Exploring students' experiences of dietetic placements and their impact on self-perceived confidence. A design-based research

Renee Alumasa

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ABSTRACT

Dietitians are well placed to provide healthcare to combat the rise of nutrition related-illness. It is necessary to have effective dietetic training to ensure the quality of healthcare dietitians are able to provide. Competency-based education employed in New Zealand dietetic curricula involves an outcome-focused approach to developing graduate-level competence. Clinical placements endeavour to provide students with adequate opportunities to develop dietetic competencies. They facilitate the application of theoretical knowledge, and the development of clinical, social and professional skills.

Aim: The overall aim of this research is to investigate the impact the dietetic placement programme has on students' confidence in practising competencies. This research aims to evaluate how self-rated confidence evolves throughout the dietetic programme and identify possible barriers to developing confidence. It also aims to identify how the curriculum can be improved to positively impact self-rated confidence.

Methods: Participants are dietetics students at the University of Auckland. The study consists of two main phases as a mixed methods approach, involving the cyclical distribution of questionnaire surveys and focus group discussions. The survey assesses self-rated confidence via a 5-point Likert scale at several time points across the 2-year degree. It consists of 44 questions separated into 5 domains of practice; clinical competence, communication, responsiveness to Māori, cultural competence/safety and professionalism. Students who have completed all placements participated in focus group discussions about their experience of the placement programme and its influence on their perceived confidence and competence.

Results: Overall, self-rated confidence improved over time across all five domains, most notably in the latter stage of the curriculum. Measuring and managing expectations,

experiential learning, navigating hospital administrative and social environments, and cultural self-reflection were the main themes to arise. Barriers of perceived confidence and competence include comparison to peers, engaging with supervisors, lack of experiential learning and lack of opportunity for reflective self-evaluation.

Conclusion: The research conducted in this thesis has the potential for future application within dietetic curricula across universities to evaluate changes in confidence and competence across multiple cohorts and inform improvements to the dietetic workforce.

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AUTHOR CONTRIBUTION STATEMENT

Research Supervisor Rajshri Roy conceived the presented idea, provided Renee with critical feedback, and helped shape the research and analysis of this thesis. Student researcher Renee Alumasa performed the literature review, developed the conceptual framework, and purpose-designed the survey for the research. Renee completed all data collection, data analyses, and authored this thesis.

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CHAPTER ONE - INTRODUCTION

This chapter provides the contextual background of which this research has been carried out. The following is a discussion on the profession of dietetics and the governance and execution of dietetic training in New Zealand. There will also be an exploration of the existing literature related to dietetic students' experiences and perceptions of their training and competency development. The discussion in this chapter will also highlight key research gaps that inform the rationale and aim of the present thesis.

Defining Dietetics

Dietetics is a constantly evolving practice that has been defined and redefined multiple times. There is no formal, internationally recognised definition of dietetics (Shronts, 1996). The first dietetic institution was The Academy of Nutrition and Dietetics in the United States in 1919. At the time, they defined the scope of a dietitian as "writing diets, purchasing supplies and training staff" in nutrition-related matters (Stein, 2017). Though aspects of these responsibilities remain relevant today, the scope of dietetics has expanded to encompass a greater degree of medical nutrition therapy, research and public health; with a greater focus on translating evidence-based nutrition knowledge into practical messages for the public (Schlienger & Monnier, 2013). The Dietitians Board in Aotearoa New Zealand defines a dietitian's scope of practice as:

> *"registered health practitioners who evaluate scientific evidence about food and nutrition and translate it into practical strategies. Dietitians work in partnership with individuals, whānau, communities and populations, in states of health and disease, to support optimal health and well-being…. promoting and protecting public health,*

directing and delivering medical nutrition therapy services, and managing food and health systems." (Dietitians Board, 2021a).

It has been internationally recognised that nutrition is a key determinant of health and well-being (Khandelwal et al., 2018; Micha et al., 2017). It is also internationally recognised that non-communicable diseases have surpassed communicable diseases as the leading causes of mortality and morbidity. According to the World Health Organisation; non-communicable diseases like ischemic heart disease (IHD), stroke, chronic obstructive pulmonary disease (COPD) and diabetes mellitus were the cause of 74% of deaths in 2019 (World Health Organisation, 2020). Many of these non-communicable diseases are nutrition-related and can be prevented, managed and treated in part by optimising nutritional status (Micha et al., 2017; Mueller & Appel, 2017). In New Zealand, the leading causes of mortality and morbidity are IHD, COPD, type 2 diabetes mellitus, stroke and cancer (Ministry of Health NZ, 2018). It is becoming increasingly apparent that the dietetics profession will play a crucial role in combatting the aforementioned global and national health crises. It is anticipated that dietitians will play a larger role in primary healthcare in the future (Boak et al., 2022; Dietitians NZ, 2021). Thus, it is necessary to have effective dietetic training to ensure the quality of healthcare dietitians are able to provide.

Governance, Accreditation and Curriculum Design

Dietitians in the United Kingdom, Asia, Central and South America, Australia and New Zealand have established governing boards to oversee the standards for dietetics training programmes (Hwalla & Koleilat, 2004). The responsibilities of a governing board are to enforce eligibility requirements and accreditation standards to ensure the quality of nutrition and dietetics education programmes (Hwalla & Koleilat, 2004). These boards monitor the standard of dietetic training and the continued competence of registered dietitians.

The governing organisation for dietitians in New Zealand is the Dietitians Board. It is the Dietitians Board's legal obligation to ensure dietitian training programmes adhere to the standards outlined in the Health Practitioners Competence Assurance Act 2003 (*Health Practitioners Competence Assurance Act 2003*, 2003). Dietitians are the only healthcare professionals that hold legal tertiary-level qualifications to deliver nutrition-related care under this act. There are only two programmes in New Zealand that have been accredited by the Dietitians Board to provide dietetic training according to these standards. The first is Massey University which provides a Master of Science in Nutrition and Dietetics (Massey University, n.d.). The second is the University of Auckland which provides a Master of Health Science in Nutrition and Dietetics (The University of Auckland, n.d.). Both are two-year degrees that rely on a combination of in-class lectures and workshops as well as practical placements in hospital, clinic and public health settings (Dietitians Board, 2018, 2021b). In both these curricula, the theoretical components are taught in the earlier half of the degree and practical placements occur in later stages.

According to the 'Guidelines for Accreditation of New Zealand Dietetics Education Programmes', these curricula must provide no less than 800 hours of practical placement in a range of settings related to dietetic practice including medical nutrition therapy, public health and food service (Dietitians Board, 2018). Though aspects of each type of practical placement can be interchangeable; placements involving medical nutrition therapy typically occur in acute hospital or community settings. Foodservice placements are typically set in a hospital or large-scale community healthcare kitchens. Public health placements are largely community-based with a greater focus on population health. The practical placement hours required for medical nutrition therapy are double (360 hours) that of food service and public health (160 hours)(Dietitians Board, 2018). Apart from actual workplace training; practical placements also encompass observational or simulation training. This research will focus

specifically on practical placements pertaining to medical nutrition therapy as it makes up the majority of practical placement requirements.

Competency-Centred Education

Competency standards are established by the Dietitian Board guidelines as an effective framework to define performance standards (Dietitians Board, 2018). Practical placements endeavour to provide students with adequate opportunities to develop competence. Not unlike other international dietetic programmes, the Nutrition and Dietetics programme at the University of Auckland incorporates both theoretical learning and practical components to work toward building dietetic competencies.

Epstein and Hundert (2002) define clinical competence as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice"(p. 226). That is; competence is the ability to apply an amalgamation of concepts and skills to a specific context. The acquisition of competence is not static; but rather a continual process (Maher et al., 2015). Competency-based education employed in New Zealand dietetic curricula involves an outcome-focused approach to teaching; with activities that develop graduate-level competence. Exposure to clinical scenarios through placement experience allows for the application of theoretical knowledge, and the development of social and professional competence (Chipchase et al., 2012). The University of Auckland Masters of Nutrition and Dietetics programme has competency standards derived from 'Professional Standards and Competencies' established by the Dietitians Board (2017, pp. 7–18). These competencies are organised into five domains of practice including food and nutrition health expertise, communication and collaboration, management and leadership, professionalism and scholarship. Although the curriculum standards are clearly defined, the onus is placed largely on students to achieve competence by

integrating their theoretical and experiential learning with their intrinsic motivation to develop competence.

Self-Perceived Confidence and Competence

Clinical confidence is described as one's ability to action a learned knowledge or skill (Zieber & Sedgewick, 2018). A student's perceived confidence is a strong determinant of their competence in clinical situations (Cohen et al., 2013). There have been several studies exploring the relationship between self-rated confidence in students and their experiences on clinical placement. Porter et al. (2013) describe a positive correlation between nursing students' performance on placement and their confidence in achieving measured tasks. A 2021 study explored dietetics students' perceptions of their motivation, engagement and academic performance between their first and second year of supervised practice. Students' self-perceived confidence was measured and found to increase over time alongside competence (Heitman & Taylor, 2021).

A Review of the Literature

There is a growing body of research on the experiences of dietetic students in educational placement programmes (Andrade, 2019; Barr et al., 2002; Burton, 2000; Gibson et al., 2015; Maher et al., 2015; Markwell et al., 2021; Morgan et al., 2019; Short & Chittooran, 2004). A Canadian study by Atkins and Gingras (2009) on dietetics students' perception of their education, found both enablers and barriers to students learning. Students were most positively impacted by their inherent passion for health and nutrition and their desire to learn. Students also benefitted from peer engagement and support. Aspects that most negatively impacted students' educational experience were aspects of peer competition,

wrestling with identity and personal relationships to food and nutrition (Atkins & Gingras, 2009).

Gibson et al. (2015) explored hospital-based clinical educators' perceptions of student dietitians' placement performance. This study found that students' performance improved overall and they exhibited professional competence during the early stages of their placement. Clinical educators identified students' barriers to development were anxiety, knowledge gaps in theory and a disconnect in placement expectations versus experiences.

Another Canada-based study by Lordly and MacLellan (2012) explored 13 dietetic students' experiences at multiple stages of their education. The overall themes identified in this study related to dietitian students' inherent passion for nutrition driving their motivation. Students described how placement outcomes were heavily influenced by workplace culture. Students also reported having difficulty reconciling the inconsistencies between their expectations of their education and placements and their actual lived experiences (Lordly & MacLellan, 2012).

MacLellan and Lordly (2013) conducted a similar study exploring dietetic students' perceptions of the role and scope of dietetics based on their educational experience. This study found students' understanding of dietetic practice evolved whilst engaging with working dietitians in various clinical settings. MacLellan and Lordly (2013) highlight the necessity to expose dietetic students to environments with practising dietitians early and often to develop students' learning.

McCall et al. (2009) published the findings of focus group discussions that explored the impact of 12 dietetic students' placement experiences on their attitudes towards the dietetics profession. Students found that exposure to clinical settings allowed them to gain insight into the diverse opportunities available in a dietitian's scope of practice. This study found placement experience plays a large role in dietetic students' career choices.

Supervisors during placements were key influencers in students' experiences and career preferences (McCall et al., 2009).

An evaluation of interprofessional workshops at Otago University found medical, physiotherapy and dietetic students benefit from multidisciplinary learning in a university setting (Pullon et al., 2013).

Palermo et al. (2018) explored the perceptions of 81 dietetics students nearing graduation on their understanding of competence and their experience of competency-based learning. This study found that students' understanding of what constitutes competence was highly subjective. Their perception of competence was greatly influenced by observation of supervisors in practice. The authors highlighted the importance of supervisors recognising their influence on how students perceive competence (Palermo et al., 2018). It is well known that healthcare students' placement experiences are significantly influenced by their relationship with supervisors (Wilkes, 2006). Studies on dietetic students' experiences find that students may experience feeling unvalued by or being a burden to supervisors while on placement (Chipchase et al., 2012). Maher et al. (2015) investigated 26 Australian dietetic students' perceptions of their competency development. Students identified relationships with supervisors and workplace environments as the most significant influences on their confidence and competency development (Maher et al., 2015). Burton (2000) explains that the role of a supervisor encompasses all the traits of a mentor, teacher, therapist, reviewer, facilitator and more. He explains effective supervision is a dynamic and flexible application of the aforementioned.

A recent, New Zealand study by Dart et al. (2022) investigated the sociocultural factors affecting dietetic education. This research provided insight into the cultural norms within dietetic education environments. The influencing social factors identified included

competition between dietetic students, the presence of exclusionary micro-cultures, issues navigating boundaries and challenges of identity development (Dart et al., 2022).

In a study by Markwell et al. (2021), students' concerns centred around communications with patients. Namely; rapport-building and executing patient-centred care. A study of dietetic students across seven universities in America found that students' lack of confidence in interactions with patients of different cultures, was linked to their lack of foundational knowledge of cultural practices. They also lacked the confidence to counsel patients of different cultures (McArthur et al., 2011). A similar American study evaluating dietetics students' confidence in engaging with culturally diverse patients, found that exposure to class activities including presentations, workshops and reflective discussions with culturally diverse themes improved students' knowledge base, attitudes and beliefs towards engaging with patients of different cultures (Andrade, 2019). A study modelling Andrade (2019) was conducted in Aotearoa New Zealand and yielded similar conclusions (Koh et al., 2021). This research is significant in highlighting the need for adequate teachings in cultural competence within dietetic education. As outlined by the Dietitians Board accreditation standards; dietetic curricula in Aotearoa New Zealand must integrate Treaty of Waitangi principles and cultural competence within the programme as required learning outcomes (Dietitians Board, 2018).

University of Auckland Nutrition and Dietetics Curriculum

The research undertaken in this thesis focuses on the University of Auckland nutrition and dietetics master's degree. As previously mentioned, the curriculum incorporates both theoretical learning and practical components to work toward building dietetic competencies. The first year of the degree is largely focused on teaching theoretical concepts of dietetics. Teachings this year lay the foundational knowledge of disease pathophysiology, clinical

nutrition principles, population and Māori health. Lectures and workshops are the principal method of teaching at this stage and are assessed primarily through exams and assignments. Nearing the end of the first-year students are placed on their first 2-week “A block” clinical placement in a hospital. The purpose of this placement is to provide students with the opportunity to observe a dietitian in practice. The second year of the dietetics programme is significantly more practical. The second year begins with students engaging in a 4-week “B Block” clinical placement. Subsequent to the conclusion of this placement, students participate in weekly student-led clinics on the university campus in which they see patients in a clinic setting in groups of 4-6 supervised by a member of the teaching staff. Clinics take place for approximately 6 months. There are intermittent lectures and workshops held across these 6 months. Of note, students engage in 2-3 simulation-type workshops with Master of Speech and Language Therapy students. Students’ final medical nutrition therapy placement is a 6-week “C block” hospital and community-based placement. Students in this degree are provided with 4 distinct clinical placements where they are encouraged and expected to apply theoretical concepts introduced in the curriculum into clinical practice. Progress during these placements is assessed through reflective assessments and portfolios.

