Australian Government
Department of Education

Augmenting students' learning for employability through post-practicum educational processes

Final report 2019

Lead institution: Griffith University

Partner institutions: Flinders University, The University of Melbourne, Monash University, The University of Notre Dame Australia, University of Technology Sydney, Gold Coast Hospital and Healthcare System, Australian Catholic University, Flinders University, University of Tasmania, Edith Cowan University, Curtin University, Southern Cross University, The University of Newcastle, Sunshine Coast University, RMIT University, La Trobe University, The University of Sydney, Queensland University of Technology, University of Canberra

Project leader: Professor Stephen Billett (Griffith University)

Project team: Dr Melissa Cain (2015–2016) and Dr Anh Hai Le (project assistant)

External evaluator: Professor Janice Orrell, Flinders University

https://vocationsandlearning.wordpress.com/resources/

Support for the production of this report has been provided by the Australian Government Department of Education. The views expressed in this report do not necessarily reflect the views of the Australian Government Department of Education.

Requests and inquiries concerning these rights should be addressed to:
Higher Education Program Management
Governance Quality and Access Branch
Higher Education Group
Australian Government Department of Education
GPO Box 9880
Location code C50MA7
CANBERRA ACT 2601

<learningandteaching@education.gov.au>

2019

ISBN [office for learning and teaching will add]
ISBN [office for learning and teaching will add]
ISBN [office for learning and teaching will add]

Acknowledgements

The principal investigator acknowledges the generous support provided by the Commonwealth of Australia through the innovative teaching grants administered by the Office of Learning and Teaching.

It is important to acknowledge all the work undertaken, largely enthusiastically, by those who participated in and contribute to the success of this project. This includes the work of the participants in both rounds of trialling and evaluating post-practicum interventions across a range of disciplines and Australian higher education institutions.

It is important also to acknowledge and thank the original project manager, Dr Melissa Cain, and project assistant, Dr Anh Hai Le for their contributions to the project, which in the latter case extends right up to the completion of this final report.

Also acknowledged is the helpful, considered and meticulous work undertaken by the external project evaluator, Professor Janice Orrell (Flinders University).

Round 1 participants: Professor Gary Rogers, Dr Laurie Grealish, Dr Marion Mitchell, Professor Andrea Bialocerkowski, Dr Kelly Clancy, Professor Lauren Williams, Professor Elizabeth Cardell, (Griffith University), Dr Linda Sweet (Flinders University), Professor Elizabeth Molloy (University of Melbourne), Dr Jenny Newton (Monash University), Professor Carole Steketee, Niamh Keane (Notre Dame), Professor Tracy Levett-Jones (Newcastle/ University of Technology, Sydney), Dr Helen Courtney-Pratt Newcastle/University of Tasmania), Dr Christy Noble, Chris Sly, Lyn Armit, Leigh Collier, Dr Garry Kirwan (Gold Coast Hospital and Healthcare Service), Dr Melissa Cain (Australian Catholic University), Dr Julia Harrison (Monash University).

Round 2 participants: Dr Yasmin Antwertinger, Ingrid Larkin, Dr Erin O'Connor, Dr Esther Lau, Dr Manuel Serrano (Queensland University of Technology), Associate Professor Rachel Bacon (University of Canberra), Dr Christine Boag-Hodgson, Dr Zoe Murray, Dr Shirley Morrissey, Carol-Joy Patrick, Fleur Webb, Faith Valencia-Forrester, James Townshend, (Griffith University), Dr Naomi Chapman, Dr Jessica Colliver (Curtin University), Dr Nick Cooling (University of Tasmania), Dr Susan Edgar (Notre Dame), Kerin Elsum, Dr Alex Wake (RMIT), Susan Gilbert-Hunt, Nigel Gribble, Associate Professor Rachael Hains-Wesson (University of Sydney), Associate Professor Debbie Heck (Sunshine Coast University), Associate Professor Denise Jackson, Abigail Lewis, (Edith Cowan), Kelly McDermott (La Trobe University), Dr Debra Palesy (UTS), Michael Grande (Southern Cross), Fiona Little (University of Newcastle).

The document detailing Round 1 and 2 reports can be found at:

https://vocationsandlearning.wordpress.com

Executive summary

Project context

Expectations are growing among governments, employers, parents and higher education students that university studies should lead to employable outcomes. That employability includes graduates having adequate occupational capacities to (i) commence employment upon graduation, (ii) successfully transition from higher education into work, (iii) practise the particular occupations for which they have prepared, and (iv) accommodate the needs of their workplaces.

As a consequence, much attention is being given to the provision of work experiences to assist these outcomes. Going beyond those longstanding provisions, in education programs such as health care and education, that have included practicum or other kinds of workplace experiences, the provision of workplace experiences is becoming common across higher education programs.

To optimise students' ability to achieve these employability goals, it is insufficient merely to provide them with workplace experiences. These experiences need to be planned, enacted and otherwise integrated into the overall higher education experience and provision, and augmented by specific educational interventions.

Earlier research indicates that certain educational processes and actions are needed before, during and after practical experiences to optimise learning. Particular kinds of educational practices associated with specific goals have been identified.

Potential of post-practicum interventions

It has been identified that after students have had practicum experiences they can engage in educational processes to build upon and optimise these experiences. These include processes of sharing, comparing what they have encountered and learnt with those of other students. This circumstance presents an opportunity for engaging students to augment their practicum experiences post-practicum. This is the focus of the study reported here.

The educational purposes and outcomes here are potentially strong. Interventions at this point can assist developing insights, practices and values that are robust: they have the capacity to be applied across a range of educational and workplace situations. Engaging students in educational processes that draw upon their experiences and require them to appraise, apply, compare and contrast stands to be an important educational process.

The potential outcomes for augmenting students' learning here can include:

- understanding more fully the requirements of the occupation in practice
- understanding something of the diversity of circumstances and specific situational outcomes that students will need to practice
- making informed judgements about occupational pathways, including specialisms
- developing understandings, practices and values that can be applied to other circumstances where occupational knowledge is enacted
- generating personal practices of students to be active and focused learners.

Project aim and approach

This report elaborates the processes and outcomes of the Office of Learning and Teaching grant 'Augmenting Students' Learning for Employability through Post-Practicum Educational Processes' (2015–2018).

The overall goal of this project was to identify the kinds of practice that can be adopted within higher education institutions and by busy practitioners to optimise student learning from practicums. The broader aim is to promote student learning associated with employability through post-practicum interventions. Its specific goals are to:

- identify and appraise the effectiveness of post-practicum interventions promoting outcomes associated with students' employability, including readiness to practice
- identify how these interventions are aligned with achieving specific educational goals across a range of occupational sectors
- generate and test principles and practices supporting the effective enactment of these interventions across a range of disciplines and occupations
- initiate and support a systematic process of trialling, evaluation and adoption of these processes across Australian universities.

Project deliverables and outputs

The project comprised a review of literature, a survey of students' preferences, two major sharing events (dialogue forum and developmental conference) and the completion of two rounds of trials comprising more than 40 post-practicum interventions, undertaken across 19 Australian universities and 25 disciplines.

The two rounds of trials were complemented by a survey of healthcare students to identify the purposes that post-practicum interventions could serve and the most effective means of enacting these interventions, which subsequently informed the design and enactment of these interventions. The dialogue forum and developmental conference brought together participants to share plans and demonstrate processes and findings. This built up a significant practice community associated with post-practicum interventions.

Project impact and evaluation

The process was facilitated by templates for organising and planning interventions and reporting findings, engagement with the teaching fellow, and insights from the external evaluator. The evaluation was conducted by Professor Janice Orrell (Flinders University) using participant observation, observation of email communications and a survey of sub-project leaders.

Findings and recommendations

The findings from the review, survey and rounds of sub-projects illustrate and exemplify the importance of having post-practicum interventions and means by which they can be used effectively within higher education.

It was found that these interventions can be used to address a range of *educational purposes*. These include developing students': (i) occupational identity, (ii) understanding of the occupational practice for which there being prepared, (iii) awareness of variations of that practice, (iv) capacities to engage effectively and critically in their occupational practice,(v) readiness for employment in their sector, including working collaboratively, and (vi) ability to secure and sustain employment in their preferred occupations.

A range of factors was also identified about processes through which these educational interventions should progress. These include:

Learner expectation – it was found that students valued these interventions and particularly when the experiences and outcomes they provide are directed towards building their capacities to

practice their preferred occupations and in ways that address their personal readiness, stage of professional preparation and goals.

Readiness - the importance of students being adequately prepared for and them participating in that preparation for practicums in ways that made them ready to engage in and learn through those practices. A lack of this readiness will inhibit their capacity to engage in and learn effectively through their practicums.

Student engagement - Further, throughout and central to this learning is how students will come to engage in the practicum and with experiences that aim to augment and enrich them. Contemporary students are 'time-precious' or 'time-jealous', and unless they see worth and value in their participation in practicum activities and engaging with interventions that aim to enhance their learning, the processes and outcomes will be suboptimal.

Engagement in interventions – There is the concern about whether post-practicum interventions should be compulsory or voluntary. The former can lead to superficial engagement and outcomes, while the latter may miss those who need to engage. Finding ways to have compulsory activities that engage students and they believe are worthwhile seems the appropriate compromise.

Safe environment - Aligned with this is the importance of having processes in which students feel safe to share, yet are subject to educational processes so that that sharing is directed positively and constructively towards educational goals.

Designing and enacting interventions - the alignment of interventions with purposes that students wanted to achieve and are central to their course outcomes are important for the design of interventions. Their effective enactment is premised upon focuses on student engagement, processes of providing relevant and authoritative feedback concerning their progress and explicit linking with occupational and workplace imperatives.

All of these finding are elaborated below and detailed in the separate document reporting the Round 1 and Round 2 sub-projects.

