Increasing Employability Through Programmatic Sustainable Assessment Practices and Familiarity with Recruitment Practices

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1 Introduction

This chapter makes a unique contribution to this book as it offers a curriculum model for achieving the outcome of augmenting student learning through post-practicum interventions. This chapter proposes a system of assessment to achieve a continuum of learning across a whole course of study. Given that university health programs aim to develop graduates for specific job roles (Germov, 2014), a competency-based framework provides an appropriate approach to develop this intervention (Ash et al., 2011). It begins by describing the healthcare context and employment characteristics of the dietetics profession. It argues that, while competency-based education does provide an appropriate framework for workforce development (Palermo, 2017), the profession's traditional processes for course accreditation, practicum supervision and competency assessment may not adequately prepare graduates for changing workforce demands (Palermo et al., 2018). This paper proposes the *Consensus Model* (Bacon et al., 2018), – a programmatic competency-based system of assessment (Palermo et al., 2017), that incorporates sustainable assessment tasks (Boud, 2010), as an alternative solution. This work builds on earlier research (Bacon et al., 2018) that presented the development, pilot implementation and evaluation of the *Consensus Model*. This system of assessment is appropriately positioned within this book as it sequences planned learning experiences and post-practicum debriefing. These sustainable assessment tasks aim to

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strategically enable students to augment their placement learning, while at the same time developing lifelong learning capabilities. As a part of this process, students take part in authentic assessment tasks that align with employer recruitment practices including developing a professional e-portfolio and attending a panel interview.

This model demonstrates a connection between assessment and post-practicum debriefing. Prior to each debriefing students map their learning and self-assess their performance against the professional competency standards. Students then engage in critical dialogue with a more knowledgeable other/s, usually their work site educator. These conversations aim to: (1) support students to take responsibility for their own learning; (2) develop a shared mental model of performance expectations; (3) moderate their self-assessments using a consensus approach; (4) focus on assessment 'for' learning, strategically targeting future learning experiences; (5) enable students to transform their learning across contexts; and (6) help students in their transition to the workforce.

Development of the *Consensus Model* has used an iterative approach using feedback from key stakeholders. This study evaluates the second iteration of the model using data from students, graduates and work site educators. For this version, students and work site educators received online resources to help them to deliver the model as intended. This study collects data on employability skills and graduate outcomes to provide evidence to show if this programmatic system of assessment, incorporating, sustainable assessment practices, can augment post-practicum learning experiences and assist students in their transition to the workforce.

1.1 The Current Workforce Context

Nutrition and dietetics contribution to health is becoming increasingly clear, with a growing body of evidence demonstrating the critical role of nutrition in sustaining wellness and the impact of dietetic interventions on mortality and morbidity outcomes (National Health and Medical Research Council (NHMRC), 2013). Aligned with this demand, the growth in the nutrition and dietetics workforce has continued. The Australian Bureau of Statistics (ABS, 2017) predicts the number of nutrition and dietetics professionals will grow from 7500 in 2018 to 8900 in 2023. Yet, whether this workforce is sufficiently diverse and adequately prepared to meet future workforce demands is questionable.

The dietetics workforce is predominantly female (97.4%) and younger in age when compared to other industry groups. (The average age is 32 years, compared to the all jobs average of 40 years.) In addition, many dietitians are under employed, with only 51% of dietitians in full-time employment (ABS, 2017). A mismatch has also been identified between graduate outcome capabilities and workforce requirements (Morgan, Reidlinger, Surgeant, Crane, & Campbell, 2019). A recent study

(Morgan, Reidlinger, et al., 2019) has suggested that the traditional accreditation practices have resulted in dietetics courses that are non-responsive to workforce requirements, with graduates poorly equipped to pursue work in non-traditional settings.

Healthcare is rapidly changing due to an ageing population, increases in chronic lifestyle diseases and dementia, changes in social diversity and health inequalities, technological advances and increasing consumer expectations (Hickson, 2017). Hickson (2017) predicts that advances in artificial intelligence will demand new approaches for managing these complex health and social care systems. Future dietetic graduates are likely to work beyond traditional clinical roles, incorporating industry, private practice, primary and secondary care, higher education and global nutrition, as well as, extended roles beyond the profession (Hickson, 2017).

This dynamic context calls for a future workforce that is flexible and diverse, made up of critical thinkers, transformative practitioners and lifelong learners (Hickson, 2017). Dietitians will need to embed research activity into their professional practice to have local, national and international influence. Graduates will need to show leadership and advocacy, creativity and innovation (Hickson, 2017). The next question then becomes, how do we design learning and assessment practices that support graduates to develop and demonstrate these capabilities?

1.2 Competency-Based Education and Workforce Development

In Australia, the dietetics workforce has developed using a competency-based education framework (Ash, Palermo, & Gallegos, 2019). The dietetics profession described competence according to the Model of Skills Acquisition (Dreyfus & Dreyfus, 1980; applied to the health context by Benner, 1984), where competence is mid-way on a performance development continuum between novice and expert, and marks the point at which a student is work ready. Professional credentialing associations are responsible for developing National Competency Standards (NCS) to describe minimum practice standards (Dietitians Association of Australia (DAA), 2015). Within the dietetics profession, the NCS (DAA, 2015) inform the curriculum of, and standards for, accredited university courses (Australian Dietetics Council (ADC), 2017) and provide the criteria to assess students' readiness to practice.