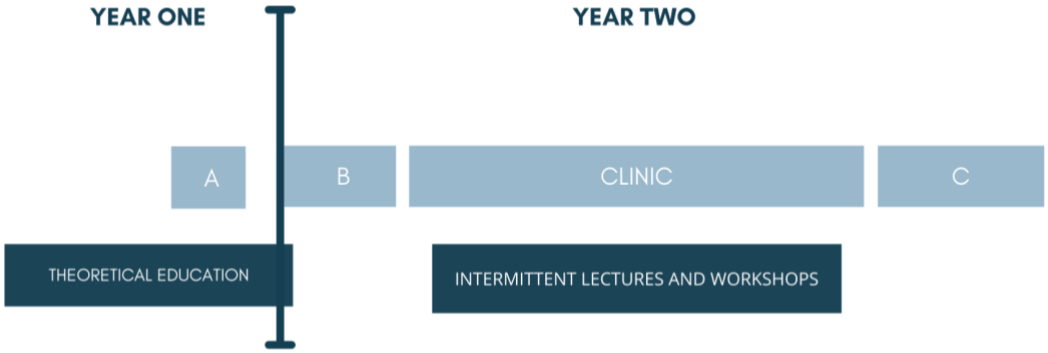

Figure 1.1 A conceptualised diagram of the University of Auckland Master of Nutrition and Dietetics curriculum.

Theories of Learning

The theoretical frameworks in which this research is explored include the Kirkpatrick framework, Kolb's theory of experiential learning and the theory of self-determination. These theories will serve as the frameworks in which the results of this thesis are evaluated.

Kirkpatrick Framework

The Kirkpatrick Model, developed by American scholar Dr Donald Kirkpatrick in the 1950s, is a framework used to evaluate the results of training programmes (Kirkpatrick, 1998; Kirkpatrick & Craig, 1970). Within this framework, the efficacy of training programmes is evaluated using four levels of evaluation that increase in complexity (see Figure 1.2). The first is 'reaction', which involves an assessment of how participants feel following a training. This is usually collected in the form of a simple smile sheet to gauge whether participants had a negative, neutral or positive experience with the training. The second level is 'learning', which involves evaluating the amount of skill and knowledge acquired during the training and is typically assessed via exams or interviews and the results are compared to baseline measures. The third level of evaluation involves assessing behaviour change following the training. This level of the model seeks to assess how the learnings from training have been applied in practice. Evaluations at this level are mainly observational audits of participants' performance in key tasks or scenarios and can include self-assessment from the participants. The final level of evaluation is 'results', where key performance indicators and targeted outcomes are assessed to determine the overall impact of the training. The findings from the application of the Kirkpatrick framework can identify both the strengths and weaknesses of any given training programme and inform changes to improve outcomes at each level (Kurt, 2016).

The Kirkpatrick Framework has been applied to evaluate dietetic training programmes. Porter et al. (2019) utilise this framework to evaluate the efficacy of patient-

centred educational activities in dietetic curricula. This involved a systematic review of 13 studies, evaluating the effect of patient-centred activities using the Kirkpatrick model. It was determined that patient-centred educational training contributes to competency development (Porter et al., 2019).

Figure 1.2 Kirkpatrick model adapted from (Kirkpatrick, 1998).

Kolb's Theory of Experiential Learning

Kolb's description of learning is "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38). Kolb's Experiential Learning theory posits effective learning and competence are achieved through the process of experience. First through the perception of the experience, then the reflection of the experience. Kolb proposes effective learning occurs following the completion of four steps. The first is a concrete experience whereby a new experience or a reinterpretation of an existing experience occurs. The second step involves the reflective observation of the new experience where one internalises and processes the experience. The third step is abstract conceptualization of an experience that results in new ideas or a modification of existing ideas; indicating one has learned from their experience. The final step of Kolb's cycle involves active experimentation in which an individual applies their newfound idea to a practical scenario. According to Kolb, effective learning occurs upon completion of the four steps which are

cyclical and non-linear. The application of conceptual learning consolidates experiential learning.

Kolb's theory has been applied to placements across clinical disciplines. Ross et al. (2017) explain that according to Kolb's theory; practical placements play an important role in developing competence for dietetic students as they offer a key opportunity to integrate theoretical knowledge in the application of clinical skills. An investigation into dietitian learning styles according to Kolb's theory found dietetic students perceive concrete experience to be most effective for learning, primarily at the early stages of their training (Palermo et al., 2009). A UK study investigating the process of competency development in dietetic students found students began attaining a high level of competence halfway through their training. The recommendation arising from this study is for early placement exposure in dietetic training to aid experiential learning (Pender & de Looy, 2004).

Self-Determination Theory, Intrinsic Motivation and Learning

Self Determination Theory (SDT) is a framework that accounts for the factors that affect an individual's engagement and motivation (Deci & Ryan, 2000; Markwell et al., 2021). This theory purports that the nature of one's motivation is determined by three psychosocial needs; competence, relatedness and autonomy (Deci & Ryan, 2000). SDT conceptualises the nature of intrinsic motivation and is, therefore, a relevant framework to consider in the context of learning and education (Niemiec & Ryan, 2009). In this context, competence relates to one's ability to effectively perform tasks or skills. Autonomy relates to one's innate desire to perform tasks and skills of their own volition. Lastly, the concept of relatedness purports one is more likely to positively engage in a task or activity when one experiences a sense of belonging and connection with others in that environment. According to this theory, the fulfilment of these three psychosocial needs influences an individual's intrinsic motivation in each context that they are affected. That is; one's motivation may

wane in situations where aspects of their competence, relatedness and autonomy are affected (Deci & Ryan, 2000).

A Griffith University study assessing seven successive cohorts of final-year dietetic students' placement experiences extrapolated key themes of student experiences (Markwell et al., 2021). Key themes from this study were mapped against self-determination theory to identify significant factors influencing dietetics students' placement experiences. This study explored the most significant aspects of the curriculum that affected students' confidence in placement and preparedness to practice. Students found that they benefited from positive learning environments and experiences (competence), teamwork and interactions (relatedness), managing emotions and self-care (autonomy), and practising dietetic communication and behaviours (competence). Though there are several studies exploring confidence levels related to placement experiences, this study is somewhat unique in its exploration of the psychosocial determinants of said confidence.

Self-determination theory highlights the importance of peer connection. Atkins and Gingras (2009) noted competition between students was a significant factor influencing placement and educational experiences in dietetic students. In the context of relatedness, the theory of relative deprivation applies. This concept is described as the phenomenon in which one judges themselves as worse off than others in their surrounding environment and is associated with poorer outcomes (Smith et al., 2012).

Conceptual Framework

The placement programme at the University of Auckland provides opportunity for dietetic students to develop competence through aspects of experiential learning. Each placement provides students with the setting necessary to experience, reflect, conceptualise and internalise dietetic principles. According to Self-Determination theory, one's intrinsic

motivation to learn and achieve competence is linked to their sense of autonomy and relatedness. The following figure conceptualises these sentiments.

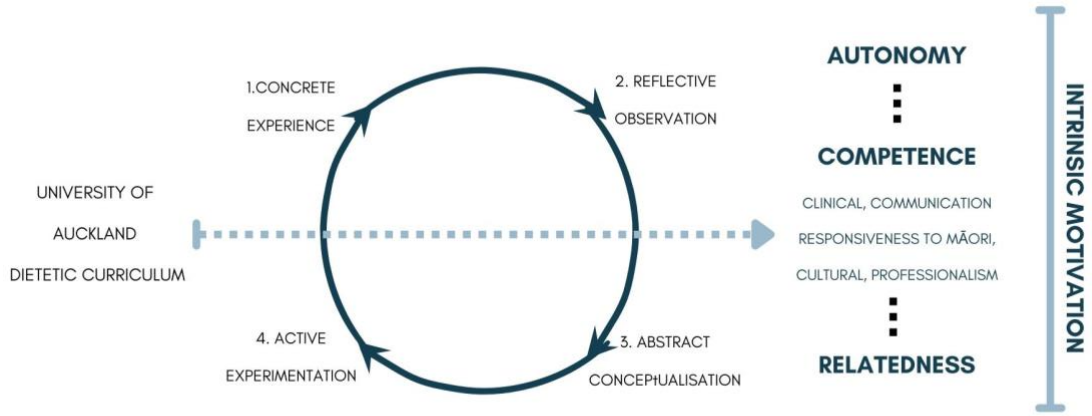

Figure 1.3 A conceptual diagram based on Kolb's learning cycle and self-determination theory as it relates to the University of Auckland Dietetics Curriculum. Adapted from (Kolb, 2015; Markwell et al., 2021).

Thesis Aim

As highlighted above there is a breadth of international literature regarding students' experiences in clinical placement programmes. Comparatively, there is a paucity of research pertaining specifically to dietetic students' experiences in Aotearoa New Zealand as it relates to competence and confidence. The current study seeks to address this gap in the literature to highlight students' experiences and inform curricula development.

Ross et al. (2017) advocate for students, as stakeholders of dietetic curricula, to provide feedback for the betterment of training programmes. In Aotearoa New Zealand, The Dietitians Board accreditation guidelines outline the necessity for student review and input for quality improvement of the curriculum (Dietitians Board, 2018). The Massey University and the University of Auckland Nutrition and Dietetics programmes were established in 2012

and 2013 respectively. Compared to decades-old international dietetic programmes; they are relatively new. Thus it is necessary for these curricula to continually evolve and adapt. The present study provides an opportunity for such review as it aims to evaluate the perceptions of Aotearoa New Zealand-based dietetic students as they experience the placement programme and its impact on their perceived confidence. Cyclical distribution of a survey assessing self-rated confidence as well as phenomenological methodology is employed to explore students' experiences (Annansingh & Howell, 2016; VanManen, 1990). The research questions posed in this thesis are:

- How does self-rated confidence evolve throughout the dietetic programme?
- What are the possible barriers to developing confidence in practising dietetic competencies within the curriculum?
- How can the curriculum be improved to positively impact self-rated confidence?

CHAPTER TWO – METHODOLOGY

This chapter outlines the materials and methodology of this research project. It will begin with a brief overview of the aim of this study and research objectives, followed by a brief description of the researcher's ontological position for this research. This will be followed by a description of the research design, and participation, as well as an overview of the data collection and analysis methods employed for each phase of research.

Purpose and Research Objectives

The overall aim of this research is to investigate the impact the dietetic placement programme had on students' confidence in practising dietetic competencies. As previously mentioned, there have been few studies on self-rated confidence in dietetic programmes, specifically in Aotearoa New Zealand. This exploratory research aims to fill that gap. The purpose of this investigation is to identify possible strengths and weaknesses in how the placement programme is delivered and to inform changes within the curriculum to improve confidence in future cohorts.

Design

The present study is part of a design-based research approach that involves students in a cyclic enquiry to evaluate and improve curricula. This research is designed to evaluate students' perceptions of their confidence and competency development based on the theories of experiential learning and self-determination. Thus, it is necessary to evaluate changes in confidence as a quantitative measure and perceptions of experiences qualitatively. The study consists of two main phases as a mixed methods approach, questionnaire surveys and focus group discussions. Mixed methods research is widely considered the third research paradigm

following qualitative and quantitative research. This research evaluates the experiences of dietetics students in relation to the placement programme. The qualitative aspect of this research provides the necessary data to analyse and interpret themes related to said experiences. Conversely, the quantitative data collected allows for a more subjective interpretation of changes in confidence over time. Focus groups are used as a method of qualitative data collection as they allow for an informal, in-depth discussion of students' experiences and perceptions. Focus groups facilitate an environment in which a wide range of perspectives on a particular topic can be explored in terms of individual opinions and in relation to others (Chauhan & Sehgal, 2022; Liamputtong, 2011).

The utilisation of mixed methods research has been used increasingly in dietetics for similar investigations. It is a methodology that can provide useful information to support the development, implementation, and evaluation of interventions (Zoellner & Harris, 2017).

Ontological Position

In any research, specifically mixed methods research, it is important for the reader to understand the researcher's ontological position as it informs the motivations, design and interpretation of a research topic. Ontology relates to the philosophical study of reality. In a research context, it relates to the assumptions the researcher makes about the nature of reality (de Kock, 2015). This research is an exploration of the experiences and perspectives of students' placement programme within the curriculum. The ontological approach of this research is that of constructivism. The researcher's position is relativist and posits there is no one 'fixed' reality but several relative realities specific to the context in which they are created. Reality is subjective; constructed in the context of an individual's experiences and may differ between people (Ali Taghipour, 2014; Annansingh & Howell, 2016). Researchers adopting this ontological position typically develop their theory through the process of research rather

than beginning with one specific theory or hypothesis (de Kock, 2015). This research is explorative in nature, thus, is consistent with the abovementioned ontology.

Researcher Disclosure

The researcher conducting this research is familiar with the participants and has engaged with the curriculum being studied. With the approach of relativist constructivism, the researcher recognises their own perspectives and relationships with the participants may come with certain subjectivities that may potentially influence the design and interpretation of the qualitative aspects of this study (de Kock, 2015). Thus, the researcher must evaluate their position on the research so as not to cloud the research with their own experiences. The following is an explanation of the researcher's position.

The researcher is a dietetic student at the University of Auckland who is a member of the same cohort as the second-year dietetics students involved in this research. The researcher has engaged in the same curriculum described in this research and participated in all the placements and placement preparation workshops described. The researcher's experience in this curriculum has allowed her to have a clear understanding of the experiences of the participants involved in this research. In an effort to maintain objectivity, the researcher was mindful to minimise any contribution of personal experience to focus group discussions and the interpretation thereof. The provision of this position lends to the credibility of the research.

Participation

The participants of this study were dietetics students at the University of Auckland; the larger of two universities in New Zealand that offer a master's dietetics programme that grants dietitian accreditation. The Master of Health Science in Nutrition and Dietetics is a two-year master’s degree that is typically preceded by a three-year nutrition-related degree. The first

year of the degree consists of lectures and workshops that contribute towards a largely theory-based curriculum. Nearing the end of the first-year students are placed on their first 2-week "A block" clinical placement. The second year of the dietetics programme is significantly more practical, consisting of a 4-week "B Block" clinical placement, weekly student-led clinics on the university campus and a final 6-week "C block" placement. Throughout the placement process, students are assessed on their ability to practice the dietetic competencies. This is the context in which these students were asked to participate in this research.