From these findings, recommendations for practice within higher education include:

- the need to be clear about the kind of educational outcomes intended to be achieved and aligning the particular interventions with those outcomes
- the need for these interventions to be planned and carefully enacted, and integrated into the overall curriculum for the education program
- the importance of understanding students' preferences and engaging them in the process so that they can engage effortfully, with interest, and with confidence with peers
- having educational processes that assist students draw on their experiences in practicums and in ways that allow them to share, compare and contrast those experiences within particular disciplines
- the importance of pressing students to be active and strategic learners in their placements and positioning them as the key constructors of knowledge (i.e. their learning)
- finding circumstances and processes in which students feel safe to share, compare and critically appraise their own and others' experiences
- acknowledging that contemporary students are 'time jealous' and that extensive practicums and interventions associated with them need to be considered when identifying educational purposes and designing and enacting programs
- that teacherly competence in preparing students, engaging them during work experiences and then augmenting their work experiences through post-practicum interventions can do much

to optimise educational provision, prepare students for employability beyond graduation and provide bases for them to be active learners across their working lives.

A series of key challenges arose for teachers and students alike. They include:

- whether interventions should be mandatory or voluntary
- how to secure student effortful engagement in drawing of and sharing learnings from their experiences
- whether interventions should be student led or facilitated by others, such as teachers
- how to structure experiences to promote engagement and focused interactions
- what strategies are effective in promoting student engagement.

These challenges need to be considered in the planning and enactment of interventions to augment practicum experiences.

Table of contents

Tables and figures

Tables

Figures

Chapter 1: Introduction

Context

Over the past 15 years, universities have incrementally adopted work-integrated learning (WIL) as one of their enterprises, largely geared to providing resources and learning opportunities, many in workplaces that will assist students to be well prepared for transition from university to employment. Considerable resources from government-funded institutes for learning and teaching in higher education have been expended on projects to develop resources to prepare and support students for learning and workplaces. A significant gap in the focus of these projects has been how universities might best leverage the work placement experience after students return to university, to convert their experience into knowledge. This project addresses this gap. Given the significant resources expended on securing work experience for students across all kinds of university programs, this project has direct relevance and utility across the Australian higher education sector, which will likely welcome and value its outcomes and support its impact.

Aims and goals

This project aims to maximise learning outcomes from university students' work experiences. This will be achieved by identifying how post-practicum educational interventions can most effectively secure learning outcomes associated with graduate employability. The project's goal in achieving this aim is to identify how educational interventions can augment students' practicum experiences in developing the capacities required for effective transition to employment upon graduation (Perrone & Vickers, 2003).

The broader aim of the project is to promote student learning associated with employability through post-practicum interventions. The project's specific goals are to:

1. identify and appraise the effectiveness of post-practicum interventions that promote outcomes associated with students' employability, including readiness to practice
2. identify how these interventions are aligned with achieving specific educational goals across a range of occupational sectors
3. generate and test principles and practices supporting the effective enactment of these interventions across a range of disciplines and occupations
4. initiate and support a systematic process of trialling, evaluation and adoption of these processes across Australian universities.

Project stages

The project was enacted across four stages:

1. initial environmental scan to produce a common information base to inform the design and development of the individual sub-projects:
    - critical review of literature related to post-practicum pedagogies for supporting students' transition from their studies to employment in the healthcare workforce
    - student survey of the perceptions of what will best assist them to improve and enhance their employability
2. healthcare-related sub-project initiation, enactment and evaluation (2016; Round 1)
3. non-healthcare-related sub-project initiation, execution and evaluation (2017–2018; Round 2)
4. embedding and dissemination of project outcomes.

All four stages have been completed as per the funded proposal.

Evaluation

The evaluation of this project was conducted by Professor Janice Orrell from Flinders University using:

- participant observation at two project meetings (dialogue conference in February 2016 and development conference in February 2017) at which leaders of the sub-projects presented project plans and outcomes, and established networks
- observation of communication (largely emails) between the project leadership and the individual healthcare-related sub-project teams
- a survey of sub-project leaders of Round 1 projects, which focused on:
    - expectations and motivation for engagement in the wider project
    - adequacy of support provided by the project leader (Stephen Billett) to conduct the project successfully
    - engagement with the wider group associated with the project
    - achievements of the project
    - advice to the Round 2 project teams.

The intention of this evaluation in the first instance was to provide the project leader (Stephen Billett) and the project team with progressive feedback about the impact and utility of their plans and activities in contributing to the capacity of the many sub projects to achieve the overall goals of the project. In addition, the goals are to identify and synthesise the advice of the Round 1 sub-project leaders to those commencing as Round 2 sub-project leaders.

This formative evaluation is the basis of this report. A summative evaluation was conducted during stage 4.

Chapter 2: Project outputs and deliverables

Deliverables

Table 2.1 *Project goals and deliverables*

Goal	Deliverable(s)
Identify and appraise the effectiveness of post-practicum interventions promoting outcomes associated with students' employability, including readiness to practice	literature review, survey, dialogue forum and development conference
Initiate and support a systematic process of trialing, evaluation, and adoption of these processes across Australian universities	reports of 14 Round 1 sub-projects at 9 institutions (see Appendix D)
Identify how these interventions are aligned with achieving specific educational goals across a range of occupational sectors	
Generate and test principles and practices supporting the effective enactment of these interventions realising across a range of disciplines and occupations	reports of 19 round 2 sub-projects at 22 institutions (see Appendix E)

Findings of the literature review and survey are discussed in Chapters 3 and 4, respectively. The dialogue forum and development conference are described in Chapter 5.

In addition to the sub-project reports, several publications are being prepared.

The rationales for, processes adopted, enactments and evaluation of 12 of the Round 1 sub-projects were collated into a book published early in 2019 in an edited volume within the Professional and Practice-based Learning book series published by Springer:

> Billett, S., Newton, J.M., Rogers, G.D. & Noble, C (eds) (2019). Augmenting health and social care students' clinical learning experiences: Outcomes and processes, Springer, Dordrecht, The Netherlands ISBN 978-3-030-05560-8

As well as providing individual chapters elaborating the processes and outcomes of each of the sub-projects, these books also offer syntheses of the processes used and their outcomes, and overall commentary on the efficacy of post-practicum interventions and how they might be utilised in the health and social care sectors.

The rationales for, processes adopted, enactment and evaluation of 16 of the 19 completed Round 2 sub-projects are currently being prepared as chapters for a second edited volume that will be published in 2020, entitled *Enriching higher education students' learning through post-work placement interventions.* It will be edited by the project leader, two members of the project teams (Denise Jackson and Faith Valencia-Forrester) and the external evaluator (Janice Orrell). As for the monograph, this publication will describe, elaborate and discuss the processes and outcomes of a range of post practicum interventions, as well as cross-project observations, and conclusions about the ways in which post-practicum interventions can be used effectively in higher education. This includes a consideration of engaging students who are 'time jealous', and also workplaces that are resource precious. (i.e. careful about the extent they engage with and support students)

In these ways, and as required by the project funding, the processes and outcomes of the two rounds of sub-projects will continue to be disseminated, and the discussions they raise will continue the work of the overall grant beyond the end of the funding period.

Chapter 3: Literature review

A review of recent relevant literature was undertaken to establish the types of teaching and learning interventions and techniques that have been implemented after student work placements. A total of 41 journal articles and reports covering the disciplines of general medicine, psychiatry, nursing, social work, dentistry, pharmacy, speech pathology, physiotherapy, chiropractic practice, tourism, business, commerce, law, journalism, engineering, education and information technology were considered.

A key and initial finding from the search is the dearth of reporting on post-practicum interventions. This is despite a broad number of studies stating that feedback from students, academics and industry professionals provides clear and useful recommendations for improvement.

Beyond this, four main themes emerged from this review:

- Work placements are highly valued by students, are essential in bridging theory and practice and play a vital role in educating students to meet graduate outcomes and industry standards.
- Students may experience cultural, religious and ethical conflicts in their placements, which can be stressful because students are often not provided ways to reconcile theory with diverse and unfamiliar situations in practice.
- Work placements play an important role in introducing students to non-traditional career options, such as remote and rural practice and aged care. Placement experiences provide important support for students who may choose these career options.
- Reflection in action and reflection on action in the workplace 'plays a critical role in maximising learning potential' (Macleod et al. 2011, p. 32) and provides important information for academics, such as indicators of the success for placement programs and feedback for improving learning both in the workplace and at universities.

Importance of appraising practice experiences

Doel (2008) reports on professional development logs kept by university engineering students while on their work placements. For most students, this was an unfamiliar practice but was scaffolded in a two-day workshop prior to their placements. Feedback on this assessment tool was gained through surveys and focus groups and provides evidence that reflective thinking encourages students to analyse learning incidents rather than merely stating what occurred. In addition, placements are held to be more valuable experiences if students reflect on the learning environment and their participation, and then reorganise their processes to improve outcomes (p. 164). Bain et al. (2002) also support the use of reflective journals by pre-service teachers in their research in an Australian university. Feedback on reflections was carefully structured to assist students to 'move' towards the use of higher order thinking skills and to reflect in greater depth on their workplace experiences (p. 172). Stockhausen (2005) in reporting on post-practicum feedback from students in a hospital in Queensland demonstrates that reflection 'provides a focus for students as they work through clinical situations that contribute to their professional socialisation and identity' (p. 13). Reflecting through generating individual journal entries and peer debriefing sessions allows students to consider what is most important in their clinical experiences, and thus, Stockhausen (2005) urges clinical educators to build upon this feedback to facilitate more effective learning experiences.

