencing people's behaviour and decisions in effective ways.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
35. I am capable of understanding my personal strengths and limitations.						

Strongly Disagree	1	2	3	4	5	Strongly Agree
36. I am willing to take a hard decision.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
37. I am capable of working constructively with people who are 'resistors' or are over- enthusiastic.						
Strongly Disagree	1	2	3	4	5	Strongly Agree
38. I am capable of setting and justifying priorities for my daily work.						
Strongly Disagree	1	2	3	4	5	Strongly Agree

Appendix 3: Interview Questions

Student Interview Questions:

1. I know that your department have been helping students to develop a list of capability items that are important for future employment. I have such a list here. Please go through this list, then tell me which of them are particularly important and why.
    - *Deferring judgment and not jumping in too quickly to resolve a problem*
    - *Understanding my personal strengths and limitations*
    - *Being willing to face and learn from my errors*
    - *Bouncing back from adversity*
    - *Maintaining a good work/life balance and keeping things in perspective*
    - *Remaining calm under pressure or when things take an unexpected turn*
    - *Tolerating ambiguity and uncertainty*
    - *Having energy, passion and enthusiasm for my profession and role*
    - *Wanting to produce as good a job as possible*
    - *Being willing to take responsibility for projects and how they turn out*
    - *Willingness to persevere when things are not working out as anticipated*
    - *Pitching in and undertaking menial tasks when needed*
2. I would like to know how your department help you to develop these capability items. For example, what have your tutors done to help you understand the meaning of these capability items? Could you give me some examples?
3. How much have you learned about these capability items as a result of what your department have done? Can you give me some examples?
4. What else do you think your development can do to help you develop these capability items in the future?

Staff Interview Questions:

1. Thank you for participating in the action research on developing a list of capability items to enhance students' future employment. I have such a list here. Please go through this list, then tell me which ones of them are particularly important and why.
    - *Deferring judgment and not jumping in too quickly to resolve a problem*
    - *Understanding my personal strengths and limitations*
    - *Being willing to face and learn from my errors*
    - *Bouncing back from adversity*
    - *Maintaining a good work/life balance and keeping things in perspective*
    - *Remaining calm under pressure or when things take an unexpected turn*
    - *Tolerating ambiguity and uncertainty*
    - *Having energy, passion and enthusiasm for my profession and role*
    - *Wanting to produce as good a job as possible*
    - *Being willing to take responsibility for projects and how they turn out*
    - *Willingness to persevere when things are not working out as anticipated*
    - *Pitching in and undertaking menial tasks when needed*
2. I would like to know more about how your department help students to develop the capability items. For example, what have the tutors done to help students understand the meaning of these capability items? Could you give me some examples?
3. How much do you think your students have learned about these capability items as a result of what your department have done? Can you give me some examples?
4. What else do you think your development can do to help students develop these capability items in the future?

Appendix 4:

New Zealand Certificate in Construction Trade Skills (Level 3)

The Reworded Version of Focused Capability Items

Deferring judgment and not jumping in too quickly to resolve a problem Hold up! think about it before you start
Understanding my personal strengths and limitations Know your strengths, work on your weakness, and know your limitations
Being willing to face and learn from my errors Own your mistakes, and learn from them. They make you a better person
Bouncing back from adversity What doesn't kill you makes you stronger, don't give up being the best you can be
Maintaining a good work/life balance and keeping things in perspective Family comes first, then comes work, then comes play. Keep everything in balance
Remaining calm under pressure or when things take an unexpected turn Keep calm when the pressures on, you need a cool head in a hot situation
Tolerating ambiguity and uncertainty If you're not a 100% sure, ask someone to explain
Having energy, passion and enthusiasm for my profession and role Have pride, passion and enthusiasm for your trade and enjoy the journey to becoming qualified
Wanting to produce as good a job as possible If a jobs worth doing do it right and do it to the best of your ability
Being willing to take responsibility for projects and how they turn out Take ownership of the jobs you do and be proud to say I did that
Willingness to persevere when things are not working out as anticipated Don't give up if you don't get it right the first time, that's how we learn what works and what doesn't.....It's called Experience
Pitching in and undertaking menial tasks when needed Everybody has to do the crap jobs but it's easier if you do it as a team