Phase One: Survey

Survey Design and Development

The initial phase of research involved the distribution of an online survey. A survey was chosen due to its repeatable nature and thus its ability to provide data at several time points throughout the year.

The structure of the survey was modelled after a validated questionnaire developed by Ball and Leveritt (2015) that measures health professionals' self-perceived competence in providing nutrition care to patients with chronic diseases. Ball and Leveritt (2015) established significant validity of the questionnaire by utilising competency standards and best practice guidelines to develop their questions. They also consulted health practitioners in a reference group to further refine the clarity and readability of the questionnaire structure. A test-retest pilot study ensured internal consistency. The resulting questionnaire can be effectively applied as a tool for collecting baseline and subsequent measures of confidence; offering insight into specific opportunities for intervention to improve confidence.

Based on the validated approach by Ball and Leverett (2015), the survey developed for the present research employed a similar process. The questions in the survey were based on the core competencies outlined in the 'Professional Standards and Competencies for Dietitians

report (Dietitians Board, 2017). A total of 80 core competencies organised into four domains of practice (clinical competence, communication, cultural competence and professionalism) are identified in this document. To ensure a succinct survey that would minimise the amount of time and effort needed to complete, these core competencies were further refined; removing and combining redundant concepts. The research supervisor and a former dietetic student were consulted for further refinement. The previous dietetic student, who was able to provide a Māori perspective, advised separation of questions specifically related to responsiveness to Māori considering a significant amount of the questions regarding cultural competence were related to Māori specifically. The creation of a separate domain for responsiveness to Māori highlights the notion that the dietitian's responsibility to improve Māori health and uphold the Treaty of Waitangi is of equal and separate importance to cultural competence. The domain of cultural competence was also edited to include the term cultural safety, considering the shift health professionals are making towards cultural safety over competence (Curtis et al., 2019). The resulting survey consisted of 44 questions separated into 5 domains of practice; clinical competence, communication, responsiveness to Māori, cultural competence/safety and professionalism.

The combination of the five domains makes up the entirety of dietetic knowledge and skills necessary to practice safely and effectively. It is necessary to have a distinction for each of the domains as they function as conceptual constructs by which students and dietitians may compartmentalise their practice. Below is a table that defines each domain and the core competencies they encompass (Table 2.1).

Table 2.1 The five domains and their definitions.

DOMAIN	DEFINITION
Clinical Competence	The application of clinical knowledge including nutrition, disease, healthcare and social systems to inform dietetic reasoning and practice.
Communication	The application of interpersonal skills to effectively engage and maintain relationships with individuals, groups, and communities across various cultural, socioeconomic and professional sectors.
Responsiveness to Māori	The commitment to practice dietetics in a manner that affirms Māori as Tangata Whenua, upholds the Treaty of Waitangi and endeavours to achieve health equity for Māori.
Cultural Competence/ Safety	The ability to practice in a manner that produces culturally safe environments. This includes a dietitian's ability to evaluate their own inherent cultural biases and understanding to adjust their practice to cater to an individual, group or communities background and perspective based on culture and environment.
Professionalism	Upholding and maintaining professional behavioural, legal and ethical responsibilities to ensure safe practice. This domain also encompasses the dietitian's commitment to lifelong learning to maintain competence.

This survey was distributed online as it made it possible for students to complete the survey on their devices at their own convenience. Qualtrics Survey Software was used to collect survey responses and was utilised for data aggregation. Each question began with "I can…" or "I understand…" based on the 44 core competencies identified. Participants were

asked to respond to each question on a 5-point Likert scale from 1-5, with ‘1’ being “not confident at all”, ‘2’ being “not very confident”, ‘3’ being “somewhat confident”, ‘4’ being “very confident” and ‘5’ being “extremely confident”. At the end of each of the five domains, an open-ended question box was provided for students to further elaborate on how the curriculum could be improved to increase their confidence in each domain. Thus, both qualitative and quantitative data were collected via the survey (Appendix A).

Survey Data Collection

Both first- and second-year students were invited to complete the survey before and after completion of each of the four placement “blocks” spread throughout the dietetics course. Invitations to complete the survey were distributed via Email and the Canvas (university portal) announcement page. Time was also set aside at the end of placement preparation workshops with the link to the survey provided for students to complete. The first- and second-year cohorts consisted of 22 and 20 students, respectively. All students in both cohorts were eligible to participate. Completion of each survey was voluntary and active participation implied consent. A total of 7 surveys were circulated between January and November 2021; 5 to the second-year students and 2 to the first-year students.

Survey Data Analysis

Quantitative data from the survey was exported into an excel spreadsheet. This data was cleaned by removing parameters that were not relevant to the research like IP addresses, time stamps and respondent ids. No participant IDs were assigned to the responses to maintain anonymity so each response was grouped by date stamp to determine if the survey was completed before or after a placement. These date stamps were labelled “PrePrepB”, PostPrepB”, “PostB”, “PreClinic”, “PreC” and “PostC” for the second-year cohort. The first-year cohorts were labelled “PreA” and “PostA”. Data was collected this way as this research

was not taking place when the second-year students completed their placement A. All the data was not separated by cohorts for analysis as there was little to no change in the curriculum between each year and it can be assumed that their experience of the placement programme would be similar. The responses to each question were imported as nominal data i.e., a response of '5' on the survey Likert scale for a particular question would present as "extremely confident" rather than the number '5'. To facilitate further statistical analysis, each nominal question response was given a corresponding numerical number from 1-5 on the Likert scale.

The data prepared in excel was then exported to SPSS for further analysis. Descriptive tables were made to compare responses to each question by date-stamped groups. A descriptive table was made to display changes in mean self-rated student confidence at each time point before or after placements, within the domains of practice (Table 3.1). A second descriptive table provided the mean self-rated student confidence across the two years for each core competency represented in each survey question within the domains of practice (Table 3.2).

The comments provided at the end of each domain section of the survey provided useful qualitative data. Common sentiments from these comments were colour coded as themes were identified. The themes identified informed the prompt questions in the focus groups conducted in phase two of this research.

Phase Two: Focus Groups

Focus Group Development

The second phase of this research involved incorporating qualitative data to further investigate the experiences and insights of dietetic students. This was collected via focus groups facilitated by the second-year dietetics students who had completed all placements. The process began with the development of a focus group moderation guide. This was created in

collaboration with the supervising researcher who provided a template based on previous research. The moderation guide consisted of five open-ended questions to lead the group into discussions. They were all structured as "How can the curriculum be changed to improve confidence in…" for each of the five domains of clinical practice. A few open-ended prompting questions were included in the moderation guide based on common themes that arose in the comments from the survey (Appendix B).

Focus Group Data Collection

The second-year students were invited to participate in focus groups. This invitation was extended via the cohort's Facebook page and all 19 second-year students were given a poll to express their interest and availability to participate. The focus groups were facilitated online via video chat using Zoom software; which allowed for video and audio recording as well as auto-generated closed captions. The focus groups were led by the student researcher who took a passive role in each of the discussions; making sure not to introduce personal opinions. The researcher used the moderation guide as a template for the discussions. The prompting questions in the moderation guide were adapted from themes and motifs identified from responses to the open-ended questions in the survey. Each focus group began with an explanation of the research, information about confidentiality and encouragement to speak openly and freely about their experience of the course placement programme and curriculum among other members of their cohort. Consent to proceed and record the discussion was gained from each participant, followed by introductions and small talk to build rapport. The five open-ended questions related to each domain were asked to lead the group into discussions. Open-ended prompting questions were used to guide the conversation when conversation waned, though this happened rarely. The semi-structured nature of these focus groups allowed for free-flowing and open conversation. In total, two focus groups were conducted. These took place two weeks apart to allow the student researcher time to transcribe the first. The data

collected allowed for further exploration of key themes, building on the findings from the survey.

Focus Group Data Analysis

Two focus groups were conducted with 6 students in each; a total of 12 participants. Each focus group lasted approximately 90 minutes and was conducted over zoom. The recordings were transcribed verbatim with the aid of the Zoom auto-generated closed captions. When both focus groups were transcribed, common phrases and sentiments were coded for thematic analysis. The process of thematic analysis of the focus groups involved the researcher familiarising themselves with the transcript by reading and re-reading. Meaningful statements based on participants' responses were identified. During this process, the researcher labelled similar segments of the transcript to identify preliminary codes. The researcher clustered these codes to identify overarching themes. Discussions between the researcher and their supervisor clarified and refined the identified themes. The clear and defined themes are reported in the following chapter.

Ethical Considerations

Ethics Approval was granted by the University of Auckland Human Participants Ethics Committee on 24th March 2021 for three years (UAHPEC22268, Appendix C). There were several ethical considerations to account for during this research project as the supervisor and the researcher were conducting a study on students that they taught and studied with respectively. Participants were informed that they were under no obligation to participate in the study and could decline or withdraw at any point without penalty.

Detailed information about the purpose of the study and the use of survey data was provided at the beginning of the online survey to ensure participants understood the research rationale. Anonymity was ensured for participants who completed the online survey as no

obvious identifying data was collected. The only possible identifiable data collected via the survey was the IP address of the respondent which was excluded from the data in the early stages of analysis.

All second-year students invited to participate in the focus groups were provided with a participant information sheet (PIS) that described the aims of the research and an overview of the focus group structure and timeframe (Appendix D). A $30 shopping voucher was provided as compensation/koha for their time and participation. The participants were informed that although there was no guarantee of anonymity during the focus groups, fellow participants were encouraged to maintain confidentiality outside the focus group and that all discussions would be deidentified in subsequent data analysis. The researcher's email address was made available for any possible questions. Consent forms were emailed to each participant to review prior to the focus group and consent to proceed with and record the focus groups was gained (Appendix E).

Summary

This chapter has restated the context, aim and purpose of this research, and provided the methodology utilised in the recruitment of participants, as well as the collection and analysis of data. The results of these methods will be explored in the chapter to follow.

CHAPTER THREE - RESULTS

This chapter will include an exploration of the results of the survey and focus group discussions. The chapter begins by outlining the findings of the online survey. The second portion of this chapter will describe the themes that arose from the focus group discussions.

Phase One: Survey

There were 22 students in the first-year cohort and 19 students in the second-year cohort. The survey was sent out at several time points between January to December 2021. The purpose of this research is to evaluate changes in perceived confidence throughout the two-year Masters of Nutrition and Dietetics degree. Data collection from first-year students (before placement A) was used to establish a baseline. Subsequent survey data was collected from second-year students from placements B to C. As first and second-year students were subject to the same curriculum with no changes, it can be extrapolated that this reflects the entirety of the placement programme across the two-year degree.

Twenty students (95% response rate) completed the 'PreA' (baseline) survey which was circulated in July 2021 prior to the first-year cohort commencing their first placement. 1 of 22 first-year students completed the 'PostA' survey (4%) following their A placement. The data from this survey was incorporated into the 'PreA' survey data due to the low response rate and each survey being circulated within 2 weeks of each other. 19 students (100%) in the second-year cohort responded to the 'PreBPrep' survey which was circulated in January 2021 at a placement preparation session prior to commencing the 4-week placement. 19 second-year students responded to the 'PostBPrep' survey following the conclusion of the placement preparation session in January 2021. 19 second-year students (100%) completed the 'PostB' survey upon completion of their 'B' placement in February 2021. 14 second-year students

completed the ‘PreClinic’ survey at the commencement of their clinics in March 2021. There was a lockdown in September 2021; disrupting placement for first-year students’ A block placement and second-year students’ C block placement. This disrupted the distribution of the survey leading to a low response rate for the first-year students and no survey data collected from the second-year students between clinics and their C placement. 17 second-year students (74%) responded to the final circulation of the survey on November and December 2021 after completing their 6-week C block placement.

Table 3.1 shows the mean (SD) self-rated confidence in each domain at each time point across the curriculum. Confidence increases in each domain over time. At baseline, the domain with the lowest-rated confidence was in communication at 2.60 (0.85). Students saw the largest increase (+1.86) in confidence for communication. Self-rated confidence in professionalism was highest at 3.59 (0.81) and highest at the completion of the placement programme at 4.77 (0.45). The smallest change in perceived confidence is the ‘Responsiveness to Māori’ domain. At baseline perceived confidence in this domain is the second-highest rated at 3.56 (1.04) yet is the lowest by the conclusion of placement C 4.31 (0.66). The increase in self-rated confidence is +1.78 in clinical competence and +1.41 in cultural competence/ safety.

Table 3.1. Changes in mean (SD) self-rated student confidence at start and end placements within the domains of practice

SELF-RATED CONFIDENCE	**YEAR 1**	**YEAR 2**				
	Pre-A Mean (SD)	**Pre-B Prep Mean (SD)**	**Post B Prep Mean (SD)**	**Post B Placement Mean (SD)**	**Pre-Clinic Mean (SD)**	**Post C Placement Mean (SD)**
	N=21	N=19	N=19	N=19	N=14	N=19
CLINICAL COMPETENCE	2.67 (0.85)	2.73 (0.86)	3.04 (0.69)	3.46 (0.61)	3.46 (0.70)	4.45 (0.68)
COMMUNICATION	2.60 (0.85)	2.74 (0.82)	3.05 (0.75)	3.30 (0.64)	3.43 (0.78)	4.46 (0.66)
RESPONSIVENESS TO MĀORI	3.56 (1.04)	3.63 (0.78)	3.56 (0.71)	3.69 (0.54)	3.64 (0.62)	4.31 (0.75)
CULTURAL COMPETENCY/ CULTURAL SAFETY	3.08 (0.82)	3.10 (0.95)	3.33 (0.82)	3.54 (0.66)	3.46 (0.73)	4.49 (0.61)
PROFESSIONALISM	3.59 (0.81)	3.56 (0.74)	3.67 (0.70)	3.86 (0.55)	3.95 (0.62)	4.77 (0.45)

Figure 2.1 shows the mean change in self-rated confidence in students over the two-year curriculum. The largest increase in self-perceived confidence across each domain occurs between ‘PreClinic’ and ‘PostC’ placement. The increase in self-rated confidence between these time points ranges from +0.67 to +1.03 whereas previous increases between any other consecutive time point have been less than +0.5.