NCS aim to reflect current workforce needs and to captures emerging areas of practice. The functional analysis methodology used to develop the NCS, while led by experts, also involved practitioners, new graduates, academics and regulating authorities in their development (Ash et al., 2011; Palermo et al., 2014). Consistent with the dynamic workforce context, in the latest version of the NCS (DAA, 2015), there was also a move away from preparing graduates for specific areas of practice, towards emphasising professional attributes applicable in any setting.

1.3 The Challenges of Competency-Based Learning and Assessments in the Practicum Setting

According to the 'Assessment Framework for Clinical Competence' (Wass et al., 2001), assessors can only judge competence from observable performances in simulation and work settings, as, here students must engage in the complex tasks that integrate knowledge, skills and attitudes and that bring into play intangible attributes, such as, clinical reasoning and critical thinking (McAllister et al. 2010). As such, the DAA Accreditation Standards of Dietetics Education Programs (Standard 5.2) includes a minimum of 100 days of practicum, with mandated experiences in medical nutrition therapy, food service systems and public health nutrition (ADC, 2017).

Assessment drives learning (Wass et al., 2001), significantly influencing (both positively and negatively) the students' learning experiences and outcomes. It powerfully frames what and how they learn (Boud, 2010). In the practicum setting some competency-based assessment models are poorly aligned with workforce development needs. For example, research in physiotherapy (Kell, 2014) reported on supervision approaches and summative assessment models in which students adopted passive learning approaches and perpetuated the practises of their work site educators, even in the face of inherent conflict. Similarly, within dietetics, a national study (Palermo et al., 2018) found a disconnection between summative assessment practices and workforce development.

Traditional assessment practices may be preventing students from taking responsibility for their learning. Although within the purview of the universities (ADC, 2017), individual work site dietitians have previously been responsible for assessing student's competence within discrete practicum units (Bacon, Williams, & Grealish, 2015). Firstly, making assessments only within individual placements, has made it more difficult to enable feedback loops and continuous learning across a whole course of study. Secondly, the inherent subjectivity of workplace placements may require greater consideration (Bacon, Holmes, & Palermo, 2017; Govaerts & van der Vleuten, 2013). The frames of reference used by assessors are complex, dynamic and highly variable (Kogan et al., 2011), include assumptions and contextual factors (Bacon, Holmes, et al., 2017; Bacon, Nyamayaro, et al., 2017) and use personal schemas (Govaerts & van der Vleuten, 2013). Similarly, observed performance is also a variable trait influenced by many factors, such as, the student's emotional and physical state, their familiarity with the work environment, their relationship with their supervisor, and even the act of being assessed (Khan & Ramachandran, 2012). Research by Trede and Smith (2014) shows that even experienced work site educators, supported by competency standards, descriptions, policies and a national assessment form, experience dilemmas in judging and interpreting workplace performance. The student is the expert of their own experiences and maybe best place to judge their own capabilities, when this judgement is moderated by the expertise of experienced others. Similarly, making assessments within discrete units has made it more difficult to enable feedback loops and continuous learning across a whole course of study. There is a need to explore new approaches to

competency-based education that are sufficiently robust to meet the challenges in practicum-based assessment, while also flexible enough to adapt to the demands of the future workforce.

1.4 A New Approach to Competency-Based Practicum Assessments

As a profession, supported by the Community of Practice for Dietetics Educators (Palermo, 2016), there is now a national movement in Australian dietetics education towards a programmatic competency-based system of assessment (Bacon et al., 2018; Jamieson et al., 2017; Palermo, 2016). This approach, rather than just assessing competence during discrete practicums units, incorporates a series of interdependent elements of learning and assessment that are intricately linked. It requires constructivist alignment between competency standards, learning outcomes, program content, assessment strategy and methods. It focuses on assessment *for* learning, closing the feedback loop between assessments tasks, constructive feedback and future learning goals. The final high stakes decision of competence is ultimately made based on a longitudinal body of evidence, from a variety of simulation and practicum contexts, by multiple appropriately trained assessors (Palermo, 2016). Within a programmatic system of assessment, adopting sustainable assessment practices post-practicum may help to develop dietitians who are critical thinkers, transformative practitioners and lifelong learners.

Boud (2010) recommends sustainable assessment practices to equip students with the capabilities required for the future workforce. He defines sustainable assessment practices as, "assessment that meets the needs of the present [credentialing, immediate tasks, content] without compromising students' ability to meet their own future learning need [self-assessment, the learning process, learning transformation] (Boud, 2010, p.151)". A shared understanding of performance standards, moderated self-assessment practices that function as a catalyst for future development and the opportunity to practice and transform learning across contexts characterise sustainable assessment practices (Boud, 2010).

Critical conversations post-practicum are likely to augment student learning. Students highly value conversations with a more knowledgeable other, such as their work site educator, when focused, rather than descriptive, and offering structured guidelines (Sweet, Bass, & Graham, 2019). Research has shown that when assessors sharing their assessment judgments, they must justify their decisions, identify their assumptions and learn from the observations of others (Bacon, Holmes, & Palermo, 2017; Bacon, Williams, Grealish, & Jamieson, 2015). These outcomes are also likely when a work site educator and student share their assessments of the student's practicum performance. Using this process, the students and educators can gain a shared mental model of performance expectations, moderate the student's self-assessment, identify learning gaps and identify future learning goals. These critical conversations also enable the student to demonstrates their capacity for

reflective practice and provide insight into their thinking and decision-making (Sweet, Bass, & Graham, 2019).