Dean and Clements (2010) regard reflection as 'critical to professional development and learning' (p. 290) because carefully structured tasks can allow students to 'identify links between theory and practice, as well as uncover other issues that concern or puzzle them' (p. 290). The advantages of structuring reflective assessments for commerce students at the University of Wollongong in the commerce internship were investigated by Dean et al. (2012) as part of improving the assessment of WIL experiences. This included a daily eLog, reflections on key areas of placement, and a reflective journal (p. 107). Results of the study revealed a significant misalignment between assessment tasks and reflective practice, with some students in the study reporting the reflective tasks as irrelevant or a waste of time. A more holistic approach to reflection was recommended as an intervention, with templates to help structure reflective tasks. Dean and Clements (2010) note with regard to the same study that the development of 'soft skills' required for students to engage effectively in the workplace might be achieved by embedding work placement programs into the academic curriculum in partnership with the business community. The introduction by Lindgren et al. (2005) of 'reflective practice' for Swedish students on nursing clinical placements found that reflection, when used as a means for students to gain a deeper awareness of self and others, is widely accepted in the literature. It is held to be compatible with processes of clinical supervision, and that group supervision and reflection served as an important support to students during their placements. Holt et al. (2004) also note that post-placement feedback from students and industry connections are crucial for university staff to refine courses in rapidly changing areas such as information technology. It may well be that the opportunities for students to share their experiences of dynamic areas of occupational practices can provide understandings and procedures for working in such environments or occupations.

Culture and ethics

As WIL experiences are situationally, socially and culturally based, some of the sources accessed provided illuminating evidence about the nature of 'culture shock' amongst students unfamiliar with the Australian workplace context – such as international students (Macleod et al. 2011) – as well as Australian-trained students on international placements. Student feedback (e.g. through interviews and discussion groups) from four case studies at Flinders University (Macleod et al. 2011 revealed that when students are placed in situations where cultural expectations differ from what they have experienced in their university classes, ethical challenges are created that can induce stress and anxiety. The OLT project report of Fuscaldo (2013) on health ethics education presents detailed evidence concerning how challenging it can be for students to 'resolve ethical issues that arise when health care involves culturally divergent approaches, beliefs and values' (p. 5). A variety of case studies is presented in that research demonstrating how ethics as applied in theory may clash with the cultural and religious values of patients and their families. For example, a student found it challenging when a Malay family requested that doctors conceal the diagnosis of a terminal illness from there elderly sick father, a practice common in many Asian cultures. Post-placement feedback suggests that Western health ethics is not (always) cross-culturally applicable and that students need a framework 'to assist them to negotiate between abstract principles and particular cultural contexts' (p. 6). Hence, post-practicum interventions can be used to mediate personal experiences with these expectations.

Non-traditional placements

The University of Notre Dame's Rural and Remote Health Placement Programme (RRHPP) assigns medical students to remote placements to develop a community-centred perspective on health care and to help students better understand issues associated with the health care in rural populations. To optimise their learning, students attend pre- and post-placement briefings, and complete a reflection on their placements (Mak & Miflin, 2012, p. 605). Feedback from members of the communities in which the RRHPP operates indicates that the program is positively viewed, highly valued, and fosters empathy. The ultimate effectiveness of the program, however, will be measured by future graduates electing to practice in rural and remote communities as a result of the program.

The presentation by Abuzar et al. (2009) of the rural dental rotation program at the University of Melbourne also supports the importance of rural placements in assisting students to appreciate cultural safety and understand the specific oral health needs of Indigenous Australians. Feedback regarding student experiences affirmed that the program increased the possibility of students taking up practice after graduation in rural and Indigenous communities (p. L3). In placement assessment tasks, students reflected on the discrepancy between the oral health status of the rural and metropolitan communities, and appreciated the opportunity provided to build skills in teamwork in these longer placements. Abuzar et al. (2009) suggests that post-placement strategies need to be adopted to attract and retain dental professionals in rural areas (p. 223). Johnson and Blinkhorn (2012) also support such programs because 80% of Australian dentists practise in the major metropolitan cities. They suggest that one of the roles of clinical placements should be to encourage students to consider working in a rural location after graduation. Post-placement interviews with faculty at James Cook University indicate that students who participated in the rural placement program were clinically more advanced post-placement than those students who did not (p. 106). Evidence presented by Cleland et al. (2014) suggest students' abilities to engage effectively in these experiences will shape their effectiveness. Yet, not all students are able to secure these kinds of placements or have equal capacities to utilise these experiences. So, post-practicum processes can provide those students access these experiences vicariously in ways likely to be helpful for them, particularly if facilitated in ways likely to generate optimal outcomes for all students.

In researching Iranian students' preference for medical specialities, Amini et al. (2013) refer to an Australian study (p. 198) by Pailhez et al. (2005) indicating that, although 14.5% of medical students voiced an interest in psychiatry as a specialty, only 1.4% of students named it as their first choice. Amini et al. (2013) note research indicating medical students' attitudes toward psychiatry as a career option is highly dependent on placement experiences, and the quality of those experiences is a powerful predictor of students' decisions to choose a career in psychiatry (cf Sierles & Taylor, 1995). Although the research results of Amini et al. (2005) did not correlate with the findings in the literature, he suggests that more experience with actual psychiatric work might persuade students to consider psychiatry as a possible vocation. Similar findings are reported by Berntsen and Bjørk (2010), with aged care nursing being less preferred as a career choice by nursing students. Norwegian students consider clinical studies in nursing homes to be extremely challenging, particularly first-year students with limited training in this area (p. 18). The results of Berntsen and Bjørk's study indicate that 'major work is needed to develop the learning context for students in nursing homes' (p. 17) and present this area of nursing as a positive choice for graduate students. It is these challenging experiences in uninviting workplace contexts that may be mediated by post-practicum experiences.

Impact of post-placement intervention strategies

The potential impact of reflective practice as post-practicum experiences was highlighted by Curran (2004) who described the Clinical Legal Education program offered through the School of Law and Legal Studies at La Trobe University. By engaging in 'de-briefing' sessions, students reflected on their experiences in weekly placements in the most disadvantaged communities in Victoria. The aim of the program was for students to work for positive change in the community by initiating actual law reform (p. 300), thereby generating their own post-practicum interventions. Forde and Meadows (2011) report the dimensions of student workplace learning in journalism internships in Queensland, and the resulting impact on their journalism education. Feedback from peer reflective sessions, individual interviews and student focus groups contributed to evaluating the relevance of content and effectiveness of assessment, as well as industry partners' reflections on the dimensions of internships (p. 4), in turn prompting refinements to the current model. Forde and Meadows (2011) advocate the use of interventions before, during and after practice-based experiences as a means of 'workplace variability' (i.e. vastly different individual experiences in similar placements), an important factor highlighted in reflective sessions, and one that influenced curriculum design and pedagogy.

Findings from case studies at Flinders University (Macleod et al. 2011, have resulted in interventions such as the development of models for effective practice, and working towards providing a more effective overall experience for International students. Maire (2010) reports on four post-work placement seminars for students of chiropractic practice at Murdoch University who completed a voluntary placement in Siliguri, India. In the seminars, students shared experiences of different practices encountered whilst on placement, made explicit links between their WIL experience and theory in academic classes, and challenged students to think critically about existing models of chiropractic practices. Results of this intervention support post-practicum seminars as a way of promoting greater integration between academic and workplace settings, and effective and critical learning experiences for chiropractic students.

Several studies underscore the importance of clinical work placements as vital components in the education of student nurses (Chan 2001a; Chan & Yip 2007; Hartigan-Rogers et al. 2007; Papathanasiou et al. 2014; Ruth-Sahd et al. 2010). Clinical placements provide students with optimal opportunities to 'observe role models, to practise by oneself, and to reflect upon what is seen, heard, sensed and done' (Chan 2001b, p. 447). Nash (2012 and Ralph et al. (2009) note that the 'student voice' is frequently missing from placement evaluations, and that clinical settings can be particularly challenging learning environments, as students 'frequently find themselves involved in unplanned and often complex activities with patients' (Nash 2012 p. 1). Courtney-Pratt et al. (2012), Nash (2012) and Peters et al. (2013) highlight mounting pressures on clinical placements as student enrolments in nursing courses continue to increase and highlight that intervention strategies are required because of the shortage of these opportunities. Chan (2001a, 2001b, 2002) presents data from undertaking clinical placement in 14 metropolitan hospitals in South Australia. Using the Clinical Learning Environment Inventory (CLEI), students' perceptions of the outcomes of their clinical placement strongly reflect the five areas of the CLEI – individualisation, innovation, involvement, personalisation and task orientation – in positive clinical experiences. Findings from students' post-placement interviews suggest that clinicians' management styles and the provision of learning opportunities were more valued than teaching (Chan 2001b, p. 449) and that there were significant differences between students' perceptions of the actual clinical learning environment and their preferred clinical learning environment (Chan & Yip 2007; Papathanasiou et al. 2014). The results here provide a clearer picture of what constitutes

quality clinical education from students' perspectives and can be utilised to develop better educational experiences.

Courtney-Pratt (2012) points to an identified gap between theory and practice in nursing education and suggests a new model of employment to increase the integration of hospitals and universities to close this gap. English (2014) notes that the 'preceptor only' model, which is frequently used in nursing work placements, contains many problems, especially those regarding student nurse assessments. These problems are due, in part, to the lack of continuity of assessors with an increasing part-time workforce. Nash (2012) also underscores the importance of practice-based experiences that give students the opportunity to 'share, reflect and critically appraise their experiences' (p. 30) in developing their professional capacities, and that future intervention strategies should include peer mentoring, peer teaching, the development of clinical reasoning skills, and critical reflection. Hartigan-Rogers et al. (2007) and Henderson et al. (2006) point to the importance of supportive learning environments, positive socialisation and individualisation within placements, as their research reveals that positive experiences in nursing placements are related to 'how valued and supported students feel than to the physical aspects of a placement itself' (p. 9). The research of Midgley (2006) found that personalisation was also a critical factor in the success of nursing placements with nursing students in the UK (no university specified). The most important factors in successful placement in the study by Papathanasiou et al. (2014) with nursing students in Greece (also utilising the CLEI) were participation, and a feeling of acceptance and 'belonging' to a group.