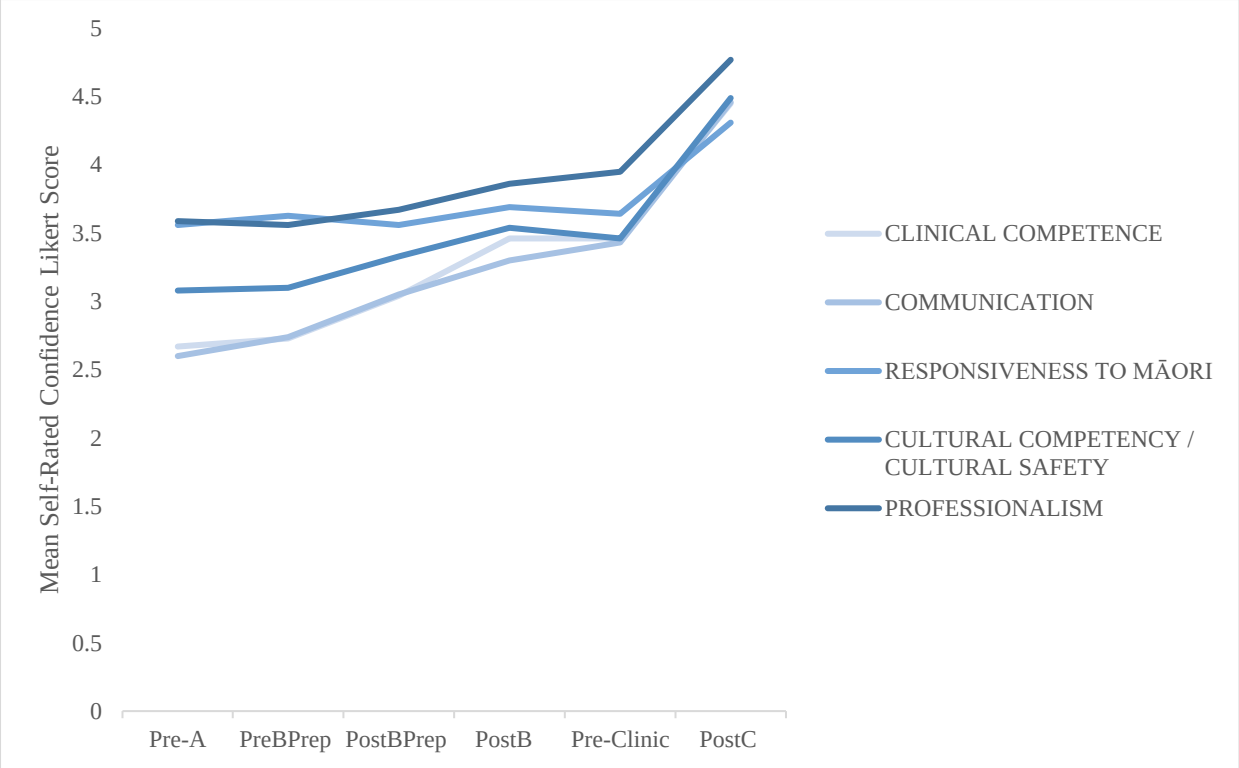

Figure 2.1 Line graph of changes in mean self-rated confidence between placements.

Table 3.2 shows overall confidence levels across each domain over the 2 years. Overall, 58% of the students over the 2-years reported being confident in meeting clinical competence. Within the domain of clinical competence, students were most confident in the core competencies *'I can conduct 24-hour recalls and diet histories'* (3.69, SD=0.87), '*I can use anthropometry, biochemical results, medical history, diet history, social and cultural history to determine nutrition status'* (3.5, SD=0.86) and *'I can use available documentation and data to make appropriate nutrition diagnosis'* (3.5 SD=0.87). Students were least confident in the core competencies *'I can demonstrate knowledge of popular alternative and complementary therapies'* (2.7, SD=0.85) and '*I can develop dietary prescriptions and feeding regimens in collaboration with client/carer and other healthcare team members'* (2.93, SD=1.02).

52% of the students reported being 'very confident' in meeting the competencies for communication. Within the domain of communication, the most confident in the core competencies *'I can document cases using the correct NCP format'* (3.83, SD=0.71) and '*I can listen and provide feedback that encourages patient participant and engagement'* (0.32, SD=0.98). Students' self-rated confidence was lowest in *'I can determine and communicate the food service and supply needs of individual clients to appropriate persons'* (2.82, SD =1) and '*I can make effective contributions as part of a multidisciplinary team'* (2.87, SD=0.92)

53% reported being 'very confident' in meeting the competencies for responsiveness to Māori. There is less variation in self-rated confidence between core competencies in this domain. Students are most confident in the core competency *'I understand my responsibility to contribute to improving health equity as a healthcare professional'* (3.98, SD=0.71). Students were least confident in the core competency *'I can explain the Treaty of Waitangi and its principles related to healthcare'* (3.35, SD=0.82).

30% were very confident in meeting cultural competencies and being culturally safe whereas 55% were somewhat confident. Students were most confident in the core competencies *'I respect the cultural viewpoint and preferences of patients and their family/whānau'* (4.06, SD=0.78) and *'I understand the difference between cultural competency and cultural safety'* (3.75, SD=0.83). Under this domain, students were least confident in the core competencies *'I can identify clinical effectiveness barriers due to interpersonal power imbalance(s) between me and a patient'* (3.15, SD=0.85) and *'I can enforce learning in a culturally appropriate manner when counselling patients and family/whānau'* (3.22, SD=0.87).

Professionalism was rated most highly with 59% reporting being very confident and 25% reported being extremely confident. The core competency with the highest self-rated confidence across the whole survey is under the domain of professionalism; *'I can accept responsibility for my own learning and professional development'* (4.17, SD=0.68). The core

competency with the second-highest self-rated confidence is also under this domain; '*I can professionally accept peer and supervisor feedback to review my practice*' (4.13, SD=0.6). Students were least confident in the core competencies *'I can contribute in meetings with peers and supervisors'* (3.48, SD=0.91) and *'I can conduct a peer review that communicates strengths and areas requiring improvement of others' performance and constructively provides feedback'* (3.56, SD=0.78). The lowest-rated core competencies under this domain are comparatively higher than the lowest-rated of all other domains.

Table 3.2 Mean (SD) self-rated student confidence across the two years for dietetic core competencies within the domains of practice

Domain Core competencies	**Mean**	**(SD)**
Clinical Competence		
I can use validated nutrition screening tools as part of a nutrition assessment (e.g., SGA, MNA, MUST and SCREEN).	2.88	0.79
I can use anthropometry, biochemical results, medical history, diet history, social and cultural history to determine nutrition status.	3.5	0.86
I can conduct 24-hour recalls and diet histories.	3.69	0.87
I can use available documentation and data to make appropriate nutrition diagnoses.	3.5	0.8
I can formulate accurate PES statements.	3.44	0.8
I can use assessment data to assign priorities for nutrition planning.	3.31	0.85
I can identify the nutrition issues which require nutritional intervention.	3.45	0.79
I can develop dietary prescriptions and feeding regimens in collaboration with clients/carers and other healthcare team members.	2.93	1.02
I can understand and use appropriate clinical practice guidelines for simple cases.	3.46	0.9
I can explain the relationship between dietary intake and the development and management of diseases.	3.38	0.81
I can use educational resource material when necessary.	3.44	0.89
I can demonstrate knowledge of popular alternative and complementary therapies.	2.7	0.85
I can monitor the progress of an individual's condition and care and adapt their nutrition plan as necessary.	3.12	0.86
Communication		
I can document cases using the correct NCP format.	3.83	0.71
I can implement a nutrition care plan in collaboration with clients/ carers and other healthcare team members.	3.16	0.81
I can communicate all steps of the nutrition care process to other members of the healthcare team.	3.24	0.95

I can determine and communicate the food service and supply needs of individual clients to appropriate persons.	2.84	1
I can make effective contributions as part of a multidisciplinary team.	2.87	0.92
I can involve the client and family/whānau in healthcare decisions.	3.28	0.96
I can listen and provide feedback that encourages patient participation and engagement.	3.32	0.98
Responsiveness to Māori		
I can recognise how the colonial history of New Zealand has led to health inequities between Māori and non-Māori.	3.85	0.72
I can explain the Treaty of Waitangi and its principles related to healthcare.	3.35	0.82
I understand my responsibility to contribute to improving health equity as a healthcare professional.	3.98	0.71
Cultural Competency and Cultural Safety		
I can communicate with patients and their family/whānau in a way that respects their cultural customs, and which is appropriate to their level of understanding.	3.36	0.75
I can enforce learning in a culturally appropriate manner when counselling patients and family/whānau.	3.22	0.87
I can involve the client and family/whānau in decision-making regarding treatment and goal setting.	3.41	0.87
I can include reflective practices and peer/ supervisor feedback to review the way I practice culturally.	3.51	0.88
I can reflect on the interpersonal power imbalances between a patient and me to deliver quality care.	3.28	0.86
I can identify clinical effectiveness barriers due to interpersonal power imbalance(s) between me and a patient.	3.15	0.85
I can reflect on my own attitudes, biases, prejudices, and assumptions that may contribute to a lower quality of care.	3.71	0.74
I understand the difference between cultural competency and cultural safety.	3.75	0.83
When assessing/counselling a patient, I can ask the patient about their cultural preferences.	3.49	0.94
I respect the cultural viewpoint and preferences of patients and their family/whānau.	4.06	0.78
Professionalism		
I can act professionally when communicating with clients, family/whānau, and members of the dietetic and healthcare teams.	4.09	0.63
I can discuss patient care and explore ideas with supervisors and peers on an ongoing basis.	3.87	0.72
I can contribute in meetings with peers and supervisors.	3.48	0.91
I can consistently reflect on learning experiences by discussing them with peers and supervisors.	3.86	0.74
I can professionally accept peer and supervisor feedback to review my practice.	4.13	0.6
I can conduct a peer review that communicates strengths and areas requiring improvement of others' performance and constructively provides feedback.	3.56	0.78
I can accept responsibility for my own learning and professional development.	4.17	0.68

I understand the limits of my own knowledge and clinical competency and discuss these with professional supervisor.	4.01	0.7
I can demonstrate the ability to seek support in a difficult situation or with difficult issues.	3.81	0.8
I can identify when a case is beyond own level or area of competence.	3.93	0.77
I can manage my workload to complete tasks within the required time frames with limited guidance.	3.62	0.88

Phase Two: Focus Group

The information presented by participants covers a variety of topics relating to their experience within the Nutrition and Dietetics curriculum. A summary of the challenges reported during the focus group discussion is provided before presenting the excerpts from the discussions. The narrative that developed throughout the focus groups included the development of clinical confidence and competence, as well as the enablers and the barriers influencing them. This analysis reflects a description of the phenomenon of developing confidence in meeting professional standards and competencies as experienced by these student dietitians.

Table 3.3 Themes and sub-themes derived from focus groups

Theme	**Sub-themes**
Measuring and Managing Expectations	Comparison to Peers Isolation and Disruption of Pandemic Professionalism
Experiential Learning	Integration of Practical and Theoretical Learning

	Exposure to practical scenarios earlier in the curriculum
Navigating hospital and healthcare dynamics	Working in a multi-disciplinary team Understanding the healthcare system and patient supports Advocating for dietetics Engaging with Supervisors
Cultural Reflection	Responsibility to Māori Cultural Safety vs Competence Cultural Diversity in Curriculum

Theme One: Measuring And Managing Expectations

Sub-theme i) Comparison to Peers: How do I measure up?

Students report having experienced different levels of supervision and opportunity on placement which led to feelings of uncertainty about their progress in the course. The perception that other students were receiving more or superior opportunities on placement affected students' confidence in their own progress.

> *Participant 1: "it seems like everyone had a really different experience. I remember we came out of placement A and B at weirdly different levels. It was always interesting to hear how other people's placements had gone because they were often completely different to my experience. I don't know if there's a way to standardise that for everyone because everyone's going to be seeing different patients and supervisors, I suppose that's unavoidable. I think it was always interesting coming back and hearing how the*

placements went but sometimes it was daunting to hear that someone may have progressed more than you or they got to do something really cool that you didn't necessarily get to and sometimes that was confronting."

Participant 2: "[Placement experience] was so DHB specific with what people got out of them. I don't know how you could change that or mitigate that but maybe it's more beneficial when we do have the reviews to make sure we keep that in context. Like Participant 1 said that were different experiences and it makes you think "oh my god, did I do something wrong?' but it's just because of the DHB."

Students can retrospectively conclude there is adequate time and opportunity to develop each competency throughout the curriculum. However, the feelings of uncertainty that they are not getting the same opportunities as their peers at each placement makes the process of managing their expectations and their progress stressful.

Participant 1: "I think like we got there in the end you know we all got all the competencies, we met them all but I think the ways in which we got there and the speed in which we got there would have been really different."

Sub-theme ii) Pandemic: Isolation and Disruption

These feelings of not managing expectations or progress were compounded by the isolation of students, particularly the cohort in question due to the lack of interaction with other students during the pandemic. Lockdowns and isolation from peers made coping with and managing expectations of the course difficult. Lack of interpersonal communication during the pandemic affected confidence in communication. Students find the aspect of peer connection plays a role in developing confidence and measuring milestones. The lack of interaction of this nature in this cohort affected learning and confidence.

Participant 5: "…then COVID hit... we were stuck at home for months on end, not talking to anybody. We were [communicating] was just over computer online [which was] quite different to what [you would] expect in person. I didn't talk to any patients until a couple of weeks into B placement, which is probably quite late. I felt I wasn't doing a very good job because I was just so nervous because I felt like I hadn't talked to anybody... Into C placement as well because we had been online for a couple of weeks, just sitting at home not doing much else and it going into the wards, I walked into a patient room and [wondered] what do I do? How do I stand? I didn't know what I was doing."

Participant 1: "…[because of] COVID, as a class we couldn't get to know each other... especially in first year, I felt isolated and alone. I would second guess everything I did, and thought that like everyone else was way ahead of me because we couldn't get together and chat it out. That also had... a massive influence on my confidence and where I thought I was or needed to be."

Participant 1: "You just feel better about where you're at when you get a chance to debrief with everyone... [seeing classmates online] is not the same as just being in person and having a little catch up with people."

Participant 3: "The more that you can connect with your peers, the more you feel safe in your own practice, you know if something goes bad you know you can talk to somebody about it or you know if something goes well you want to share with someone, so it helps you all-round"

Participant 3: "I found it hard in the second year to keep in touch with people. I do think it's the nature of the second year that you see people in clinic but once you go on placement and when it's time to do your thesis it can get quite isolating... it's been challenging in that aspect"

Students found that lockdowns disrupted the placement process and made managing expectations of the course more difficult. Particularly at the beginning of the degree.