Post-practicum interventions that require students to transform their learning across contexts are also likely to augment student learning. Learning across a whole course of study (as in programmatic system of assessment), rather than in discrete practicum units, requires students to conceptualise their learning at an abstract level, recognising patterns or connections between work setting, enabling deep rather than surface learning (Larsen-Freeman, 2013). As articulated by Carraher & Schliemann, 2002, p.18), for students to transform their learning across practicum contexts they 'do not simply upload a prior solution from their storehouse of knowledge. They have crafted it on the spot, adjusting and adopting their prior knowledge process'. Such an approach is likely to develop graduates who are innovative thinkers, able to create new knowledge, to challenge current practices and meet our future healthcare demands.

Students are likely to favour post-practicum experiences that emulate employer recruitment practices. Recent research exploring the benefits of post-practicum interventions reports that students highly valued authentic experiences that are directly relevant to their current situation (Clanchy et al., 2019). Cain et al. (2019) found that students prioritise post-practicum experiences that focus on their particular occupation, are concerned with their performance in the workplace and led to or help them to being more employable. Such experience may also help to augment practicum learning and improve graduate outcomes.

This introductory section has provided an overview of the chapter. It has also provided contextual information, arguing that traditional curriculum practices may be stifling innovation and resulting in a mis-match between employment opportunities and graduate capabilities. Assessment drives learning and therefore well-designed outcome-based assessment models are critical to providing the learning required to equip graduates with the capabilities required to meet workforce demands. A programmatic system of assessment, incorporating sustainable assessment tasks, may offer a potential teaching solution that is able to work with the inherent subjectively of workplace assessments and also enable a continuum of learning across the university and practicum settings. Post-practicum experiences may play a critical role in this assessment system, augmenting student's learning experiences, empowering students to become transformative learners and improving employability outcomes. The next section introduces, the *Consensus Model* – as an example of such a system.

2 The Consensus Model

This section describes the *Consensus Model* that offers a curriculum approach to achieve the outcome of augmenting student learning through post-practicum interventions. In 2016, an Australian post-graduate dietetics course piloted the model. The details of the implementation and its evaluation are available elsewhere (Bacon

et al., 2018). This chapter, provides a brief overview, highlighting details of the post-practicum intervention.

The *Consensus Model* includes a sequence of post-practicum interventions, including reflective practice and critical conversations, to achieve the following learning and assessment objectives:

1. To integrate students' learning across the course of study, using the NCS framework to link student learning outcomes to workforce expectations;
2. To moderate students' performance expectations and self-assessments, strategically guiding their future learning process; and
3. To transform students' learning across practicum contexts; and
4. To increased students' familiarisation with employer recruitment practices.

2.1 Course Structure for the Consensus Model, as Illustrated by Fig. 1

In the first year of the Master of Nutrition and Dietetics course, students complete seven university-based units [see Table 1 (1)]. These units include authentic assessment tasks. For example, the final exam for the unit, *'Counselling and Communication for Dietitians',* is a simulated counselling consultation using an actor as the client. Although academics assess these units traditionally, assigning a grade for each unit discretely, students are able to view their learning across these units, as a continuum, by mapping their learning against the NCS. This process helps students to