With regard to the training of dentistry students, research by Owen and Stupans (2008) reveals a need for a stronger focus on outcomes-based programming within work placements, with all stakeholders having a clear outline about what is to be achieved. Owens recommends a national repository of experiential placement learning and assessment tasks, 'the development of standardised developmental descriptors related to competencies as applicable to university students at the novice and advanced beginner levels' (p. 11) and that collaborative engagement is utilised to identify 'quality experiential placement success indicators in relation to preceptors, students, university, site and overall environment' (p. 11). The research of Peters et al. (2013) with practice nurses revealed a need for further consultation and better communication with universities regarding the allocation of student placements, as poor organisation and communication between universities and clinical facilities greatly impacts the success of placements.

Post-practicum experiences – main themes

The literature search found that the quantum and extent of literature on post-practicum interventions was quite limited. Much of what is reported related to practices that could be used for a range of purposes and not specifically those associated with exploiting students' post-practicum experiences. So, reflections on practice, peer-based reflections and use of logs were emphasised. However, some strategies such as de-briefs and feedback were features in this literature. From the available literature, four main themes emerged from this review:

- Work placements are highly valued by students and seem essential for bridging what is referred to as theory and practice, and play a vital role in educating students to meet graduate outcomes and industry standards.
- Students may experience cultural, religious and ethical conflicts in their placements, which can be stressful as they are often not provided ways to reconcile theory with diverse and unfamiliar situations in practice.
- Work placements play an important role in introducing students to non-traditional career options, such as remote and rural practice and aged care. Placement experiences provide important support for students who may choose these careers options.
- Reflection in action and reflection on action in the workplace 'plays a critical role in maximising learning potential' (Macleod et al. 2011, p. 32) and provides important information for academics, such as indicators of the success for placement programs and feedback for improving learning both in the workplace and at universities.

What is noteworthy is that many of the areas referred to in the students' survey (see chapter 4) were not addressed. Almost absent were the sets of concerns about classroom-based activities (apart from those of Forde & Meadows 2011, and Maire 2010). That is, the whole array of potential classroom-based activities was largely absent in the reported studies. All of this suggests that the kinds of sub-projects being advanced through this project stand to make specific contributions to advancing student learning.

Chapter 4: Survey data and findings

It was decided early in the project to administer a survey of students to ascertain their interests in the educational purposes of post-practicum interventions, the frequency and means by which these interventions might be enacted. A survey was developed through many iterations and rounds of development by members of the project group (see Appendix C). Ethical clearance was sought and secured for the use of the survey as an online survey across the participating universities. This was administered through Lime Survey and participation was supported in specific ways across the discipline areas and institutions.

Possible models for post-practicum interventions

Educational purposes, options and timings for post-practicum interventions were developed as the survey instrument was prepared.

Educational purpose(s)

Some educational purposes for participating in post-practicum activities are to:

- discuss experiences during placement that were worthwhile/interesting/confronting
- link what is taught at university to practice
- learn more about preferred occupation
- learn about other students' experiences during their practicum
- learn how preferred occupation is practiced in across different work settings
- secure feedback on workplace experience
- linking work experiences with course work and assessments
- identify how these experiences can increase employability
- make informed choices about career, work options or specialisations
- make choices about selection of subsequent courses/majors
- improve the experience for the next cohort of students undertaking practicum in that venue.

Timing of interventions

Options for timing of interventions include:

- early in the program, perhaps after the first practicum
- after having had a number of practicum experiences
- towards the end of the course
- after every practicum experience.

Types of intervention

Options for interventions include:

- one-on-one with teacher
- one-on-one with a peer (another student)
- one-on-one with a more experienced student
- small self-managed groups (3–6 students) across the course
- small groups (3–6 students) facilitated by more experienced students
- small groups (3–6 students) facilitated by teachers/tutors
- shared classroom-based group activities
- whole-of-class activities (10–100 students)
- small groups (3–6 students) meeting periodically, facilitated by placement supervisor
- individually completed activity with feedback from teachers
- presentations to peers
- as part of usual scheduled class activities
- a special event each semester
- something students should organise
- online with peers
- online moderated by tutor.

Respondents

A total of 484 student informants were recorded as responding to the survey by 31 January 2016. Of these only 399 provided workable responses. Consequently, for an initial descriptive account of these data, it was decided to draw upon only those responses. The data presented in this chapter are from that cohort. The survey respondents to the survey were drawn from across the six participating higher education institutions. As indicated in Table 4.1, the respondents providing complete responses were from across these institutions.

Table 4.1 *Institutional affiliation*

Institution	***n* (%)**
Griffith University	103 (28.5)
The University of Notre Dame Australia	81 (22.4)
University of Newcastle	56 (15.5)
Monash University	50 (13.8)
University of Tasmania	50 (13.8)
Flinders University	21 (5.8)
Total	364 (99.8)

A range of demographic information about these respondents indicates the factors associated with the composition of this overall cohort. First, the majority were female (80%), with only 19% indicating being males (Table 4.2). This distribution of gender may well reflect that large numbers of respondents were enrolled in nursing (90% female) and midwifery programs (Table 3). Whilst this distribution may be representative of those programs it is not representative of the gender distribution across higher education in Australia. The respondents' reported age groupings are well distributed, with a predominance of those at school leaving age through to the late 20s.

However, there were reasonable samples from each age grouping. As indicated in Table 4.2, there is representation across age groupings in the complete responses to the survey.

Table 4.2 *Respondents' gender and age group*

Characteristic	***n* (%)**
Gender	296 (80.2)
Female	296 (80.2)
Male	69 (18.7)
Age group (years)	365 (98.9)
15–19	20 (5.4)
20–24	130 (35.2)
25–29	81 (22.0)
30–34	45 (12.2)
35–39	28 (7.6)
≥40	60 (16.3)

Table 4.3 *Respondents' disciplines*

Discipline	***n* (%)**
Nursing	162 (43.9)
Medicine	109 (29.5)
Midwifery	38 (10.3)
Dietetics	28 (7.6)
Physiotherapy	15 (4.1)
Pharmacy	2 (0.5)
Occupational therapy	5 (1.4)
Speech pathology	3 (0.8)
Education	3 (0.8)
Exercise science	2 (0.5)
Social work	1 (0.3)
Total	368 (99.7)

The disciplines of nursing (44%), medicine (30%) and midwifery (10%) were the strongest elements, followed by dietetics (8%) and physiotherapy (4%), as indicated in Table 4.3. There were small numbers of respondents from pharmacy, occupational therapy, speech pathology, education, exercise science and social work. This finding indicates that the survey responses represent perspectives from some disciplines more than others. Hence, the findings here are offering general patterns of responses, which some disciplines can claim as being more predictive of what is occurring in their programs than others.

The respondents represent perspectives of those who attended higher education as either full- or part-time students, with the former predominating (Table 4.4) and as domestic or international students (Table 4.5), again with the former predominating. Both undergraduate and postgraduate students are represented in the respondents (Table 4.6). Between them, respondents represent the full range of year levels of study (1–5), with the majority having completed more than one year of study (Table 4.7).

Table 4.4 *Respondents' modes of study*

Mode of study	*n*	Percentage
Full-time	337	91.3
Part-time	24	6.5
Total	361	97.8

Table 4.5 *Respondents' nationalities*

Nationality	*n*	Percentage
Domestic	341	92.4
International	17	4.6
Total	358	97

Table 4.6 *Respondents' levels of study*

Level of study	*n*	Percentage
Undergraduate	233	63.1
Postgraduate	123	33.3
Total	356	96.5

Table 4.7 *Respondents' year of study*

Year	*n*	Percentage
First	44	11.9
Second	99	26.8
Third	173	46.9
Fourth	27	7.3
Fifth	21	5.7
Total	364	98.6

In sum, the respondents offer perspectives from a cohort of informants that are distributed across six higher education institutions and from different disciplines in health care and from both genders, diverse age groups and at different year levels in their higher education programs. These data can be collectively considered or analysed on the basis of the variables set out above. Variables are presented as frequencies and percentages of respondents to offer broad sets of findings about student preferences and goals.

Reasons for participation

The survey respondents were asked to indicate their preferred reasons or educational purposes for participating in post-practicum interventions. They were given a list of options for educational

purposes that were identified during the development of the survey, and for each purpose they were asked to indicate level of interest: *very interested, some interest, interest, not interested* or *irrelevant*. They were also given the option of stating other purposes and indicating a level of interest at the end. The response data is presented in Figure 4.1 with aggregated levels of interest.

Across the cohort of respondents, the most frequently preferred purposes indicated a strong interest in learning more about their selected occupation, including specialisms, and how performance within the workplace can lead them to being employable. Hence, feedback on individual performance, how that relates to occupational requirements and learning more about the occupation were purposes that these students reported as being the strongest focus of interest. In many ways, these responses are not surprising and are aligned with why practice-based experiences have been included in higher education courses. Of slightly less interest were purposes associated with performance within a program, with linking experience in the work setting with learning need for a preferred occupation and linking those experiences with course requirements and assessment.

Associated with the educational provision were concerns about improving the experiences for subsequent cohorts of students, which was of less interest than the items already mentioned. The three least valued purposes were those associated with enriching learning from specific kinds of experiences, making informed choices about subsequent subject selection and, finally, an interest in learning about other students' experiences during practicums. So, the overall interest here is in enhancing understanding about the occupation and individuals' engagement with it, then improving the educational experience. The educational purpose of least interest related to utilising both one's own and others' experiences to enhance educational processes. This is a little concerning given that this project is strongly focused on using students' experiences, sharing, comparing and critical engagement to enrich the quality of the learning outcomes.