Participant 2: "with the disruption [of placement], especially at the beginning, [we were told] "set out these expectations of where we should roughly be at each placement." And then with COVID those [expectations] shifted but I definitely still had those milestones in my head...I was getting nervous that I hadn't met [them]."

Participant 1: I think [the pandemic] definitely delayed things for me. I [our first] placement, we three days in and then had another COVID lockdown. And that was really disruptive. I got the end of placement A and I actually hadn't talked to a patient yet... [it] made me nervous to get over certain hurdles and reach milestones. I think it affected that. Once COVID became more normal, [It] didn't hinder too much at that point... but at the beginning, it was quite disruptive

Participant 4: "I think in terms of confidence, personally, placement C was especially challenging… [we were] initially supposed to go on placement right after clinics. However, were in lockdown for so long and[after] not speaking to anyone it definitely was challenging going to placement C [after] not having to apply all those skills for so long and just being at home. It was daunting."

Participant 8: "I don't think much that could have been done differently in our situation. It was quite stressful being told 'you're going into the hospital' at one moment then 'oh, no, you're not' the chop and change and uncertainty was quite stressful. And then that made it hard to transition when you were going into placement because you didn't really have that time to mentally prepare for it."

Students noticed a decrease in supervisors' enthusiasm for having them present within a hospital context. They report that they were made to feel like a nuisance in the hospital environment in the early stages of the pandemic which negatively affected their confidence to practice.

> *Participant 1: I think working in a setting where COVID was new, and no one really knew what was going on. People were hesitant [to] have students around and extra people involved. It felt like they didn't want you there. Yeah, everyone was just nervous and no one really knew what was going on. So, I think probably impacted my confidence as well as it being disrupted by people who were just hesitant about having students around.*

> *Participant 8: "[COVID] added to the overall stressful environment of seeing inpatients, which probably didn't help anyone's confidence. Just because it was a stressful time for everyone, even without placement. But again, that was just the nature of being in a pandemic; [i'm] not sure how it could have been managed differently because it was such an evolving situation. [I did] fear going into the hospital."*

A potential benefit of the pandemic is that students developed more confidence using Telehealth while completing placements remotely. This is perceived by students as an advantage because telehealth is likely to be a significant part of dietetic practice due to the pandemic.

> *Participant 4: I felt... more comfortable seeing patients on zoom than in person, which is sad. I think that's one of the impacts that COVID has had.*

> *Participant 12: we're actually also in a unique situation where we've gotten to train using telehealth, whereas other dietitians had to learn on the job. We know how to use all of the systems now. So, I mean, in some circumstances or some ways I suppose that's actually a positive thing that COVID messed our schedules around so much.*

> *Participant 7: We lost quite a bit of time in terms of in person, clinical situations but I definitely think that we gained knowledge and practising being online.*

> *Participant 8: "I think like we said before it has made me confident in zoom consults and telehealth, probably the main one that I've taken away; doing clinics and trying to navigate that awkwardness of being on zoom."*

*Participant 7: "*I suppose thinking about it [telehealth] might not have been something we got an opportunity to experience, had we have not been in that [lockdown or pandemic] situation."

Sub-theme iii) Professionalism: the exception

Students benefitted from the teaching team communicating their expectations for professionalism, so students understood what was expected of them. Students report they were confident in their ability to fulfil the competencies under the professionalism domain due to expectations having been set early in the degree.

Participant 8: "I think once you know what's expected there isn't a problem being professional"

Participant 7: "There's quite a lot that is done to help us being professionals. So, and I think those sorts of expectations of professionalism I put them right from the beginning. So, it's something that's carried right the way through. I don't think that they could really do anything to improve that."

Participant 2: "the expectations the teaching team have on us, help set us up so that when we went into the placement that you know we didn't muck around, we turned up on time, we obtained it because I feel the first week, that's what they expected from us and they told us that that we're returning to class, maybe you're getting things like assignments and on time and they gave us that responsibility to manage ourselves because we were masters students now and I feel that helped us going into placement we had those standards for ourselves."

Participant 1: "Professionalism is a tricky one because it's just learning from experience what is appropriate to."

Theme Two: Experiential Learning

Subtheme i) Exposure to practical scenarios earlier in the curriculum

Students report a lack of practical experience in their first year resulted in decreased confidence to practice in their second year**.** A lack of clinical exposure in the first year of the degree made communicating their theoretical learnings difficult.

Participant 2: "I wasn't super confident in my clinical knowledge until the second half of year two. In year one we learned all this theory but had no idea how to actually apply it. We hadn't done like any practice in year one talking to patients or any simulations. Maybe that was because of COVID, but I feel like we learned all this theory on paper, and then we had to go to A placement where we were just trying to like figure out how to actually just talk to people and not even thinking about the theory side of it and so then it wasn't until the start of second year that we had to put everything into place."

Participant 8: "I think for our first year we didn't get as much time ... [in] hospital or [in a] clinical setting. But I think in second year we pretty much got most of our placements in B and C, as well as a good chunk of the year with in-person clinics before we had to go online so I think it didn't work out too badly, except for the fact [that] our A placement, was pretty much non-existent. I think that may have made the transition into B placement a bit more difficult.

Participant 10: "missing that A placement where we were meant to shadow a dietitian, we missed out on quite a lot and I think that's why we suggested more videos because we didn't actually get to see consults being undertaken before we actually had to do it ourselves. I think in other lockdown situations, more videos of hospital consults would be helpful.

Participant 1: I would have loved for placement A to be a lot more in-person and have worked out better than what it did... I didn't talk to a patient until beginning of placement B...you have those milestones with regards to clinical contact and communication skills that just didn't really start until later than what I expected. So I think that was the main way that COVID disrupted it for me.

Participant 5: "I think it would nice to learn how to explain the things that we've learnt to a patient or somebody who doesn't really have like dietetic or nutrition knowledge, because I found it hard when we started like seeing patients because like all the stuff that we've got in our brain is big terminology, but you don't want to use that with the patient. But then you haven't figured out how to explain that."

Participant 1: "I remember when like going into clinics... I had no idea what to expect. I feel like all of us together [were thinking] what is clinic? why are we doing this? It was explained to us but I think it would be cool if in first year, I know COVID was a factor, to even sit in on [clinics] and like see what it was all about."

Participant 1: "I went into second year, just like, oh my goodness I don't really know how to talk to a patient, like, I know all this knowledge but I didn't know how to put it into words."

Subtheme ii) Integration of Practical and Theoretical Learning.

Students suggest the integration of theory and practice would be useful in consolidating knowledge and building confidence in clinical practice. Students advocate for more integration of practical/ clinical experience across both years.

> *Participant 3: "Something that could be a suggestion would be if we had a lecture on a topic like diabetes, [followed by] a workshop or something later on the week, or at the end of the session where you talk about how it's relevant in a clinical setting. [We could} practice how you might explain that to a patient so you get both sides of the theory... and practice, [and practice explaining] how you might say that to a patient, or how it's more relevant to the wider population."*
>
> *Participant 2: "...a lot of the dietetic lectures t[we would] go through assessment and intervention on slides and talk us through it, whereas it might have been like more beneficial for us to actually see how we would do it in real life. We [could] try to figure [it] out ourselves in small groups discussions it rather than just sitting there and listening."*
>
> *Participant 6: "... if we had more exposure to what we were doing in clinics earlier in first year that would have been helpful because it was quite a big difference between the first year and the second year [in terms of] of what we were doing.. integrating more of the practical into first would set us up for what we're getting involved in the future."*
>
> *Participant 7: I think being introduced to the clinic environment earlier on rather than after B placement would be quite beneficial. Even if it's just observing the year above us in clinic. Maybe once a fortnight or something, just so you can see it be put into practice going into your own placements because talking about it's great, it's hard to translate that into a real-life scenario in your head.*
>
> *Participant 8: "Even videos of assessments, would be actually quite good, and first year just to get an idea of what an assessment looks like., that could be introduced by even quite early into year one. What a hospital system looks like or what a clinical assessment looks like. So you have a vague idea. And then when you are learning about the NCP process you can make those connections and see yourself in that scenario"*
>
> *Participant 12: "It would be nice if we could have simulation days where we practice the content that we've just learned in lecture. I remember we did a block on haematology, and I fully forgot everything by the time that I was working on the haematology ward because it was so long ago. If we put into practice the content that we were learning within the same timeframe that we were learning it would really help to solidify and link the theory with the practical."*

Participant 9: "I remember we did have video consults that we watched but we didn't actually watch that many and they were scattered over a few weeks or something but I think it'll be really helpful to have maybe one a week, maybe at the end of the week, to solidify what we learned on lectures during the week. And so we can have those discussions"

Participant 6 describes their experience of receiving sufficient theoretical learning for clinical competence but found practical application in clinics and on placement consolidated.

Participant 6: "I feel the clinical side of everything we needed to know was there because you can't really cover everything that's possible in a clinical setting so there's only so much that we can learn in our two years. I feel you learn through placement or through clinic... I personally felt like the clinical knowledge was enough to give us like a head start going into placements."

Students identified specific topics that required further exploration within the curriculum to consolidate learning. These topics were:

Women's Health

Participant 5: one of the topics that I still don't really understand is Woman's Health. I know we had one lecture... I did learn some things from it, but... I felt like we didn't actually learn what exactly woman's health [is] and how its different from, general health.

Participant 1: "I also agree with Participant 5 that the woman's health [lecture] needed a different approach or more than one lecture as well, because there were quite a few topics that were lumped [into one lecture].

Biochemistry

Participant 2: Having more lectures on biochemistry, like actual practical biochemistry, not just fluids which I actually need to know because I feel like half the discussions you have with MDT is about [biochemistry] or lab results and half the time I didn't know what I was talking about so I was just winging it

Behavioural Change/ Motivational Interviewing

Participant 2: "[I found that in] clinic we used motivational interviewing and behaviour change [techniques]... I feel like we need to use them so much but had [only] two hours of lectures on it. feel like we could have done more work on that because we use that so much in clinic."

Malnutrition Screening Tools

Participant 10: "You know how we have to we have to like write five prescriptions, because that's what like enhanced our learning? I think we, like we need to do in the

future is like, make it compulsory to like do a certain number of a number of SGA's and other malnutrition screening tools so like it's compulsory that you have to do them. So at least you get the chance to try"

Participant 10: "I think that jumped out as something that we probably need more work on, because... although we learnt the theory behind it and had a few days practice, on placement none my supervisors actually use the malnutrition screening tools. And I think, to actually start implementing those in practice, we actually need to practice."

Theme Three: Understanding Hospital And Healthcare Dynamics

Subtheme i) Working in a multi-disciplinary team

Students discuss the need to understand the role and function of health professionals in a multidisciplinary team (MDT) prior to commencing placement. They posit more theoretical knowledge and practical scenarios with a range of health professionals will better prepare them to engage with hospital staff while on placement.

Participant 3: "I don't think I was prepared enough in terms of MDT stuff in those quick-fire settings...in a DHB setting it is quite difficult, because there's not really one way to do it... I wasn't comfortable doing because I wasn't confident. Maybe some more theoretical knowledge during the course on how things might be done."

Participant 2: "I was confident doing that stuff with the SLTs because we've done all those MDT sessions with them. I think will be beneficial to deal with other MDT [outside of placement] as well, especially allied health because you do work so closely with them in the hospital."

Participant 1: "I think the only time that I felt like I potentially needed a helping hand was when I was talking to health professional, [I didn't know] how to interact with that person like are they on the same level as me higher?"

A common subtheme that arose from discussions about engaging with MDT was the need to participate in simulated scenarios with other health professional students in preparation for hospital placements and future employment.

Participant 7: "We spoke earlier about having more MDT experience during training like I think having those sessions or interdisciplinary sessions more frequently would really help with our, our communication skills with other health professionals."

Participant 9: "those simulation days quite helpful as well and I thought that if we couldn't physically go into the hospital to observe dietitians; having more of those simulation days in the first year would be helpful to prepare us."

Participant 7: "more of those simulation days would be good and more interaction with the SLTs, and maybe even nurses if we could get those people involved because I think we worked quite closely with nurses on placement…in those simulation days we have more opportunity to practice having those conversations that you would have in the hospital with other people in [an] MDT. The first time I had to do it at the hospital, I was quite nervous, I didn't know what to do or who to talk to. I feel more experience in a safe environment with that beyond what we already had would probably really help."

Participant 8: "I think what we did with the SLTs was really cool because we learned about our role, but you don't really see how our role fits in with other health professions. So maybe a broader, MDT day with not just SLTs but nursing and medical students would be really helpful because you do tend to spend a lot of time interacting with them and the hospital."

Participant 7: "another one that would be probably quite helpful to do in an MDT scenario would be social workers. I interacted with them quite a lot while I was on placement and I actually had no clue what a social worker was actually in charge of until I started working with them and had to ask my supervisor."

Subtheme ii) Advocating for Dietetics

Students lack confidence in advocating for dietetics in an MDT scenario. Students have perceived a hierarchy in MDT teams on placement that has impacted confidence in advocating for the importance of dietetics in hospital settings.

Participant 11: "Yeah I was quite aware that there's like a hierarchy between staff on the wards and as a dietitian, and I felt like other health professionals sometimes I perceive us as unimportant, that can rub off on you and makes you not want to speak up."

Participant 8: "Something I struggled with was how to advocate for your patient in a professional language and communicate if you disagree with what a doctor or something is saying from a nutrition point of view. I'm concerned that I have not taken into consideration how to communicate that without being too defensive or saying the wrong thing."

Participant 7: "we learn ways to advocate for a patient but we should also talk about ways to advocate for the profession"

Participant 8: "I also felt that nutrition was just an afterthought, and it's like not perceived by some of the healthcare professionals to be like, as important...But how do we help medical professionals understand?"

Participant 2: "The hospital dietitians are the professionals in nutrition and we do sit on par with the medical team, we're not [auxiliary] we can like, you know, call them out on things if we feel it's appropriate. Whereas at uni I feel like we, we don't get portrayed as having that status, I feel like maybe because the teaching team aren't practising anymore but they just don't portray that importance of dietitians."

Subtheme iii) Understanding the healthcare system patient supports

Students have expressed the necessity to have a more comprehensive understanding of how hospital systems and the continuation of care. A common theme that arose was the 'in-patient' focused nature of the placements and a desire from students to understand what areas of a dietitian's scope lie outside that boundary.