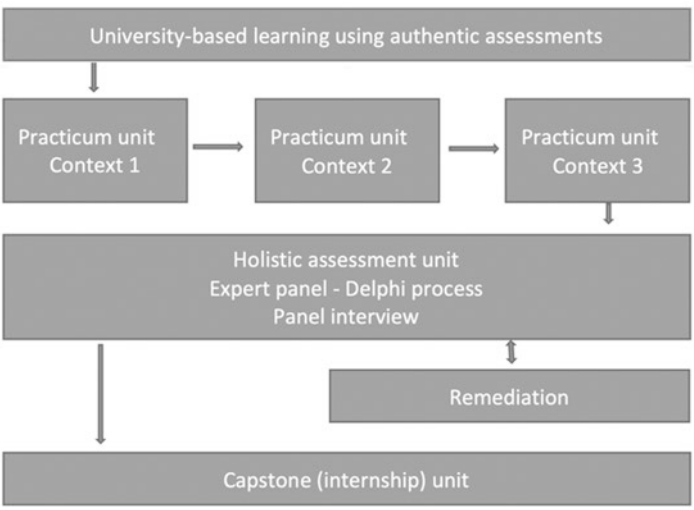

Fig. 1 Course structure for the *Consensus Model*

Table 1 The *Consensus Model*

Units	Moderated self-assessment practices
(1) University-based units 1. Community and Public Health Nutrition 2. Epidemiology 3. Research Project 4. Dietetics 1 5. Dietetics 2 6. Counselling and Communication for Dietitians 7. Food Service Management *Graded units*	Students mapped graded authentic assessment tasks against the competency standards (DAA, 2015) and identified: Evidence of competence (assessed work samples, e.g. research manuscript, simulated nutrition consultation, simulation program plan etc.) Areas for development (used to inform personal learning goals for first developmental placement unit)[a]
(2) Practicum units Public Health Nutrition Medical Nutrition Therapy (community + hospital) Food Service Systems *Formative assessment only (designed to support the change in role of the work site educator from 'assessor' to 'coach'.*	Students: Used a *Competency Tracking System* (Bevitt et al., 2016) (modified to include the DAA NCS and a 'reflection in action' column) to regularly self-assess performance of job tasks completed during placement against the NCS. This was informed by evidence that included, but was not limited to: Compulsory work-samples (set out in the Assessment Unit Outline) that had been independently mapped by academic staff, as part of course development, against the NCS. Multisource feedback [using, with permission, tools developed by Jamieson et al., (2017) and Dart (unpublished data)]. Completed a written moderated self-assessment of their overall practice using the *Global Assessment Form* with both the student and work site educator required to independently formatively assess the student's performance. Together at a *Reflective Practice Meeting* this form was used to discuss the student's learning goals and strategies[a, b].
(3) Assessment Unit Assessment of Dietetics Competence *Summative panel assessment with a focus on future learning and development.* *A remediation placement is offered to students if further development is required to reach competence. These students are then required to repeat the panel assessment.*	Students: Developed and submitted a course e-portfolio with the onus on students to provide evidence to demonstrate their professional competence. Attended a panel interview that offered an opportunity to speak to their e-portfolio and any concerns raised by the panel[a]. The assessment panel consisted of two academics familiar with the student's practicum experience, an industry representative who was experienced in assessing students' performance in the workplace, and an external moderator with expertise in competency-based assessment.

(continued)

Table 1 (continued)

Units	Moderated self-assessment practices
(4) Capstone Unit Nutrition and Dietetic Professional Internship *Assessed* *Using a mentoring model emulating the new graduate DAA Provisional Accredited Practising Dietitians (APD) program* (DAA, 2019)	Students: Used a learning contract *Aimed to consolidate learning and assist transition to the workforce* *Required to make an autonomous contribution as a dietitian*

[a]Throughout this process, students were supported through online resources, email and individual appointments with the University Placement Coordinator

[b]Prior to the commencement of the Developmental Placement Units work site educators attended training workshops on the new assessment forms and processes

Bacon, R., Kellett, J., Dart, J., Knight-Agarwal, C., Mete, R., Ash, S., Palermo, C. (2018) A consensus model: Shifting assessment practices in dietetics tertiary education, Nutrition and Dietetics, 75(4), 418-430

reflect 'post-simulation' and identify evidence that demonstrates competence, as well as, gaps in their knowledge, skills or attitudes.

The final year of the course includes three practicum units, each undertaken in a different practice context, as mandated by the dietetics professional accreditation standards (ADC, 2017). These contexts included, '*Public Health Nutrition', 'Medical Nutrition Therapy'* and *'Food Service Systems'* [see Table 1 (2)]. The students' learning across these units is continuous. Here again, students map their learning against the NCS. Mid way and at the end of each of these units, student engage in the following post-practicum interventions: (1) Students self-assessed their own performance using a rating scale (novice to competence) which they justified with a qualitative description; and (2) Students engage in critical conversation with their work site educator to moderate this assessment and to develop strategies to inform their future learning experiences.

Following the practicum units, students complete an assessment unit, as a post-practicum intervention, where an expert panel holistically assesses each student's competence against the NCS [see Table 1 (3)]. In this unit, students present their work, from simulation and practicum settings, in a course e-portfolio. While there is some flexibility in what students included in their e-portfolio, the assessment unit outline mandates some predetermined work-samples that have been independently mapped by academic staff, as part of course development, against the NCS. The four panel members, who are all experienced dietitians and assessors of student performance, used a two-round process of assessment. Rounds one requires all panel members to independently assessment the students e-portfolios. Between rounds one and two, each student meets with the panel at an interview to gain further insight into the student's perspective and to explore any areas of contention. In round 2 the panel makes a final holistic consensus decision about each student's readiness for independent practice.

The *Consensus Model* also provides students with experiences that increased their familiarisation with employer recruitment practices. The students e-portfolio includes a statement of claim supported by evidence demonstrating their fulfilment of the NCS. The student's panel interview emulates recruitment practices. Students also participated in a workshop run by the University's Careers Service to further develop skills in networking, writing job applications and attending job interviews. Finally, students completed a capstone unit based on the professions graduate provisional credentialing program that uses a mentoring model [see Table 1 (4)]. This unit consists of an internship which enables students to showcase their capability and develop networks with future employers.

2.2 Pilot Evaluation

The pilot implementation of the *Consensus Model* was evaluated after 1 year (Bacon et al., 2018). This study included analysis of assessment data and qualitative feedback from key stakeholders (personal interviews with students n = 29; focus groups with work site educators n = 4; n = 5 and n = 8, from sites representing more than 80% of the placement hours and across the practice areas of medical nutrition therapy, food service systems and public health nutrition). Overall, stakeholders reported that the model was a fair method to assess competence, with the capstone assessment data suggesting that students were work-ready and able to make an autonomous contribution as a dietitian.

The qualitative data also showed that the *Consensus Model* supported sustainable assessment practices, as evidenced by the following:

1. Students and work site educators reported that they shared critical conversations about the NCS that clarified performance expectations.
2. Through the students' self-assessments work site educators were able to gained insight into students' interpretations of their feedback and the students' reflective practice skills.
3. All stakeholders agreed that the assessment tasks themselves contributing to the learning process.
4. The model shifted the power balance within the student work site educator relationship, encouraging students to take greater responsibility for their own learning.
5. Students reported being supported in their development of life-long learning capabilities.