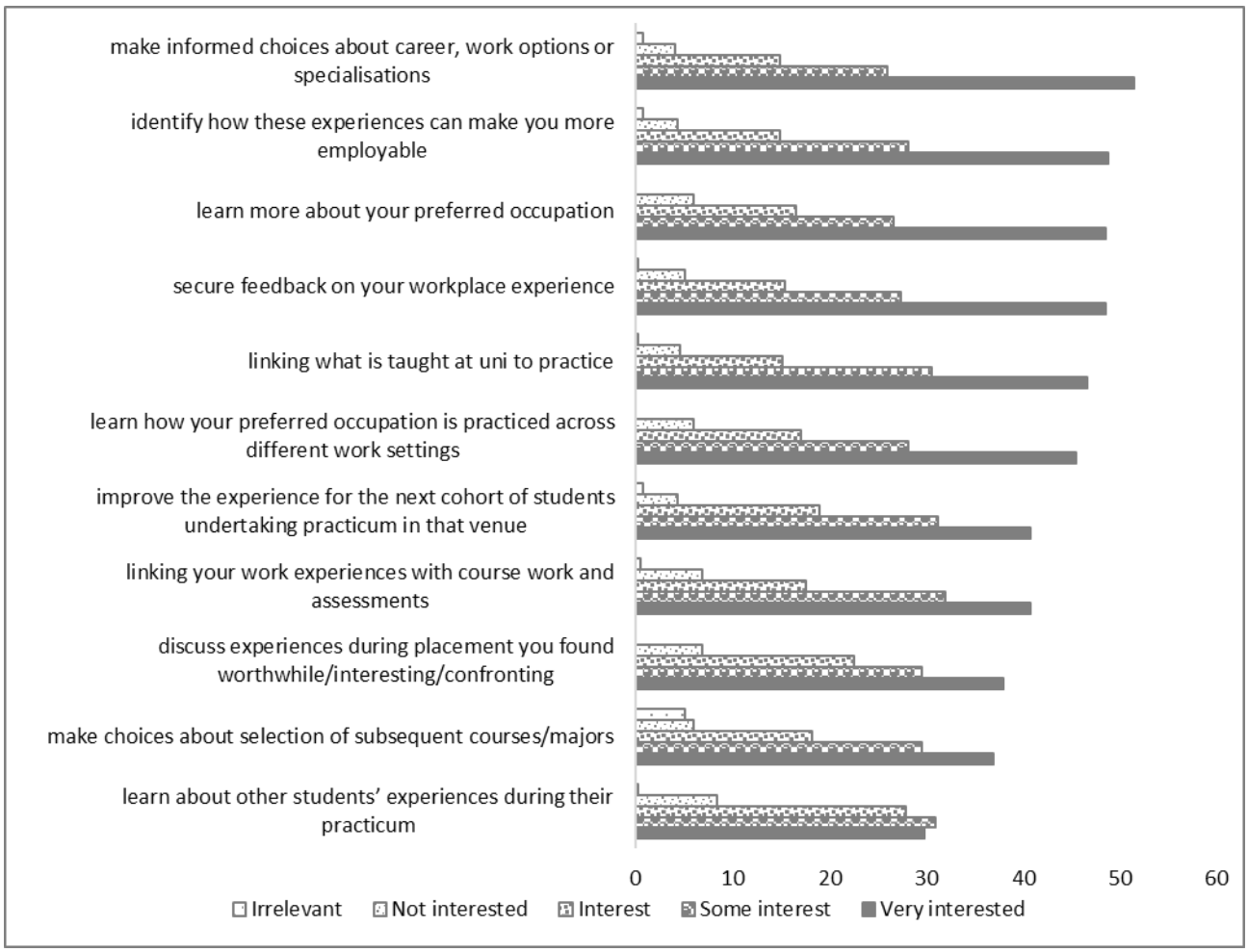

Figure 4.1. Respondents' preferred educational purposes for intervention participation

Respondents were also asked to indicate preferences amongst a set of desired outcomes from the practicum experiences identified during the development of the survey, responding on the same scale of interest. Their responses are presented in Figure 4.2. The most frequently desired outcome reported was the development of capacities for coping in the workplace, followed by input they would receive from a practising professional as part of their practicum experience, and then providing feedback to the practicum site about the kinds of experience that were provided.

The next responses in Figure 4.2 are those associated with elements of the course (i.e. content, assessment and engagement with peers), and with as many perspectives as possible, and through some kind of structured experience. So, these suggestions indicate a desire for there to be structured experiences whose focus relates their experiences to the content of the course, their assessment and this is to be realised through engagement with other students and their perspectives. Of less interest was engaging with students at different stages in their programs, and activities that are organised by students to promote learning. Of note, given the context of a healthcare orientation of the respondents, is that engaging with students from other disciplines was of the lowest interest.

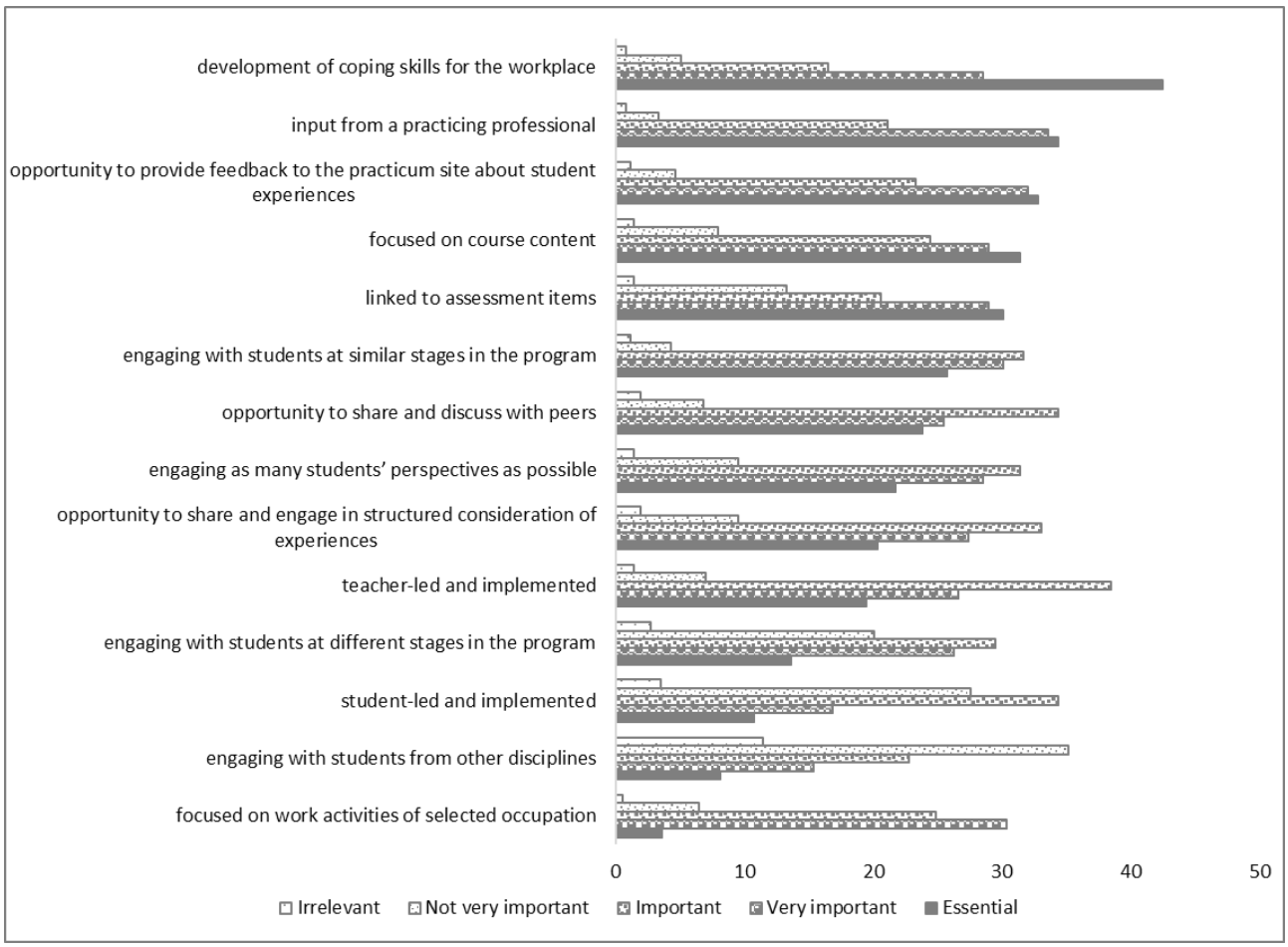

Figure 4.2. Respondents' desired outcomes from intervention participation

Of course, these analyses are just patterns across the entire cohort. Overall, these undifferentiated data suggest that the respondents are keen to use post-practicum experiences to understand more about their preferred occupations, and how they are progressing towards being prepared adequately to participate in the work, including learning more about the work, its variations and how this might inform their actions as students.

Preferred timing and focus of interventions

The respondents were also asked about their preferences for the timing (Table 4.8) and focus (Figure 4.3) of post-practicum interventions. In the first question they were asked to indicate their preference for the timing of these interventions: *early in the program, after a number of practicum experiences, towards the end of the course* or *after every practicum experience*. Respondents could indicate more than one preference. The strongest preference was for there to be interventions after every practicum (58%) followed by a preference for early in the program, perhaps after the first practicum (46%), after a number of practicum experiences (40%) and towards the end of the course (25%). From these responses the students would welcome interventions after practicums, particularly at the beginning of the program with a suggestion that these are seen as being highly valued as students come to engage with practicum experiences and seeking guidance and feedback.

Table 4.8 *Respondents' preferred timing for interventions*

Timing of interventions	***n* (%)**
after every practicum experience	215 (58.3)
early in the program, perhaps after your first practicum	170 (46.1)
after having had a number of practicum experiences	147 (39.8)
towards the end of your course	93 (25.2)

In terms of the kinds of intervention the informants preferred to engage in, some patterns emerge from these data. The students were presented with a list of interventions and asked to indicate their preference: *High preference*, *Okay, Low preference* or *Would not participate*. Figure 4.3 presents the responses to these options. The aim here was to capture not only the most preferred options but also to identify interventions that would meet with resistance or reluctance, and that might require specific kinds of actions to enact should they be seen important enough.