Participant 1: It sounds silly but I would have benefitted from a rundown on how a hospital works. "This is what this person does and this is who you go to if you have an issue with this and if you have a swallowing problem go to the SLT. It sounds so basic, and obviously you learned it on placement, as well but it was, it was one of those ones where I was like I didn't expect to need to be such a learning curve here.

Participant 4: "I didn't really know what external services are available for patients even after they went home. For example, Meals on Wheels I didn't really know exactly what it was and I had to like Google and search it up for a patient and to know how to explain it to them. So I think if we had more sort of knowledge provided to us in lectures to with the services that we can provide even, you know, not just in the hospital but also when they go home."

Participant 5: "I found from my experience in the community that there was just so much that I didn't know, about how community dietitians actually work and how there is no capacity to see weight men management. Those are all things that I learned on placement, so I feel like even just having a community dietician come in to teach us."

Participant 8: "I found on most of my placements that when it came to things like community support like Meals on Wheels I wasn't sure about, because I know that's more like a social worker or like NASC (Needs Assessment and Service Co-ordination). I think it is worth knowing what potential support a patient might need outside of the hospital like once they're discharged. I guess you learn on the job depending on the scenario. "

Students expressed their wish for the curriculum to better reflect the changes to the healthcare system by shifting training from being hospital focused to a model that emulates the pending healthcare reform.

> *Participant 7: "One thing I will just add about regarding understanding of the healthcare system was with this new change to the healthcare system, and no longer having regional DHB's I feel like this particular topic is going to become even more important because it sounds like the health care system will change that significantly. So that might just be something that the coordinators might need to keep in mind for the upcoming years as these changes take place"*

> *Participant 2: "I feel like our training is very clinically focused on being an inpatient dietitian and I feel like with the health reform and the way the profession is moving as a whole, I feel the training is almost behind; being so clinically, or hospital focused, but there are so many other social aspects to being a dietitian, that we need to be aware of."*

Subtheme iv) Engaging with Supervisors

Students expressed a desire to have better engagement with their supervisors as well as more consistency in their experiences with them. Many students expressed that they experienced feelings of being a burden to supervisors. A common theme was a call for supervisor training prior to placements to cultivate a supportive and positive supervisor-student relationship.

> *Participant 7: I had a really great supervisor who was super supportive and offered good feedback that was actually helpful, but at the same time I've also had supervisors that were not so helpful. From what I've observed, a lot of that seems to perhaps come from training and how to supervise a student and what's helpful to say in front of the student and what [shouldn't be said]... some supervisors or people in the office have made comments about students like 'ugh, we've got a student again, so annoying '. It's those little comments that bump your confidence down, even though you haven't done anything wrong.*

> *Participant 8: "supervisors [should be provided] training on what [they're] expected to do with the student, and maybe what not to say, because what you do get told by a supervisor... does impact the way that you think about yourself, and you know that might impact your ability to improve and extend from where you are. Yeah, so I've had mixed experiences some really good experiences and some not so great."*

Participant 1: "perhaps that just comes in with training the supervisors before they even begin supervising because there is a disconnect there, some people have had great experiences, others haven't... not everyone gels together, but the fact that it's a recurring theme and I've heard it from other students as well... It doesn't feel culturally safe to me if people aren't being treated similarly or haven't all experienced the same safe and healthy relationship with a supervisor."

Participant 11: "…it would be good to provide every [supervisor] with some sort of resource or booklet, and maybe a little test to see if they actually meet the criteria."

Other students felt they had too many supervisors to effectively progress throughout their placement. Students found that consistent supervision was helpful for progress. The consensus among students was building relationships with supervisors was beneficial to their placement experiences. For many, their ability to build such a relationship was hindered as their time with each supervisor was short-lived.

Participant 8: "I think building the trust with your supervisor helps so much. I had so many different people and you really just felt like you're getting like passed along because you need to be like looked after and it's really not helpful in terms of confidence level."

Participant 10: "I think in my like earlier placements. I chopped and changed supervisors a lot and I feel like my confidence wasn't as good as it probably should have been because I had to explain where I was at with each supervisor every day. And I felt like more of a burden to them because obviously they would just have me for the day and had to like look after me. But I guess my final placement. I just stuck with one supervisor, and she knew what level I was at knew what to expect from me, and I think every day I was able to like improve from there because she was able to gradually introduce me to new things and yeah I think that really confidence."

Participant 8: "I didn't have issues with any of my particular supervisors, there was just so many of them. I think more consistency would have been nice, just having them for more than a couple of days…I had a lot of staffing issues on my placement; there was a week where I had a new supervisor every single day that wasn't ideal because you almost have to restart every single time you get a new one. "

Participant 12: "It's really disruptive to jump from supervisor to supervisor, every day or even every two or three days. You get on a roll with one person, and they tell you to improve one way and then you go with someone else and they tell you the complete opposite. I know, everyone has a different way of practising, but it becomes really disjointed and hard as a student to know where you should be and what you should be doing."

Participant 9: "it was so helpful to have the same supervisor and for them to see your progress and for them to be able to give really helpful feedback because they could specifically reference how you before versus how you're progressing."

Participant 7: "I think that trust [between supervisor and student] works both ways like our trust of them and their trust of us to do things in a safe way. If you're not with them for very long it's really hard to build up that trust and you can't have a natural relationship or consult, when you feel anxious that there's someone that you don't actually know standing behind you, watching and judging you."

Theme Four: Cultural Refection

Subtheme i) Responsibility to Māori

Students recognize the need to understand the principles of Māori health. A common theme that arose was the need to incorporate principles of Māori health into the curriculum beyond the Māori Health paper taken by students in their first year.

Participant 1: "I didn't grow up here. So my understanding of Māori and Te Reo was very limited going into this, I would have loved for it to be more integrated into the whole curriculum, beyond just the Māori health class because I found, while that was really helpful and I think you shouldn't definitely stay there. I think having it more integrated throughout different lectures, and our core subjects would have been more helpful."

Participant 6: "...the Māori health paper is really good, but we never were able to integrate it with dietetics specifically. Those conversations could be difficult, but it would make it easier if we could actually [have them] in class first so that when we go into placement or we have clinics, we know what we're doing and we've had exposure and we can learn from those experiences rather than going and not knowing how to approach those kinds of conversations. It would be better to see the dietetic side... integrate with the Māori health paper that we did, or just in general have more Māori health for every lecture that we had."

Participant 12: "Obviously [the Māori health course] is really important but an additional one that is specific to nutrition as well because I think one thing, I noticed was that I had really poor knowledge of a lot of cultural foods that were common. So, even just nutrition-specific cultural competency course."

Students posit integration of Māori health principles into the curriculum in the first year of the degree would have been beneficial.

Participant 7: "I think [having] that [Māori Health course] earlier on in the year might actually be helpful as an opening. So it's there from the get-go, and I know that the coordinators have been changing things over the last year to try and make the course more culturally safe and culturally competent, but swapping around that, to make it like the first thing that comes will help some of those conversations right from the beginning of this course."

Participant 2: "[in] the Māori health paper we learned about Te Tiriti o Waitangi, but it was what was about water rights or global warming and climate change, but it whenever like discussed how that even that relates to how the treaty relates to dietetics."

Participant 10: "the Māori health course was really good. But I guess getting more of a practical sense in terms of dietetics because that was quite general. So learning how I as a dietitian can really practice culturally safety within the Treaty."

Subtheme ii) Safety vs Competence

A common debate among students was about the practice of cultural competence versus safety. The general conclusion was cultural competency skills like knowing the language and traditions of a culture are useful but not necessary for culturally safe practice.

Participant 3: "When I went to Whakatane and Māori language was so prominent ...I found it difficult just to [say] "Kia Ora" because that's not normal in Auckland... [I suggest] transitioning students who go to these rural places [to] normalize [speaking Māori]."

Participant 6: "I don't think learning the language specifically would make you more culturally competent or like practising cultural safety. But I think like if we do more in our classes and our lectures and our workshops related to Māori health and why that's important and why we need to look at it, then we'll probably learn some of the languages throughout that as well. And that will help us and give us like benefits when we go to placement or when we're practising that in real life"

Participant 2: "Cultural safety isn't... learning about different cultures, it's recognizing your assumptions... [we should have] discussions about that or include it in assignments like the fad diet one. You have to challenge those assumptions or look at what's your lens, why is that? why did you choose that?

Students emphasised they see a need to have more conversations about race and racism and biases. Cultural safety is not about knowledge of other cultures, it's about reflecting on

biases. Student express that the curriculum should encourage more and better reflection on cultural safety

> *Participant 11: "I feel like we could have had more conversations about our own biases within our class group a lot earlier on. I think again having that Māori health course earlier would probably have encouraged some of those conversations. We should have had the ability to facilitate those conversations within our course lectures, not just in Māori health classes... Being culturally safe is a continual process, and I personally think that that's something that really needs to change in the DNZ Professional Standards and competencies."*
>
> *Participant 2: "I personally feel it's our responsibility as up-and-coming health professionals to be taught how to recognize racist behaviour and how to be confident enough to call [it] out. Obviously, that's like the very big picture...we did the Māori health course which was fine but...there was a real opportunity to talk about what we've learnt in that Māori health paper with regards to health inequities and racism and those difficult conversations and think about what would we do in certain situations, but we never really did that. We just did the paper and then left it there."*
>
> *Participant 2: "if we're speaking like in terms of cultural safety it's not about learning someone's culture. It's about making sure you're creating a space that's safe for them to be able to express what they want to say, and you don't have to be able to speak their language or say a few words in their language to do that and Māori is not the only culture that we have a New Zealand...you don't have to be able to speak to be a good treaty partner and practice in a way that honours the treaty."*
>
> *Participant 1: "The reflection template that we do when we meet with [supervisors] on placement. One of the things I don't really like is [how we reflect on the] 'follows the Treaty of Waitangi' [competency] ...I swear every time we do that asked if you've seen a Māori patient. How is that responsive to the Treaty of Waitangi? I feel that could be some way that you could [incorporate] cultural safety reflection piece that we actually have some way where we have to reflect ourselves on our cultural safety, because that's what cultural safety is; being able to reflect on your views and assumptions but we don't really have a place for that reflection."*
>
> *Participant 4: "I don't remember like discussing much about cultural safety in clinics either in like, you know, after clinics in the debrief sessions I don't remember the supervisors mentioning anything about cultural safety so it's hard to know…"*
>
> *Participant 10: "…maybe having more of those conversations in clinics, because that will simulate a working environment, and being able to talk after the clinics and unpack our own biases… would be really helpful."*
>
> *Participant 7: "We know the theory of power imbalances and biases but how do you actually go about addressing those in a consult? Maybe having a really good conversation or even role-play within a class setting probably would have been really helpful for preparing for real-life situations."*

Subtheme iii) Cultures diversity in the curriculum

Students reflected on how the curriculum should incorporate aspects of other cultures to increase students' understanding and confidence in engaging with a variety of cultures.

> *Participant 4: I think we didn't really learn a lot about different cultures, especially when it comes to dietetics... if you don't know what food the different cultures relate to that it can be quite hard to talk in their language.*

> *Participant 7: "...learning about different cultures food is an important one because I remember a couple of scenarios and in clinics where some offers weren't able to relate to the foods that the clients are talking about, and that led to a point that the clients like gave up describing what they were eating. So I guess that's something that is important in our career. So, I guess, having some resources on different foods, or even like you know having a lecture on it and just learning about it or as Participant 2 mentioned like incorporating different cultural aspects in assignments would have been a good idea."*

Students suggested the need for representation in the teaching team of different cultures to teach us cultural safety.

> *Participant 2: "From my experience, people who find themselves in culturally unsafe spaces are not white Europeans...I think [it] would be beneficial if people who have experienced culturally unsafe practices come and share their experience. If you know what I'm talking about... Someone telling someone else's story is not the same as someone who's experienced it first-hand coming into discuss it with us."*

> *Participant 8: "Even if we had like a lecture from a Māori dietitian from Te Kahui Manukura o Kai Ora [Māori Dietitians Rōpū] to go through how we can best, do an assessment for Māori, what different foods might come up, how we can be more effective for a Māori patient. Like Participant 12 said; putting it into to the 'dietitians context', in a way that we can optimize like our skill to benefit the patient, rather than just having our system, how we do it."*

Summary

This study aims to evaluate changes in self-rated confidence in dietetic competencies over time. This thesis also aims to identify factors affecting the development of competence.

The findings from the survey and focus groups have provided insight to address these questions. Overall, self-rated confidence improved over time across all five domains, most notably in the latter stage of the curriculum. Four common themes influencing confidence and development of competence were identified. Measuring and managing expectations, aspects of experiential learning, navigating hospital administrative and social environments, and cultural reflection were the main themes to arise. The following chapter provides a discussion of these findings.

CHAPTER FOUR - DISCUSSION

This research endeavours to evaluate how the University of Auckland's Nutrition and Dietetics curriculum and placement programme influences self-rated confidence in students. This chapter will be a discussion of the research findings. This chapter will explore the results of the survey and focus group discussions with respect to the existing literature and in light of the research questions. Overall, self-rated confidence improved over time across all five domains. This is consistent with the evidence that an individual's confidence increases over time through engagement with curriculum and placement programme (Barr et al., 2002; Gibson et al., 2015; Heitman & Taylor, 2021; Maher et al., 2015; Porter et al., 2013; Ross et al., 2017). The findings of this research allude to various barriers that impacted students' self-rated confidence over the course of the curriculum. The following chapter includes a discussion around the barriers identified as well as a brief discussion on the limitations and future implications of this thesis.

Theories of Learning

Kolb's Learning Cycle serves as a conceptual framework within which the results of this research are evaluated and discussed. As previously described, this framework was developed as a theory of learning. It explains the process of effective learning as a four-step cycle; concrete experience, reflective observation, abstract conceptualisation, and active experimentation. Kolb posits that effective learning occurs upon completion of the four steps which are cyclical and non-linear. That is; effective learning can begin at any step but must conclude with all four steps having been achieved (Kolb, 1984). This theory has been

supported by literature on the application of Kolb's theory in dietitian training (Palermo et al., 2009).

Another theory that underpins the evaluation of this research is that of Self-Determination. This is the theory that an individual's intrinsic motivation to learn is determined by the culmination of the three domains of competence, relatedness and autonomy (Deci & Ryan, 2000). Although competence was the main outcome of measure in this research; relatedness was highlighted as the most relevant factor in focus group discussions.