This section has presents previous research (Bacon et al., 2018) that describes the development, pilot implementation and evaluation of the *Consensus Model*. This system of assessment sequences planned learning experiences and post-practicum debriefing. These sustainable assessment tasks aim to strategically enable students to augment their placement learning, while at the same time developing lifelong learning capabilities. As a part of this process, students have taken part in authentic

assessment tasks that align with employer recruitment practices including developing a professional e-portfolio and attending a panel interview.

While these evaluation findings of the pilot implementation are encouraging, the effectiveness of the *Consensus Model* to meet the recruitment and work demands of the future healthcare system cannot be determined without data on employability skills and graduate outcomes. Any successful model also requires ongoing evaluation processes to ensure the course is implemented as intended. The next section of this chapter will outline the second iteration of the *Consensus Model* and its evaluation.

3 The Second Iteration of the *Consensus Model and Its Evaluation*

The first section of this chapter argued that traditional accreditation processes, practicum supervision and assessment practices used, in Australian, for dietetics university courses may constrain the innovation necessary to adequately prepare dietitians for future workforce demands. The following section presented previous research (Bacon et al., 2018) that described the development, implementation and evaluation of – the *Consensus Model*, however, here the emphasis was on how the model sequenced post-practicum interventions to augment student learning. Graduate outcomes, data that is currently lacking across the profession, (Morgan, Kelly, Campbell, Hughes, & Reidlinger, 2019) is now need to determine the credibility of this approach, and, if justified, to provide the defensibility to maintain the support of students, educators, industry bodies and accrediting agencies.

3.1 The Consensus Models' Areas for Development

Development of the *Consensus Model* has used an iterative approach using feedback from key stakeholders. The initial evaluation (Bacon et al., 2018) identified the following areas for development:

1. The qualitative data from key stakeholders suggested that some work site educators focused on the summative assessment of student performance rather than assessment *for* learning.
2. More training was needed to ensure all students and educators were adequately equipped to implement the model as intended.
3. More refinement was required to improve the model's processes and resources.

3.2 Post-practicum Interventions and Supports

This invention focused on three particular aspects of the *Consensus Model:*

1. *Critical conversations post-practicum:* The model required students to use critical conversations with their work site educator in a post-practicum reflective practice meeting to develop goals and strategies to target their learning and development for their subsequent placement experiences. These experiences could occur in the same practicum setting or require the transformation of learning across settings.
2. *Familiarisation with employer recruitment practices:* The model required students to participate in authentic assessment tasks that align with employer recruitment practices to improve their employability including: developing a professional e-portfolio; participating in a panel interview; attending a careers workshop and participating in an internship capstone unit that simulated the provisional credentialing program of the profession.
3. *Online support resources:* This implementation of the *Consensus Model* required better supports and resources to optimise its benefits. New resources included completed exemplar forms and videos for the reflective practice meetings. These videos were developed using a co-design model with input from practice educators and students

3.3 Evaluation Aims

The evaluation of the second iteration of the Consensus Model had the following aims:

1. To measure the graduate outcomes of students (2015–16 cohort) who participated in the first iteration of the *Consensus Model* and employability skills of final year students who participated in second iteration (2016–17 cohort);
2. To evaluate how work site educators implemented the second iteration of the model; and
3. To evaluate stakeholder satisfaction (work site educators and students) with the online resources and supports provided to support the delivery of the model.

3.4 Evaluation Methods

The following section outlines three separate studies implemented as part of the second iteration of the *Consensus Model*. The first study considers the employment outcomes of the Master of Nutrition and Dietetics graduates who participated in the first iteration of the model (2015–2016 cohort). The second study measures the

employability skills of the final year students (2016–2017 cohort) who participated in the second iteration. The third, and final, study invites work site educators who participated in the *Consensus Model,* in 2017, to share their perception of the post-practicum experiences undertaken with the final year dietetics students and to provide suggestions for future improvements to the assessment system.

Ethics approval was obtained from the Human Research Ethics Committee (HREC 16–74) for all three studies. Participation was voluntary and implied consent. Anonymity of all respondents was maintained throughout the data collection, analysis and reporting for all three studies.

The *first study* was conducted in September 2017. All 29 graduates from the 2015–2016 cohort of the Master of Nutrition and Dietetics course were invited, via email, to participate in a telephone survey. The survey instrument was based on a purpose-built survey that had been used in a previous research study to determine the graduate outcomes for students enrolled in the same Master of Nutrition and Dietetics course from 2010 to 2015. Four additional open-ended questions were added to explore whether the new *Consensus Model* had assisted the graduates in their preparation for the workforce. These questions were tested with two graduates from the 2014–2015 cohort with minor modifications made to improve readability. The final survey included 31-items (19 open-ended and 18 close-ended questions). A descriptive approach was used for all data analysis with open questions categorised and counted.

The *second study* was conducted in 2017, with all 23 final year students (2016–2017 cohort) following their assessment panel and careers workshop. All students were asked to complete a written survey that included an 18-item validated 'Employability Impact Scale (EIS)' that used a 7-point *Likert* scale to self-assess work readiness pre- and post-placement (Calvin et al., 2014). Given the small population size, ordinal data and matched pairs, the Wilcoxon Signed Rank non-parametric statistical text was used to measure the difference in the students' employability after participating in the *Consensus Model.* In addition, the students were asked whether the online resources, that had been provided, were adequate to prepare them for their practicum program.