So far, the assumption has been that, by ranking responses in terms of frequencies of preference, patterns of desire processes and outcomes could be identified. However, these data also provide a different kind of preference associated with students being resistant or reluctantly engaged. This measure is important because student engagement is essential in such activities, even when they are teacher or expert-led. The strongest patterns of preferred interventions are those associated with small group work being led by either teachers or placement supervisors. This is followed by one-on-one interactions with teachers. There is a considerable gap to the next set of preferred responses. Across these options, peer-organised or peer-led processes are far less well supported and generate the highest frequency of reluctance by the informants. Those responses associated with *Would not participate* offered a similar pattern, with 'online with peers' (114 (30.9%)), 'online moderated by tutor' (107 (29%)); 'something students should organise' (105 (28.5%)), 'presentations to peers' (99 (26.8%)) and 'as part of scheduled classes' (24 (6.5%)) indicating interventions that would meet with high levels of reluctance, when taken as being reported by at least 25% of the respondents (Figure 4.3).

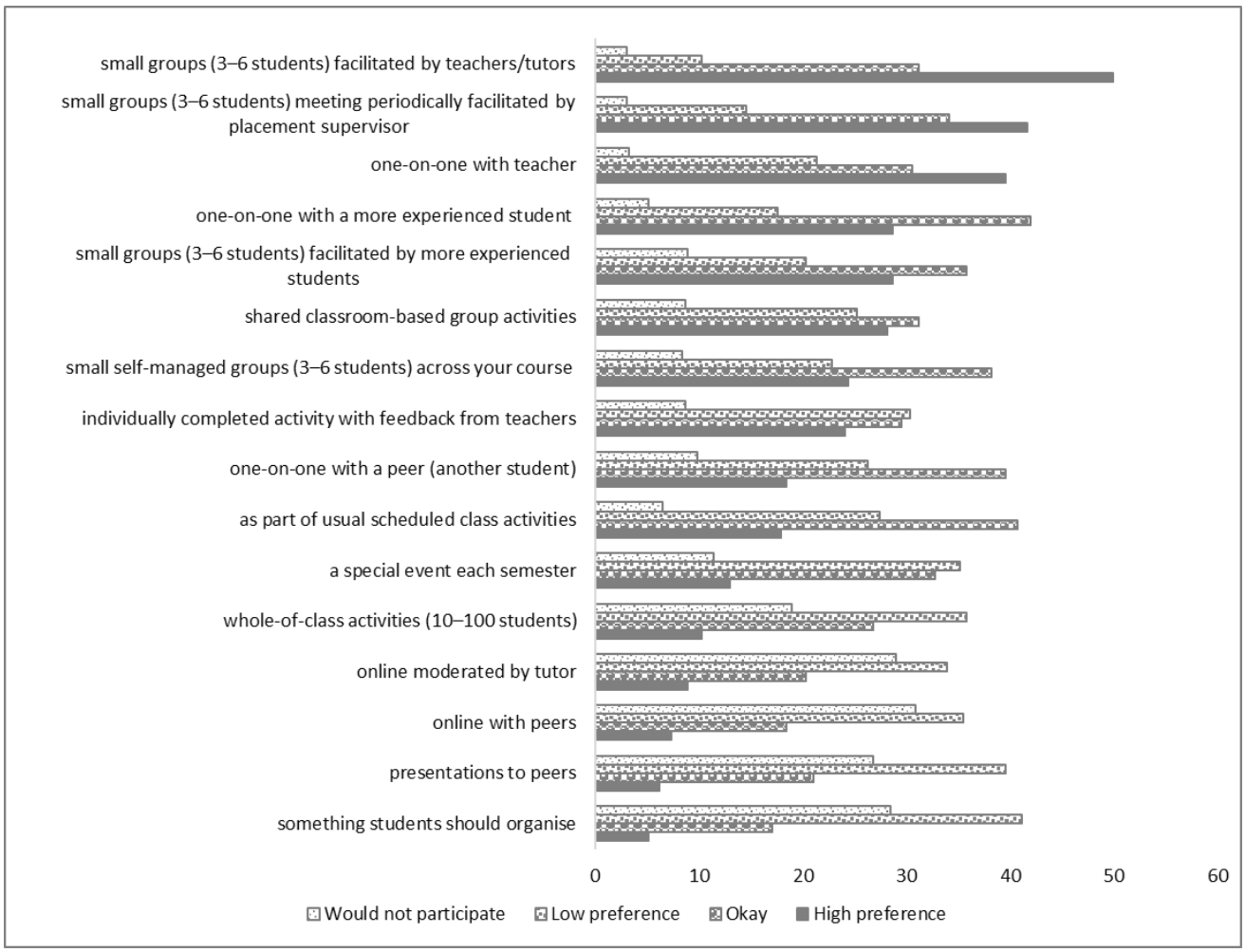

Figure 4.3. Respondents' preferred kinds of intervention

Overall, the data across the entire cohort indicate that interventions in small groups led by the person in authority/standing, but outside of the student group, is the most highly preferred option. This is consistent with some of the findings about students wanting feedback from that practicum from either a teacher or a workplace supervisor (Figure 4.2).

Student nurse responses

It is worth considering the responses from nursing students, the largest single respondent cohort, to identify patterns pertinent to these students and their educational processes, and to compare the findings with the entire cohort. A total of 161 complete responses came from students identifying as nursing students.

The largest number of student nurse responses came from those in the second year and third year of their nursing programs: 41.3% and 42.5% respondents, respectively. A total of 15.0% respondents were in their first year and 1.3% were in fifth year. There were no fourth-year respondents reported. It seems reasonable to assume that these students have had practicum experiences, not the least because of high numbers of practicum experiences across this cohort (see 'Practicum experiences' below). So, the informants have had practicum experiences and are reporting in an informed way based on those experiences.

The student nurse respondents were largely full-time students, with 88% of this cohort indicating that mode of study. Most nursing student respondents identified themselves as domestic students (95.5%). Most were undergraduate students (95%).

The age cohort of the students was quite diverse, with clusters in the 20–24-year age group (42%) and 40 years and over (26%) (Table 4.9). This suggests that students with a range of experiences, including school leavers and mature-age students, likely bring particular kinds of attributes. Some may have undertaken vocational qualifications in nursing and may already be enrolled nurses or nursing assistants. Such students may have had previous extensive work experience, before undertaking the course and engaging in university organised practicum experiences, in ways distinct from those of school leavers.

Table 4.9 *Age groups of student nurse cohort*

Age group (years)	*n* (%)
15–19	9 (6)
20–24	67 (42)
25–29	12 (8)
30–34	15 (9)
35–39	14 (8)
≥40	42 (26)

The gender of the student nurse respondents was largely female (90%).

Reasons for participation

All respondents were asked about their what educational purposes they preferred to be realised through post-practicum interventions. Purposes are presented in Figure 4.1 for all student cohorts and in Figure 4.4 for the student nurse cohort.

The four most frequently reported purposes are associated with using these experiences to make informed choices about nursing work and to become more employable, which extended to securing feedback about performance and learning more about the occupation of nursing. In the fifth-ranked response, this emphasis extends to understanding how the occupation is practised across different healthcare work settings. So, the first and most weighted responses were those associated with using these experiences to understand the nature of nursing work and how these respondents can learn and work towards being employable and effective in those settings. Following these, the purposes were associated with making links between what is taught within the university and practice settings and making choices about courses and specific majors (i.e. educational specialisms). The next most frequently reported purpose was to provide feedback to improve the experiences for the next group of students undertaking practicum in that workplace setting. Then, perhaps surprisingly, given the emphasis on pragmatic concerns about employment and employability above, there was the concern about linking the work experience with the requirements within the respondents' higher education courses (relevance to coursework and assessments).

Also surprising was the relatively low ranking of using post-practicum experiences that were seen to be worthwhile, interesting or confronting to reconcile those experiences with the study focus of their courses and are personal responses to what they had witnessed or experienced directly. Finally, and most lowly ranked, was the purpose of learning about other students' experiences during their practicum.