Experiential Learning Facilitates Competence

Integration of practical and theoretical learning is a significant theme that arose from this research. Students expressed the importance of integrating practical scenarios within the curriculum to consolidate their theoretical learnings. Particularly; students expressed the necessity of incorporating exposure to practical scenarios earlier in the curriculum. Students recalled struggling as a result of having fewer opportunities to engage in communication with clients; which led to challenges utilising their theoretical knowledge in practical scenarios. Students suggested it may be beneficial to their learning if they were afforded increased practical exposure in the first year of the curriculum through clinic exposure, practical workshops and observation of dietitians in practice. There is literature that recommends early placement exposure in dietetic training (MacLellan & Lordly, 2013; Pender & de Looy, 2004). In line with Kolb's Experiential Learning Theory; effective learning occurs with the completion of the steps of the cycle. This research has outlined that with reduced integration of practical and theoretical learning there is less opportunity for both concrete (novel) experiences as well as active experimentation in which students can apply learned theories to practical scenarios. According to the theory, the incompletion of the cycle impedes effective

learning of theoretical concepts. This is reflected in students' perceptions that there were not sufficient opportunities to cement their learning. The participants within this study identified key areas of improvement in this aspect to be topics including women's health, biochemistry, behavioural change, motivational interviewing and malnutrition screening.

Measuring Expectations in Relation to Peers and Teaching Staff

A common theme identified was students' inability to measure and manage their expectations regarding their personal progress pertaining to placements and the taught curriculum. Lordly and MacLellan (2012) and Gibson et al. (2015) describe how students have difficulty managing inconsistencies between their expectations of curricula and placements and their actual experiences. Palermo et al. (2018) found that students' understanding of what constitutes competence was highly subjective which made measuring progress difficult.

Students noted that their peers had varying learning opportunities while on placement which they perceived as differing from their own experiences. Students observed engaging in comparison with their peers when communicating about their placement opportunities. Some students noted that communication around subjective experiences generated apprehension as they perceived themselves as receiving less opportunity to develop competence. The theory of relative deprivation describes a perceived comparative disadvantage an individual might feel towards those in a similar setting (Smith et al., 2012). In this context, comparison to peers generates feelings of relative deprivation in which students feel they are deprived of an experience relative to their peers. Students' perception that their peers were at an advantage fortified feelings of deprivation that they perceived as affecting their learning. Competition with peers has been documented as a factor influencing dietetic students' experience of curricula and placements (Atkins & Gingras, 2009; Dart et al., 2022).

Alternatively, some students found it helpful to communicate varying experiences with their peers as they felt this provided them access to shared knowledge. According to self-determination theory, peer connection and relatedness is a key facet of students' engagement and motivation in a curriculum. Markwell et al. (2021) explored key influences on students' placement experiences and found relatedness to peers and belonging was a significant factor affecting experience. Atkins and Gingras (2009) found dietetic students' experience in education was positively impacted by peer connectedness and support.

Students expressed that having clear, overtly communicated expectations of their behaviour from the teaching team was helpful. The domain of professionalism is one that was clearly outlined by teaching staff prior to placement in regards to behaviour, communication, dress code etc. Students reported higher confidence in self-management of these expectations due to their clarity. The survey data reflects this finding as self-rated confidence in professionalism was the highest rated at baseline and after completion of the two-year curriculum. The highest rated competency across the whole survey was; *'I can accept responsibility for my own learning and professional development'.* Gibson et al (2015) reports clinical educators found dietetic students to be professional even at early stages of their placement programmes due to their understanding of professional standards of practice. This highlights the importance of clear communication of expectations from teaching staff in aiding the self-management of expectations.

Healthcare and Multidisciplinary Dynamics

Students expressed their difficulty in navigating hospital and healthcare dynamics, and how it has influenced their confidence in clinical settings. Working within an MDT is an area that was of significant concern to the majority of the students due to the hierarchical

structure within the hospital system. This is another example of relative deprivation in which students perceive that other members of a healthcare team view them as inferior. Additionally, students personally perceive themselves as less than due to inbuilt hierarchical dynamics within the hospital. The perception of hierarchical structures within medical teams in hospital settings, and how dietitians and students fit into them has affected student confidence in advocating for dietetics as a profession. In the context of self-determination theory, this is another instance in which relatedness to peers and colleagues may play a significant role in the learning and development of competence.

Survey data shows under the domain of communication, the competency with the lowest-rated confidence is *'I can make effective contributions as part of a multidisciplinary team'*. Lack of multidisciplinary experience seemingly affected students' perceived level of confidence and was a major factor influencing their subjective experience. There is consistent feedback from students expressing the need for more practical experience in a multidisciplinary setting both on placement and at the university. There is evidence that interprofessional workshops in a university setting are useful in engaging students in multidisciplinary learning (Pullon et al., 2013).

The Student–Supervisor Relationship

Students' engagement with their supervisors played an evident role in a student's confidence while on placement. This is consistent with research that shows placement supervisors are key influencers in dietetic students' experiences and career preferences (McCall et al., 2009; Palermo et al., 2018). This also lends itself to the theory of self-determination; specifically the concept that relatedness to one's supervisor can be a key influencer in the motivation to learn. Students perceived that the high turnaround in supervisors while on placement created barriers to developing meaningful connections and

relationships. Students noted that placement activities and the confidence to execute these activities were negatively affected by poor relationships with their supervisors. The impact supervisors have on their students' confidence and competence development in dietetic practice is evident in research. Studies have shown that healthcare students' placement experiences are significantly influenced by their relationship with supervisors (Burton, 2000; Maher et al., 2015; Wilkes, 2006). Students may experience feeling unvalued or being a burden while on placement (Chipchase et al., 2012). Burton suggests an effective supervisor juggles a multitude of roles including, but not limited to; supportive mentor, teacher, therapist, reviewer and facilitator (Burton, 2000). An absence of any of these qualities may result in a strained experience for both student and supervisor. In this research, many students suggested brief training for supervisors to communicate these expectations.

Cultural Competence and Cultural Safety

Students noted a lack of opportunity to develop skills related to cultural competence and safety within the curriculum. They expressed their desire to have principles of Māori health and culture integrated within the curriculum and felt there were inadequate opportunities for reflective exercises related to cultural competence and safety. Students showed the smallest amount of change in self-rated in confidence in the 'Responsiveness to Māori' compared to other domains. The lowest-rated core competency under the domain of 'Responsiveness to Māori' was *'I can explain the treaty of Waitangi and its principles related to healthcare'*. According to the Dietitians Board accreditation standards, curricula must integrate Treaty of Waitangi principles and cultural competence within the programme (Dietitians Board, 2018). Students' feedback may highlight an oversight in fulfilling this standard.

Students debated the significance of cultural competence compared to cultural safety. The overarching theme of these discussions was that ideal practice moves away from cultural competence, in which aspects of cultures are learned, to culturally safe practice which requires the ability to self-reflect on internal biases and power structures within the healthcare system that may affect how they interact with clients of different cultures. This is a sentiment being adopted by dietitians in recent years (Curtis et al., 2019). Students would like more opportunities within the curriculum to facilitate these aspects of reflection both individually and within a group. The majority of students answered 'somewhat confident' to questions under the domain of cultural competence and safety. Students were most confident in their ability to distinguish between cultural competence and safety, and their ability to respect cultural differences between patients and themselves. Students were least confident in their ability to identify interpersonal power imbalances as a barrier to practice and apply aspects of cultural safety into their own practice. This is consistent with the theory that students are not completing aspects of reflective observation, abstract conceptualisation or active experimentation concerning culture. Literature supports the advantages of reflective exercises to consolidate learning in relation to culturally safe practice (Andrade, 2019; Kohl et al., 2004; McArthur et al., 2011; Short & Chittooran, 2004).

The Pandemic

It is necessary to discuss how this research was conducted amid an unprecedented pandemic, which significantly affected the curriculum design and the healthcare system in which students completed their placements. Each barrier identified through this research was compounded within the context of the pandemic. Students' experience of the placement programme over the two years involved intermittent government-mandated lockdowns with remote learning and placements. Students describe how the isolation during this time affected

their ability to gauge their progress in comparison to their peers, and how lack of interpersonal contact exacerbated these feelings of uncertainty regarding their progress.

The intermittent lockdowns disrupted the scheduling of placements; many placements were cut short due to these lockdowns resulting in reduced time spent in clinical settings. Students were impacted by the abrupt changes to their placement schedule. Students felt it was taxing to be adaptable within the confines of a curriculum that was not designed to accommodate the challenges of a pandemic. Students faced challenges adapting to placement schedules and remote learning while being required to meet what they perceived as fixed and rigid competency goals. This compounded students' struggle to measure and manage their expectations.

Many students noticed a decrease in supervisors' enthusiasm for having them present within a hospital context. They recognised that supervisors were cautious regarding student accompaniment in the hospital due to the rapid adjustments to hospital COVID protocols. This apprehension to have students in the hospital was perceived negatively by students, which led to a decrease in confidence and impacted student-supervisor relationships.

Considerations

This research has identified numerous barriers to students' self-perceived confidence. The evaluation of students' experience of the curriculum and placement programme has highlighted some specific areas for future consideration. Specific topics identified by students that may warrant further development within the curriculum include women's health, biochemistry, behavioural change, motivational interviewing and malnutrition screening. Other opportunities identified by students for improvement include experiencing more clinic and hospital environments in the first year of the degree, fewer supervisors as well as supervisor training. An increase in opportunity for students to practice self-reflection,

specifically related to cultural safety may be another consideration. As discussed in the introduction of this thesis, the first year of the curriculum is largely theoretical and learning is usually assessed through exams and assignments. As students have highlighted, they may benefit from more reflective exercises and forms of assessment, much like the portfolios used for assessment in the latter part of the degree. In the context of experiential learning; increasing students' theoretical and practical exposure to these topics will likely aid in the development of their confidence and competence (Barr et al., 2002; Gibson et al., 2015; Heitman & Taylor, 2021; Maher et al., 2015; Porter et al., 2013; Ross et al., 2017).

Future implications

This research evaluates the dietetic training programme at the University of Auckland. To the researcher's knowledge, this is a novel exploration at this university. This research has the potential to be applied at Massey University which also utilises a similar, competency-based dietetics curriculum. Thus, the methods used in this research can be applied to study the entirety of New Zealand dietetics training and may contribute to the standardisation of curricula across universities.

According to the Kirkpatrick framework, the effectiveness of a training programme is measured in four stages (Kurt, 2016). The first is the participants' initial reaction following training. The second level is an evaluation of the learning that occurred during the training. The third level involves assessing behaviour change and the application of learning in practice. The evaluation of the curriculum and placement programme in this research through surveys and focus groups has involved aspects of the first three levels of this framework. The final level of evaluation in the Kirkpatrick framework involves an audit of key performance indicators and targeted outcomes to determine the overall impact of the training. In the context of this research, this would involve assessing overall changes in self-rated confidence in dietetic competencies as the curriculum adapts.

This research only looked at a single two-year journey through the curriculum. To evaluate outcomes of the training programme at the quaternary level of this validated framework; one would have to look at a multitude of 2-year placement blocks over the course of multiple years to gauge changes in the efficacy of the curriculum and its impact on self-rated confidence in competence. The findings from the application of the Kirkpatrick framework can identify both the strengths and weaknesses of any given training programme and inform changes to improve outcomes at each level (Kirkpatrick, 1998). The methodology used in this research can be replicated to implement this manner of curriculum evaluation.

Limitations

The findings from this study have provided key insights into dietetic students' experience of placements. This is particularly significant as it is a novel study into the efficacy of the University of Auckland dietetic curriculum; the larger of two university programmes that contribute to the dietitian workforce of Aotearoa New Zealand. In saying that, this research is not without its limitations. There were several limitations to this research. In March of 2021, the restrictions arising from the pandemic began to have a significant impact on the curriculum and placement programme. Both cohorts in this study were hugely affected by lockdowns and restrictions. Clinical placement hours decreased and students moved to remote and virtual learning. The first- and second-year students that participated in this study were in a unique position due to the aforementioned effects of the pandemic. As restrictions ease and the management of COVID becomes normed, the curriculum will adapt to accommodate for COVID restrictions and the pandemic is less likely to be as disruptive to students' experiences. Therefore, the context in which this research was conducted is unique and the findings must be considered with context in mind when generating extrapolations for future research.

The pandemic's disruption of the placement schedule resulted in the cancellation and truncation of many placements, which contributed to a low response rate to the survey at times. Most significantly, this affected data collected following placement A and between clinics and placement C. Due to the low response rate at this time the data is not sufficient to evaluate the impact of self-rated confidence after clinics finished and before placement C.

Conclusion

This research attempts to evaluate how self-rated confidence evolves throughout the dietetic programme. It aims to identify possible barriers to developing confidence in dietetic competencies and pinpoint possible areas of improvement within the curriculum and placement programme to increase students' perceived confidence. Barriers include comparison to peers, engaging with supervisors, lack of experiential learning and lack of opportunity to develop skills necessary for reflective self-evaluation. This discussion has provided evidence to inform possible improvements to future curricula. Adopting students' feedback in the process of curriculum development is prudent in ensuring the efficacy of the curriculum (Ross et al., 2017; Short & Chittooran, 2004). The research conducted in this thesis has the potential for future application within dietetic curricula across universities to evaluate changes in confidence and competence across multiple cohorts and inform improvements to the dietetic workforce.

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APPENDIX A – Survey

Please rate how confident you feel in the following competency areas	Not Confident at all (1 point)	Not Very Confident (2 points)	Somewhat Confident (3 points)	Very Confident (4 points)	Extremely Confident (5 points)

SECTION ONE: CLINICAL COMPETENCE

1. I can use validated nutrition screening tools as part of a nutrition assessment (e.g. SGA, MNA, MUST and SCREEN).
2. I can use anthropometry, biochemical results, medical history, diet history, social and cultural history to determine nutrition status.
3. I can conduct 24 hour recalls and diet histories.
4. I can use available documentation and data to make appropriate nutrition diagnosis.
5. I can formulate accurate PES statements.
6. I can use assessment data to assign priorities for nutrition planning
7. I can identify the nutrition issues which require nutritional intervention.
8. I can develop dietary prescriptions and feeding regimens in collaboration with client/carer and other healthcare team members.
9. I can understand and use appropriate clinical practice guidelines for simple cases.
10. I can explain the relationship between dietary intake and the development and management of diseases.
11. I can use educational resource material when necessary.
12. I can demonstrate knowledge of popular alternative and complementary therapies.
13. I can monitor the progress of an individual's condition and care and adapt their nutrition plan as necessary.