The *third study* was conducted in November 2017. The primary contact at all work site practicums (n = 16) was emailed details and a hyperlink to an online survey. This educator was then asked to re-distribute the survey to all dietitians in their work site who had previously been involved in the dietetics practicum program in 2017 (n = 50). The self-administered questionnaire using *Qualtrics* (*Qualtrics*, LLC, Sydney, Australia, 2017) was developed through an iterative process of discussion with two researchers, based on the placement guideline resources provided by the University. The survey instrument was piloted with two experienced external educators, to limit question ambiguity and increase face validity, with revisions made to capture all relevant information. A mixed-method design was adopted, with a combination of qualitative (n = 5) and quantitative (n = 12) questions. The questionnaire comprised of three parts including: (1) Demographic data about the work site educators' settings [3 questions]; (2) Educators' experiences with the reflective practice meetings and perceived effect on student employability incorporating the

EIS [7 questions]; and (3) Evaluation of the accessibility and efficacy of the online placement support resources [7 questions]. A descriptive approach was used for all data analysis with open questions categorised and counted.

In this section the aims, post-practicum interventions and evaluation methods used for the second iteration of the *Consensus Model* have been presented. In the subsequent section, the results for each study will first be reported separately and then presented collectively. Finally, these findings will be discussed together, in light of the background literature and the findings of the initial evaluation of the *Consensus Model*, to provide a more holistic evaluation of the post-practicum interventions.

4 Stakeholder Experiences with the Second Iteration of the Consensus Model

This section presents the graduate outcomes for students who participated in the first iteration of the *Consensus Model* and the employability skills of final year students who participated in the second. Given that competence is defined in terms of a person's overall capability to perform a job role in society (Brownie, Bahnisch, & Thomas, 2011), this data provides a measure of the credibility and defensibility of this assessment system. To ensure the model has been implemented as intended, data has also been collected from work site educators, on the practices used to implement the model. Finally, stakeholder satisfaction with the resources and supports used in the delivery of the model have been evaluated.

The results will be presented here, initially based on the evaluative study design, and therefore according to the contributions from each key stakeholder (graduates, final year students and work site educators). The results will then be collated together to directly address these project aims.

4.1 Graduate Employment Outcomes and Feedback

The first study was completed with graduates who had participated in the 2016 pilot implementation of the study. Of the 29 students enrolled in the course 17 completed the online survey giving a response rate of 62 percent. The results showed that within 12 months, almost all graduates (94%) were employed as dietitians or in related positions. As an example of a related position, one student reported her employment to be as a research assistant, rather than as a dietitian, however in this role she used the research skills she had developed directly from her postgraduate dietetics qualification. Not all students were in full time employment. On average students work 34 h per week. The work settings were variable and included private practice (n = 9), community or indigenous health (n = 2), traditional hospital roles (n = 4), government

positions using their dietetics knowledge (n = 2) and tertiary education or research n = 3. All graduates were working in Australia. Most were in Canberra, although five students were working in New South Wales (NSW) and two in Queensland.

All students reported the professional placement experiences had helped them to be job ready for their dietetics positions, emphasising how the sustainable assessment approach had supported: (1) their familiarisation with the professional competency standards; (2) their ongoing self-assessment and engagement in life-long learning practices; and (3) their ability to articulate relevant capabilities to future employers. In particular, the students acknowledged the benefits of the competency-based tracking system, the reflective practice meetings, the e-portfolio and the panel interview.

All graduates reported that the course adequately prepared them for the workforce, listing the following aspects as directly useful in their current roles: (1) communication and counselling unit (n = 10); (2) placement and internship units particularly noting the acute, outpatient and community settings (n = 8); (3) clinical dietetics units (n = 6); (4) research unit (n = 2); (5) group assessment tasks (n = 1); and (6) the 'Meal Mates' clinical preparation program (n = 1). The Meal Mates program was a voluntary feeding assistance program that students were involved in as part of the first Clinical Dietetics unit.

The graduates spoke very highly of the course but also identified a number of areas for improvement including: (1) strengthening the clinical course to incorporate more content on mental health and bariatric surgery (n = 2); (2) strengthening the indigenisation of the program (n = 1); (3) earlier orientation to the acute setting prior to placement (n = 2); (4) an increased emphasis on inter-professional collaborative practice (n = 1); and (5) more direct instruction on writing selection criteria (n = 3). One student reported the panel experience as stressful.

4.2 The Employability Skills of Final Year Students and Feedback on the Online Support Resources

The second paper-based survey was completed by final year students directly following their final assessment panel. Of the 23 students enrolled in the cohort, 18 completed the survey, giving a response rate of 78 percent. These students perceived the model as supporting their development of employability skills (EIS Scale post-practicum $x = 6.07/7$, $\sigma = 0.86$). A significant difference was found in the students' employability, as determined by the EIS pre- and post-practicum experiences ($z = -2.93396$ $p = 0.00328$; $W = 18$ where W for $N = 18$ at $p \leq 0.01$ is 27). Of the students who responded (n = 14/18), 79% found that the online resources adequately prepared them for placement when used in conjunction with the face-to-face workshop. Of the remaining three students, one reported the online resources as only supplementary and two reported difficulty accessing these materials.