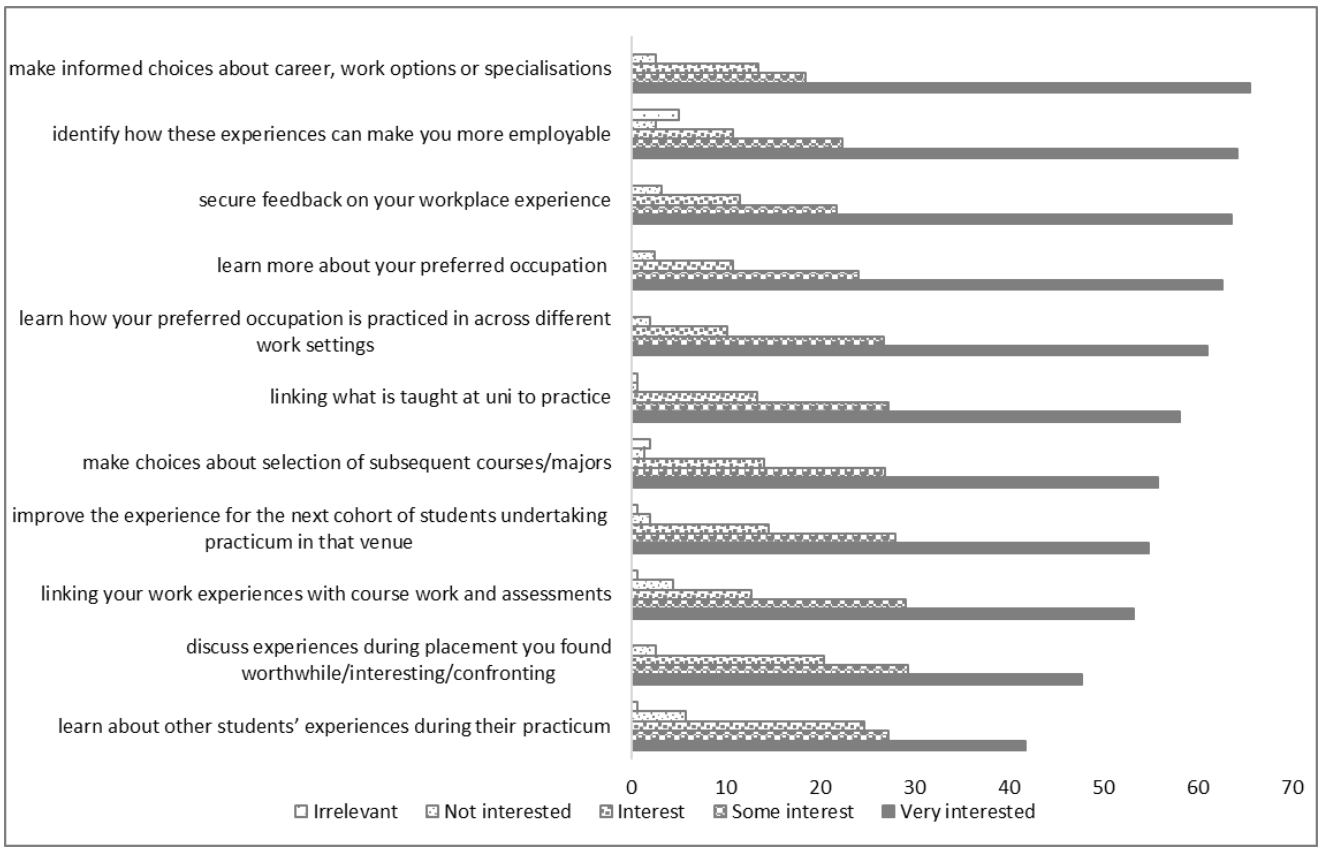

Figure 4.4. Student nurse respondents' preferred educational purposes

Further analyses of the student nurse data were undertaken to discern whether there are difference amongst age grouping of student nurses in their interest in the purposes for post-practicum interventions. This analysis was prompted by presence of distinct clusters of ages in the nursing informants and knowledge of there being two distinct pathways into nurse training. Two tables were generated through a three-way cross-tabulation to provide a descriptive analysis of any patterns of differences in frequencies of preferences for interventions the purposes of educational.

Table 4.10 presents the same data but collapsed into three age groupings. Common across all three age groups was the high frequency of 'making informed choices about career, work options or specialisation'. So, regardless of age grouping and level of clinical or other kinds of work experience, the informants appear to want to use these experiences to inform future planning. Shared across both the younger and older cohorts were high levels of interest in processes informing about employability.

Some differences amongst the three age cohorts are apparent. The younger (school leaver?) cohort gave high priority to wanting to learn about their selected occupation, which was of less interest to older students, perhaps for reasons already mentioned (i.e. older students having already had some experience of this work). Securing feedback on clinical performance was more highly valued by the younger cohorts than the older one, perhaps again because of the lack of procedural experiences and capacities.

Table 4.10 *Student nurse respondents' preferred educational purposes by age group*

Purpose	*n* (%)											
	15–24 years				25–34 years				≥35 years			
Total	76 (48)				27 (17)				56 (34)			
	v	***s***	***i***	***n***	***v***	***s***	***i***	***n***	***v***	***s***	***l***	***n***
discuss issues you found interesting	31	28	13	2	12	6	9	0	31	11	9	2
linking what is taught at uni to practice	38	26	10	0	14	9	4	0	41	7	6	1
learn more about your preferred occupation	45	22	8	0	18	5	3	2	36	11	5	2
learn about other students' experiences during their practicum	25	21	23	4	13	6	7	1	28	15	8	4
learn how your preferred occupation is practiced across different work settings	38	29	5	2	19	5	3	1	39	8	7	0
secure feedback on your workplace experience	41	20	5	0	20	3	3	1	36	11	5	1
linking your work experiences with course work and assessments	33	27	9	6	16	6	5	0	34	13	5	2
identify how these experiences can make you more employable	41	24	8	1	17	5	3	2	42	7	4	1
make informed choices about career, work options or specialisations	44	20	8	2	25	9	9	3	40	6	8	0
make choices about selection of subsequent courses/majors	38	23	9	1	15	6	5	1	36	8	7	2
improve the experience for the next cohort of students undertaking practicum in that venue	33	25	13	2	16	7	4	0	36	12	5	1

v, very interested; s, some interest; i, interest; n, not interested/irrelevant.

Preferred number, timing and focus of interventions

All respondents were asked to indicate the number of practicums included in the current degree program. They reported this against a scale of 0 to ≥10. The nursing students indicated a wide range of practicums would occur in that current higher education program (Table 4.11). The most frequent numbers were 5 and 6 practicums (25.4% and 22.8%, respectively) with those reporting 7 and 8 practicums also at reasonable numbers (14.3% and 17.6%). In this way, the student nurses indicate that practicum experiences are an inherent part of their programs and that all report having practicums as part of their degree programs.

Table 4.112*Number of practicums in current student nurse degree program*

Number of practicums	*n* (%)
1	5 (3.3)
2	1 (0.7)
3	0 (0)
4	13 (8.5)
5	39 (25.4)
6	35 (22.8)
7	22 (14.3)
8	27 (17.6)
9	2 (1.3)
≥10	9 (5.6)

All respondents were asked about their preferences for the timing of any post-practicum intervention. Preferences are presented in Table 4.8 for all student cohorts and in Table 4.12 for the student nurse cohort. As shown in Table 4.8, the most frequent response is that students prefer post-practicum interventions after each practicum experience, with 66.5% of the respondents reporting this preference. The second most frequent preference was for early in the program, after the first practicum (38.8%). Least preferred was having an intervention towards the end of the course. These data indicate the perceived importance of such interventions and to achieve the kind of educational purposes that were advanced in Table 4.12. This finding leads to considerations of the kinds of intervention students request and how frequently post-practicum intervention should be held.

Table 4.12 *Student nurse respondents' preferred timing for interventions (n=161)*

Timing of interventions	*n* (%)
after every practicum experience	107 (66.5)
early in the program, perhaps after your first practicum	62 (38.8)
after having had a number of practicum experiences	44 (27.3)
towards the end of your course	27 (16.8)

All respondents were asked to indicate their preferences for post-practicum interventions. Preferences are presented in Figure 4.3 for all student cohorts and in Figure 4.5 for the student nurse cohort.

The first of four preferences most frequently reported in this table indicates that these nursing students most value small-group work that involves or is led by individuals who are either teachers or practicum supervisors. The pattern here seems consistent with some of the findings about educational purposes reported in Figure 4.4– a desire to secure advice and feedback from individuals who seem to be informative and authoritative. The fifth most proposed intervention is of small-group processes led by a more experienced student, again emphasising a desire to be engaged in discussion and informed by a more informed partner than through peer interactions alone. This pattern then continues with individual activities and feedback from a teacher, and on to one-on-one interactions with more experienced students. The first instance in peer support

processes is the eighth most preferred option, and only 25% of the students see this as a highly preferred option.

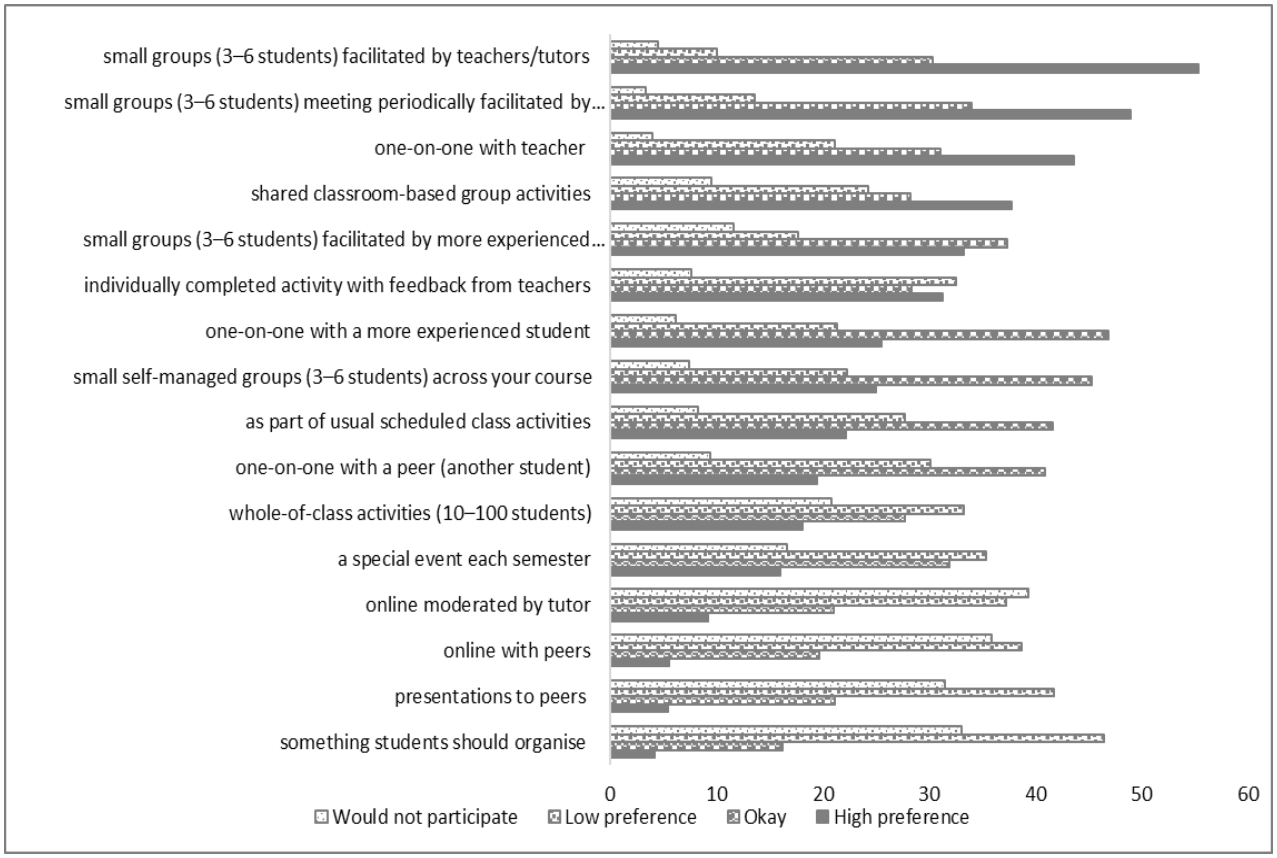

Figure 4.5. Student nurse respondents' preferred kinds of intervention

The preferences reported in Figure 4.5 emphasises one-on-one interactions with peers and large-group activities. At the same time, the percentage of student nurses claiming they would not participate in specific interventions increases as the high level of preference decreases. For instance, whilst 18% of the students suggest that whole-group activities are a highly preferred option, 20.8% claim they would not participate in such an activity. This pattern then follows with a special event each semester being supported by 16% of the student nurses whilst 16.7% of the students suggest they would not participate; online activity mediated by a tutor attracts only 9.2% of responses as a high preference but 39.4% of the students suggest they would not participate in this activity. Online interaction with peers and presentation to peers are supported by only 5.6% and then 5.5% of the student nurses respectively were as 35.9% and 31.5% of the students indicate they would not participate in such activity. Then, in reflecting the strong emphasis above on guidance and advice from the authoritative figure, the responses to the option for students to organise something themselves attracts only 4.2% as a high preference and 33.1% as something in which students suggest they would be reluctant to participate.