How could the current curriculum be improved to increase your confidence in clinical competence? …

SECTION TWO: COMMUNICATION

14. I can document cases using the correct NCP format.
15. I can implement a nutrition care plan in collaboration with clients/ carers and other healthcare team members.
16. I can communicate all steps of the nutrition care process to other members of the healthcare team.
17. I can determine and communicate the food service and supply needs of individual clients to appropriate persons.
18. I can make effective contributions as part of a multidisciplinary team.
19. I can involve the client and whānau in healthcare decisions.

20. I can listen and provide feedback that encourages patient participant and engagement.

How could the current curriculum be improved to increase your confidence in communication? …

SECTION THREE: RESPONSIVENESS TO MĀORI

21. I can recognise how the colonial history of New Zealand has led to health inequities between Māori and non-Māori.
22. I can explain the Treaty of Waitangi and it's principles related to healthcare.
23. I understand my responsibility to contribute to improving health equity as a healthcare professional.

SECTION FOUR: CULTURAL COMPETENCY / CULTURAL SAFETY

24. I can communicate with patients and their whānau in a way that respects their cultural customs and which is appropriate to their level of understanding.
25. I can enforce learning in a culturally appropriate manner when counselling patients and whānau.
26. I can involve client and whānau in decision making regarding treatment and goal setting.
27. I can include reflective practices and peer/ supervisor feedback to review the way I practice culturally.
28. I can reflect on the interpersonal power imbalances between a patient and me to deliver quality care.
29. I can identify clinical effectiveness barriers due to interpersonal power imbalance(s) between me and a patient.
30. I can reflect on my own attitudes, biases, prejudices and assumptions that may contribute to a lower quality of care.
31. I understand the difference between cultural competency and cultural safety.
32. When assessing/counselling a patient, I can ask the patient about their cultural preferences.
33. I respect the cultural viewpoint and preferences of patients and their whānau.

How could the current curriculum be improved to increase your confidence in cultural competency? …

SECTION FIVE: PROFESSIONALISM

34. I can act professionally when communicating with clients, whānau, and members of the dietetic and healthcare teams.
35. I can discuss patient care and explore ideas with supervisors and peers on an ongoing basis.
36. I can contribute in meetings with peers and supervisors.

37. I can consistently reflect on learning experiences by discussing with peers and supervisors.
38. I can professionally accept peer and supervisor feedback in order to review my practice.
39. I can conduct a peer review that communicates strengths and areas requiring improvement of others' performance and constructively provides feedback.
40. I can accept responsibility for my own learning and professional development.
41. I understand the limits of my own knowledge and clinical competency and discuss these with professional supervisor.
42. I can demonstrate the ability to seek support in a difficult situation or with difficult issues.
43. I can identify when a case is beyond own level or area of competence.
44. I can manage my workload to complete tasks within the required time frames with limited guidance.

How could the current curriculum be improved to increase your confidence in professionalism? …

APPENDIX B – Moderation Guide

Focus Moderation Group Guide

WELCOME & INTRODUCTION

- Thank you for coming – we are grateful for your time.
- The discussion that we have today will focus on the placement training programme and how it has impacted your confidence in dietetic competencies
- This focus group is designed to be a discussion, I am here to facilitate but I encourage open conversation
- We would very much like to record these discussions to help us remember them and so that we do not miss any of the issues and ideas you give us. Your names will be kept confidential – so please feel free to openly express your thoughts and opinions.
- The details of these discussions will not be shared with anyone other than the researchers and your names will be kept confidential – so please do not be concerned and feel free to express your opinions openly. Is it okay that we record this discussion?
- As a first step we should introduce ourselves.

CORE QUESTIONS	PROBES
Introductions	
Let's start by introducing ourselves. Please tell us your name and how you spent your holiday period? I will start and then we can go around the group.	
How was everyone's holiday?	Warm up questions
How have you found the placements throughout your degree?	
Clinical Competence	
How could the current curriculum be improved to increase your confidence in clinical competence?	What type of clinical practice scenarios do you feel would benefit your learning?
	How has Covid impacted your confidence in practising in clinical settings?
	What clinical theory do you think you needs more attention in the course curriculum?
	How can your supervisors help in furthering you confidence in clinical settings?
	Feedback from the survey mentioned the need for more education in complementary medicines, what do you think about that?
Communication	
How could the current curriculum be improved to increase your confidence in communication?	How has practical experience in clinical settings affected your communication? How do you feel about the amount of opportunity you have had to practice?
	What has been your experience communicating in an MDT team? Are there any ways to better prepare for communicating in an MDT setting?

	Some feedback from the survey suggested a need for more education on health care systems in New Zealand, what do you think about this?
	How has the pandemic has affected your confidence in communication?
Responsiveness to Maori	
How could the current curriculum be improved to increase your confidence in being responsive to Māori?	What has been you experience in cultivating confidence in understanding Maori health? What aspects of the course have helped and are there any gaps to fill?
	How has the placement preparation programme affected your confidence in practising dietetics in relation to Maori culture
	How confidence are you in incorporating Maori language into your practice? How has the placement preparation programme contributed to this?
	How has the curriculum affected your understanding and application of Te Tiriti o Waitangi in relation to dietetics?
Cultural Competence	
How could the current curriculum be improved to increase your confidence in cultural competence?	What type of practical scenarios would help improve confidence in cultural competence?
	Feedback from the survey stated that there would be benefit in learning about different cultures in New Zealand in placement preparation workshops, what do you think about this?
	Some feedback from the survey suggested the need for more observation of what cultural competence looks like in practice. What you think and how could this be achieved?
	We also received feedback that there should be more resources given on cultural safety. What do you think about this and what kind of resources would be the most helpful?
Professionalism	
How could the current curriculum be improved to increase your confidence in professionalism?	We received feedback from the survey that more input from supervisors would help improve confidence in professionalism. Has this been your experience, lets discuss..
	Could simulations during class time help improve one's professionalism on placement?
	How can our peers help improve confidence in professionalism? Have you found peer reviews help improve our professionalism?
	How has the curriculum provided you with tools to cultivate professionalism?
Closing	
Thank you. Your answers and discussion have been very helpful and informative. We are very grateful for the information you have provided. Do you have any questions or suggestions for us?	

APPENDIX C – Ethics Approval

The University of Auckland
Private Bag 92019
Auckland, New Zealand

Level 3, 49 Symonds Street
Auckland, New Zealand
Telephone 86356
Facsimile +64 9 373 7432

UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE (UAHPEC)

24/03/2021
Dr Rajshri Roy

Re: Application for Ethics Approval (Our Ref. UAHPEC22268): Approved

The Committee considered your application for ethics approval for the study entitled "**Is it possible to enhance the confidence of student dietitians prior to clinical placements? A design-based research**".

We are pleased to inform you that ethics approval has been granted for a period of three years.
The expiry date for this approval is **24/03/2024**.

Completion of the project: In order that up-to-date records are maintained, you must notify the Committee once your project is completed.

Amendments to the approved project: Should you need to make any changes to the approved project, please follow the steps below:

- Send a request to the UAHPEC Administrators to unlock the application form (using the Notification tab
- in the Ethics RM form).
- Make all changes to the relevant sections of the application form and attach revised documents
- (as appropriate). Change the Application Type to “Amendment request” in Section 13

(“Submissions and Sign off”).
Add a summary of the changes requested in the text box.
Submit the amendment request (PI/Supervisors only to submit the form).

If the project changes significantly, you are required to submit a new application.

Funded projects: If you received funding for this project, please provide this approval letter to your local Faculty Research Project Coordinator (RPC) or Research Project Manager (RPM) so that the approval can be notified via a Service Request to the Research Operations Centre (ROC) for activation of the grant.

The Chair and the members of UAHPEC would be happy to discuss general matters relating to ethics approvals. If you wish to do so, please contact the UAHPEC Ethics Administrators at humanethics@auckland.ac.nz in the first instance.

Additional information:

- Do not forget to fill in the 'approval wording' on the PISs, CFs and/or advertisements, using the date of this approval and the reference number, before you use the documents or send them out to your participants.

All communications with the UAHPEC regarding this application should indicate this reference number: **UAHPEC22268**.

UAHPEC Administrators
University of Auckland Human Participants Ethics Committee
c.c. , Ms Renee Alumasa

APPENDIX D – Participant Information Sheet

Focus Group Participant Information Form

PROJECT TITLE: Is it possible to enhance the confidence of student dietitians prior to clinical placements? A design-based research

Principal Investigator: Dr. Rajshri Roy
Course Director: Ms Julia Sekula
Research Student: Ms Renee Alumasa

An Invitation
Your participation is voluntary, and you may deny participation. Your decision to participate or not will not result in any advantages or disadvantages for you.

What is the purpose of this research?
This design-based research will provide us a useful framework for improvement to our curriculum and will give insight into how our teaching and training affects student confidence in preparation for each professional placement and how that improves as the students' progress through the Master of Health Sciences Nutrition and Dietetics programme.

How was I identified and why am I being invited to participate?
You have been invited to participate in this research as you are a student dietitian at the University of Auckland and have previously completed the Competency Confidence Survey.

What will happen in this research?
If you wish to participate in this research project, you will be asked to participate in a 60-90 minute focus groups discussion with 5-6 other student dietitians. The focus group will be facilitated by the student dietitian Renee. Topics of discussion in the focus group will cover the Master of Nutrition and Dietetics curriculum, particularly the placement preparation aspects of the curriculum. These discussions will be carried out via Zoom and recorded for further analysis. It is anticipated that the discussion will be relatively casual; you may ask the researcher questions and express your opinions without judgement or penalty, if the participants remain respectful of each other.

What are the discomforts and risks? How will these discomforts and risks be alleviated?
During the focus group, you will be asked to discuss your opinions on your experience with the MHSc Nutrition and Dietetics placement preparation programme in building self-rated confidence. No personal information will be sought out; therefore, the discussion should not elicit any discomfort or risk. However, if any discomfort or risk is felt, you can withdraw from the focus group discussion at any time. Your participation or non-participation will have no impact on your grades, academic relationships or employment with University of Auckland. However, once the discussions are complete, we are unable to withdraw any information mentioned in them.

What are the benefits for you when participating in this research?

To recognize your time and participation in this research participants will receive a $30 shopping voucher for attending the focus group session.

How will your privacy be protected?
The focus group discussions will be recorded so that the discussion can be transcribed verbatim (i.e. word-for-word) for analysis. To protect your confidentiality, no real names will be used in transcriptions. Also, no other identifiable information will be requested or transcribed, such as birth dates or addresses. After each focus group session has been transcribed and analysed, the digital recording of the focus group will be erased. All data, including consent forms, will be kept in the Principal Investigator's locked office inside a locked file cabinet. Therefore, you can be confident that your identity will never be revealed in any dissemination related to this study, for example in university presentations or any research outputs. All data will be destroyed after six years of completion of the study. You may refuse to answer any questions and are free to leave the group discussion without having to give a reason. However, because of the nature of the group situation, the recording device cannot be turned off during the discussion. You may withdraw from the focus group at any time without penalty. If you withdraw, the information you have contributed up to that point cannot be withdrawn. Because of the nature of group discussions, what you say during the focus group will be known to other participants in the focus group and therefore cannot be confidential. Your confidentiality cannot be guaranteed, but each member of the focus group will be asked to respect one another's privacy, not to talk about the group discussion to others, and to agree that everything that is said in the focus group remains confidential to the people involved.

What are the costs of participating in this research?
The only cost for you is up to 60 minutes of your time for the focus group
Discussion. You will be reimbursed for your time and participation with a $30 shopping voucher. You can be assured that participation or non-participation in this study will not have any effect on your grades or relationship with any member of the research team or the University of Auckland.

How do I agree to participate in this research?
You may agree to participate by informing Renee Alumasa ralu521@aucklanduni.ac.nz
You may also contact Renee Alumasa and/or Dr Rajshri Roy r.roy@auckland.ac.nz if you have general questions.

Will I receive feedback on the results of this research?
If you participate in the focus group sessions, the research team will maintain your name and contact information so that we may provide you with a summary of the research. However, your personal information will never be related to any of the study findings. You are also always free to contact the research team via phone or e-mail or ask us not to contact you further after the focus group.

What do I do if I have concerns about this research?
Any concerns regarding the nature of this project should be notified in the first instance to Research Student Renee Alumasa ralu521@aucklanduni.ac.nz Ph: +64211531762 or Principal Investigator Dr Rajshri Roy, PhD, r.roy@auckland.ac.nz, Ph: +64 9 235

910 Ext: 85910

Whom do I contact for further information about this research?
Research Student: Renee Alumasa ralu521@aucklanduni.ac.nz Ph: +64211531762
Principal Investigator Contact Details: Dr Rajshri Roy, PhD, r.roy@auckland.ac.nz, Ph.: +64 9 235 910 Ext: 85910

For questions regarding participants' rights and ethical conduct of research, contact the Chair, at the University of Auckland Human Participants Ethics Committee, at the University of Auckland Research Office, Private Bag 92019, and Auckland 1142.
Telephone 09 373-7599 ext. 83711.
Email: ro-ethics@auckland.ac.nz

Approved by the University of Auckland Human Participants Ethics Committee on 24th March 2021 for three years, Reference Number Ref: UAHPEC22268

APPENDIX E – Participant Consent Form

MEDICAL AND HEALTH SCIENCES

Medical and Health Sciences
85 Park Road, Grafton
Ph: (09) 923 2760
www.fmhs@auckland.ac.nz

The University of Auckland
Private Bag 92019
Auckland
New Zealand

CONSENT FORM

Focus Group Participants

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

PROJECT TITLE: Is it possible to enhance the confidence of student dietitians prior to clinical placements? A design-based research

Name of Researchers: Renee Alumasa (Student Researcher) and Dr Rajshri Roy, PhD

I have read the Participant Information Sheet, have understood the nature of the research and why I have been selected to participate in three focus group discussions. I have had the opportunity to ask questions and have had them answered to my satisfaction.

- I agree to take part in this research.
- I understand that I am free to withdraw my participation at any time without giving any reason, and the information I have contributed up to that point cannot be withdrawn.
- I understand that what I say during the focus groups will be known to other participants in the focus groups and therefore cannot be confidential.
- I understand that the focus group discussions will be recorded and that I cannot ask for the recorder to be turned but can choose to not answer any question and/or leave the room.
- I wish /do not wish to receive a summary of findings, which can be emailed to me at this email address below.

Name: _____

Email: _____

Signature: _____ Date: _____