4.3 The Experiences of Work Site Educators with the Model and the Online Resources

In the final study, all dietitians (n = 50) were invited to complete an online survey if they were from sites that were involved in the university's nutrition and dietetics practicum program in 2017. This invitation was, however, provided indirectly, with only the primary educator at each of the 16 placement sites directly contacted by the university. Ten educators participated in the survey from sites providing placements for 61% of the students (n = 14/23). This did not include internship sites. All sites were located in Australia, and were distributed as follows: Australian Capital Territory (n = 6), NSW (n = 2), Victoria (n = 1) and Northern Territory (n = 1). The sites provided placements across all the critical practice areas mandated by the course accreditation standards including Medical Nutrition Therapy and Food Service Management (n = 6) and Public Health Nutrition (n-4).

Educators had implemented the model as intended, ranking a supportive environment (x = 6.63/7), moderated self-assessment/reflection of competence (x = 6.625/7), and developing future learning goals and strategies (x = 6.50/7) as the most important elements of the reflective practice meeting. Educators perceived the model as supporting students' employability development (EIS x = 5.5/7; σ = 1.0), although some students were less engaged limiting the benefits of the student-driven approach.

The educators reported the online resources as adequately preparing them for placement (satisfaction score x = 7.4; σ = 1.0), identifying readability (n = 3), ease of navigation (n = 3), examples of completed forms (n = 2) and the inclusion of timelines (n = 1) as particularly helpful. Further improvements recommended by the work site educators included addressing access and utilisation issues with the online resources.

Key findings from the post-practicum intervention:

1. This research provides evidence supporting a programmatic system of assessment that incorporates sustainable practices to assist students in their transition to the workforce. Both the final year students and educators reported the model developed students' overall employability skills (EIS educators x = 5.5/7, σ = 1.0; students x = 6.0/7, σ = 0.9). Of the graduates, 94% were employed within 12 months within dietetics roles or related positions, with all agreeing the model had assisted their preparation for the workforce.
2. Educators had implemented the *Consensus Model* as intended by the university. They augmented the students' practicum learning experience by engaging with them in critical dialogue. These reflective practice meetings enabled the students and educators to develop a shared understanding of the professional competency standards, supported them to reflect on their practice, moderated their self-assessments and supported them to develop future goals and strategies.

3. In this research the educators (satisfaction score x = 7.4; σ = 1.0) and students (79%) found the online resources to support the delivery of the post-practicum experiences. Issues, however, with access and utilisation with the online resources were experienced by both groups.

In this section the findings from the evaluation of the second iteration of the *Consensus Model* have been present. In the subsequent section, these findings will be discussed together, in light of the background literature and the findings of the initial evaluation of the *Consensus Model*, to provide a more holistic evaluation of the post-practicum interventions.

5 Discussion

This chapter makes a unique contribution to this book as it offers a curriculum model for achieving the outcome of augmenting student learning through post-practicum interventions.

The *Consensus Model* presented in this work, has used sustainable assessment tasks, sequenced across the course of study, to meet the dual purposes of augmenting practicum learning, while also, developing lifelong learning capabilities. The findings have demonstrated a connection between assessment and post-practicum debriefing, with such experiences enabling students to transform their learning across contexts and participate in employer recruitment practices. This chapter has built on earlier research (Bacon et al., 2018) that describes the development, pilot implementation and evaluation of the *Consensus Model*. Since its development has used an iterative approach. This chapter also present the findings from the evaluation the second iteration of the model.

This research provides evidence that a programmatic assessment model, incorporating sustainable assessment practices implemented post-practicum, can augment students' learning and assist in their transition to the workforce. Both the final year students and educators reported the model helped students to develop employability skills (EIS students x = 6.0/7, σ = 0.9; educators x = 5.5/7, σ = 1.0). Of the graduates, 94% were employed within 12 months in dietetics roles or related positions, with all agreeing the model had assisted their preparation for the workforce. There has been a call within the dietetics profession to challenge the way dietitians are prepared for practice in Australia (Palermo, 2017; Palermo et al., 2017). When faced with the power imbalances of the accreditation process (Ash, Palermo, & Gallegos, 2019), it can be tempting for Universities to perpetuate current practices. This work contributes to the current gap in education research linking innovative teaching practices to graduate workforce outcomes (Morgan, Kelly, et al., 2019).

Higher education students have shown a preference for post-practicum experiences that relate directly to employability (Cain, Le, & Billett, 2019). Similarly, a post-practicum intervention conducted by Clanchy and colleagues in 2016, found

that including activities specially related to employment increased student engagement and overall satisfaction. This research (Study 2) showed a significant difference in students' perceived employability after completion of the *Consensus Model.* Post-practicum learning activities and assessment tasks were deliberately designed within the model to increase students' employability skills and their familiarisation with recruitment practices. The Consensus Model required students to track their development, assessment their learning and demonstrate their achievements against the measurable actions as described in the NCS (DAA, 2015).

A student driven outcome-based assessment approach is less likely to make students feel compelled to emulate the practices of their work site educators and may perhaps encourage more diversity and creative contributions (Palermo, 2017). Accreditation standards have mandated that practicums take place in the critical practice areas of medical nutrition therapy, public health nutrition and food service management (ADC, 2017), with the medical nutrition therapy placements traditionally completed in the hospital setting (Bacon, Williams, Grealish, & Jamieson, 2015). Within these constrains, the *Consensus Model* has still offered students practicums in non-traditional settings and emerging areas of practice, using community and aged care settings for their medical nutrition therapy practicum and diverse settings including, but not limited to, research, industry, sports nutrition, private practice and global health as internships options in Australian and international settings (Table 1).

The pilot evaluation showed that overall key stakeholders (students and work site educators) reported the *Consensus Model* as likely to assist students in their preparation for the workforce, as illustrated by the following quote from a practice educator, "*It's a very well-rounded assessment and it's very much preparing them into the working world. You're going for your interview panel. It's almost like going for an interview itself. Then you've got your internship, so it really is just that consolidating everything ready for the workforce* (Bacon et al., 2018, p. 10). In this enquiry, these students – now graduates, showed a consistent response (Study 1). They agreed that the sustainable assessment practices increased their familiarisation with the professional competency standards; developed self-assessment and life-long learning practices; and required their articulation of relevant capabilities in a form appropriate for future employers. In particular, the graduates acknowledged the benefits of the critical dialogue in the reflective practice meetings, the e-portfolio and the panel interview. While work site educators participating in the second iteration of the model (Study 3) agreed that overall that the model helped students to develop employability skills (EIS educators $x = 5.5/7$, $\sigma = 1.0$), they also identified variation in students' level of engagement. Further support may be required for some students, pre-practicum, to improve their preparedness and engagement with the learning activities and assessment practices used in the reflective practice meetings, specifically, their capability to clearly articulate their understanding of the competency standards and their learning needs.

In the pilot evaluation, the qualitative data from key stakeholders suggested that some work site educators focused more on summative assessment of student performance than assessment *for* learning (Bacon et al., 2018). Consistent with a programmatic approach to assessment (Palermo et al., 2017), the high stakes judgement of student competence is based on a longitudinal body of evidence, from a variety of sources, assessed by multiple experienced educators. In the *Consensus Model* the focus of the critical conversation is on assessment *for* learning (Bacon et al., 2018). In the second iteration of the model, the findings showed that the educators, who completed the survey, were implementing the sustainable assessment tasks as intended (*Study 2*); augmenting the students' practicum learning by engaging with them in critical dialogue about their experiences. This post-practicum activity was well aligned with the preliminary research conducted by Cain, Le and Billett (2019) that showed students prefer activities led by educators where feedback is given on their performance relevant to occupational standards. It should be noted that sustainable assessment practices have a dual purpose, meeting the student's future learning needs [self-assessment, the learning process, learning transformation], without compromising the course requirement to provide final summative assessment of competence (Boud, 2010). While the work site educators' focus during the reflective practice meetings is on assessment *for* learning, their judgements of the students' performance (as documented in the Global Assessment Form see Table 1) are highly valued by the assessment panel and provide a key source of evidence in determining a student's readiness for practice.

In practicum-based assessment, credibility lies more with the assessment processes and users, than with the assessment instruments (van der Vleuten et al., 2017), hence the training of both students and work site educators is paramount. While the university provides regular professional development opportunities for work site educators, these are often attended by those who are committed to the practicum assessment practices and competent with their implementation. The challenge is to reach those who are not yet inducted into these practices. Online resources can supplement the professional development provided for work site educators and the delivery of effective post-practicum interventions. Online delivery of placement resources transcends geographically and time constraints and has been shown to be more accessible to work site educators in rural or community-based settings (Huckstadt & Hayes, 2005). In this research, work site educators (satisfaction score $x = 7.4$; $\sigma = 1.0$) and students (79%) reported that the online resources provided were supportive to the delivery of the post-practicum experiences. Issues of access and utilisation, however, still remained a challenge for some educators and require further attention.

This research explores the perceptions of key stakeholders who supported the *Consensus Model*. Data triangulation and the iterative process increases the credibility and defensibility of this research. Research on the perceptions of employers of graduate dietitians who participated in the model could provide

further evidence. This research provides quantitative data demonstrating work-ready graduate outcomes (Study 1), and a significant difference in perceived employability skills for students' post-practicum (Study 2). These results while supportive of the dietetics course, cannot be attributed solely to the *Consensus Model* due to the study design. Results from Study 3 should be interpreted with caution due to the low response rate.

While these findings support this case study example of programmatic assessment and sustainable assessment practices, these results cannot be generalised. Supported by the Community of Practice for Dietetics Educators (Palermo, 2017), there is a movement towards programmatic assessment approaches in dietetics (Bacon et al., 2018; Jamieson et al. 2017; Palermo et al., 2017), and hence a national study of dietetic programs with programmatic assessment models would provide stronger evidence. Currently, there may be a lack of understanding of programmatic assessment by some health professionals and accrediting bodies. Time and further education will help to engage all relevant stakeholders and for other health professions to embrace and understand this approach.

6 Conclusion

This chapter provides a curriculum model for achieving the outcome of augmenting student learning through post-practicum interventions. It describes a competency-based system of assessment that gives students responsibility for their learning and assessment, acknowledging workplace assessments subjectivity and providing a continuum of learning across a whole course of study. This system of assessment sequences planned learning experiences and post-practicum debriefing, strategically enabling students to augment their placement learning, while at the same time developing lifelong learning capabilities. As a part of this process, students take part in authentic assessment tasks that align with employer recruitment practices.

This model demonstrates a connection between assessment, learning and post-practicum debriefing. Through critical dialogue with their educators, within both their practicums and assessment unit students: (1) take responsibility for their own learning; (2) develop a shared mental model of performance expectations; (3) moderate their self-assessments; (4) focus on assessment 'for' learning, strategically targeting future learning experiences; and (5) transform their learning across contexts. This chapter provides evidence demonstrating how sustainable outcome-based assessment practices, incorporated into a system of assessment, can augment post-practicum learning experiences and assist students in their transition to the workforce.

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