Key survey findings

The following are some key findings and deductions from the survey data.

The data show that students:

- are motivated to optimise the educational potential of their work experiences, for diverse reasons
- expect that their teachers or supervisors will play a role in this process through:
    - engaging them in activities
    - providing advice
    - providing feedback on their performance and progress.
- want interventions that lead to applicable (i.e. practical/tangible) outcomes related to their ability to practice
- prefer that these interventions occur frequently (e.g. after every practicum).

A key education question arising from such data is the degree to which and on what basis it is appropriate to accommodate students' preferences or contest them – that is, whether the findings here suggest agendas and priorities that need to be addressed or worked on to overcome.

For instance, the findings on purposes identify issues and concerns that stand as bases to be addressed through educational (i.e. teaching and learning) interventions. However, some of the preferences for interventions indicate that these are preferences that need to be redressed and changed. For example, preferences for others to act

may work against those in which students should be engaging.

Findings on educational purposes

Students reported priorities for using the post-practicum experiences for learning more about:

- their particular occupation, including specialisms
- their performance within the workplace
- what can lead/assist them to be employable.

The lowest level of interest was on utilising both their own and others' experiences to enhance educational processes. This is of concern, given the focus of this project is strongly on the latter – that is, using students' experiences, they are sharing, comparing and engaging critically to enrich the quality of the learning outcomes. Such a project is tough if students are reluctant to engage. Hence, feedback on individual performance, how that relates to occupational requirements and learning more about the occupation were purposes these students reported as being the strongest focus of the interest.

Findings on forms of interventions

The strongest patterns of preferred interventions are those associated with small-group work being led by either teachers or placement supervisors. This preference is followed by one-on-one interactions with teachers. Overall, the data across the entire cohort indicate that interventions in small groups led by the person in authority/standing but outside of the student group are the most highly preferred option. So, these student data and findings are useful for planning post-practicum interventions.

Chapter 5: Dialogue and development across project rounds

This chapter describes the procedures and activities used to support the work across the two rounds of the project.

Round 1 (healthcare sector) sub-projects

As already mentioned, the Round 1 participants and 14 sub-projects were all from the healthcare sector. The majority of these were part of the initial application. These participants were contacted and invited to participate based on securing a range of institutions, healthcare disciplines and localities.

Each of the sub-project leaders was provided with a sub-project proposal template that was used to structure and guide the development of a proposal that had to include a consideration of what educational purposes were to be achieved, proposed means of achieving them and the procedures adopted for the implementation and evaluation of the post-practicum interventions. A related concern was to have a uniform approach to proposals and subsequent sub-project work. The grant work commenced in August 2015, and the shaping up of the project, the literature review and survey were undertaken in the remainder of that year.

Round 2 sub-projects

The participants for Round 2 were selected based on responses to a call for expressions of interest in May 2016 through the Australian Cooperative Education Network for up to 30 sub projects. These participants were from a range of institutions and represented a diverse set of disciplines. This allowed an investigation into whether the kind of findings that came from students in healthcare sector courses could provide insights that are more broadly applicable across a range of other disciplines.

The majority of the 30 sub-project leaders were interested in WIL and many of them held educational and/or administrative roles associated with WIL. Most of these already had identified a sub-project that they were interested in pursuing within this activity and had drafted their sub-project plan accordingly.

Across 2017 and into 2018 these sub-projects were enacted. Many had delayed commencements as there was a need to clarify the focus, secure ethical clearance and enact the interventions on one or more occasions. During this period, the project leader engaged with sub-projects individually and collectively but through sharing information and site visits and through other kinds of engagements. Ultimately, the completed sub-projects used the same format as used for the Round 1 sub-projects to produce reports, which were then collated as a report (see separate document).

Dialogue forums

On 10–11 February 2016 a dialogue forum was organised at the Gold Coast campus of Griffith University. Participants from the 14 sub-projects attended and engage in discussions about the project, what it aimed to achieve and how it would be achieved. There were presentations on the literature review and the findings of the student survey, which had been completed by January 2016. Also, each of the sub-project leads gave a short presentation and engaged in discussions

with other participants about their proposed sub-project. This process was used to inform and assist the further development of the sub-project.

The 14 sub-projects were enacted across 2016, and a range of communications was enacted directly with sub-projects but also across them. During this time, the project lead communicated directly with sub-project teams and visited most institutions to discuss sub-projects with each of the teams. There was correspondence with specific sub-projects and across all sub-projects to inform, brief and guide the enactment of the sub-projects across that 12-month period.

In February 2017 a two-day dialogue forum was held at the premises of the Gold Coast University Hospital. This forum was attended by the round 1 participants and those who had indicated and been accepted as sub-projects within round 2, to be undertaken across 2017.

Development conference

The development conference, held on 15–16 February 2017, was an important event for the overall teaching and learning project. It allowed the round 1 sub-projects to present their processes, evaluations and findings and permitted up to 30 sub-projects in round 2 to engage with and learn from what had occurred in the round 1 sub-projects. The 2016 sub-project teams provided a short that built upon but augmented the template used for the planning of the sub-projects originally. The participants for the 2017 sub-projects had commenced planning prior to the development conference using the same sub-project template that the round 1 sub-projects have used. In this way, the 2016 sub-projects had a focus on presenting what they had done and engaging with the 2017 sub-project participants, who had all drafted plans for their own sub-projects.

After an initial introduction to the teaching and learning grant, its aims and processes, and the program for the two-day developmental conference, the majority of the first day was given over to the presentation of the 14 sub-projects. The aim here was for a sharing with an informed and engaged audience of the sub-projects undertaken in 2016, about what these sub-projects aimed to achieve, the processes used and outcomes achieved, and issues confronted (Appendix D). More than just presentations, it was intended that there would be rich interaction between the participants and the presenters of a kind directed towards a set of common goals associated with how teachers working in higher education can utilise and augment student experiences in work settings. At the end of this first day was a group activity in which participants shared what they found to be of interest and relevance.

The second day comprised two sets of interrelated activities and a concluding session. The participants who engaged in sub-projects in 2016 used their experiences, data and deliberations to identify some tentative principles and practices associated with augmenting students' post-practicum experiences. This progressed across most of the day, culminating in a presentation to all participants. The participants who enacted sub-projects across 2017 worked individually and in groups to prepare their sub-projects and advance their sub-project proposals. As part of that development process was interactions with participants from 2016, so that the former could discuss and advise Round 2 participants about their plans and processes. The day concluded with a joint session in which issues were raised, shared and collated. As part of that process, the tentative principles and practices identified by the 2016 group were shared with all participants.

The second day of the development conference provided the opportunity for the further development and refinement of the Round 2 sub-projects. Several the sub-project leaders decided to collaborate with others undertaking similar kinds of interventions, and this led to institutional-based and cross-institutional sub-project teams.

Chapter 6: Implementing post-practicum interventions

This chapter overviews the focuses, procedures used and outcomes of the interventions and the post-practicum activities undertaken during Round 1 interventions. During intervention development, sub-projects were aligned with broad educational goals and with the forms of domain-specific knowledge that underpin effective occupational performance and therefore employability.

Aligning sub-projects with reasons for interventions

Based on Dewey's stated purpose of education for occupations, the broad educational reasons for engaging students in post-practicum interventions that seek to utilise and integrate their experiences in work settings are of three kinds (Billett 2018). These are those associated with:

- informing students about their suitability for their preferred occupations
- developing their capacities to practise their selected occupation
- developing capacities associated with being able to learn across working life in interdependent but independent mediated ways.

In terms of the first purpose, two of the sub-projects intentionally structured experiences to assist students in coming to understand pathways into occupations, helping them appreciate how the occupations are enacted (Clanchy et al. 2018; Kirwan et al. 2018). Sweet and Bass (2018) also discussed how post-practicum interventions provide a vehicle for assisting midwifery students in understanding work and career trajectories.

Some sub-projects addressed the second purpose of assisting in developing the capacities for students to practice their selected occupation. Levett-Jones et al. (2018) focused on developing clinical reasoning skills through instructional and assessment interventions, and Steketee et al. (2018) sought to intentionally extend medical students' clinical knowledge through engaging medical students in a modified debriefing process to discuss, share and compare clinical experiences. Developing the ability to work interprofessionally was the aim of the sub-project by Rogers et al. (2018), and the intervention of Sweet and Bass (2018) aimed to generate midwifery students' critical and strategic thinking processes to initiate care for patients in uncertain circumstances. Grealish et al. (2018) sought to promote strategies for nurses to develop shared understanding or intersubjectivity and conceptual understanding for effective nursing practices. In the field of speech pathology, Cardell and Bialocerkowski (2018) sought to develop self-awareness, self-efficacy, resilience and positive occupational identities. To understand the requirements of and processes for community nursing, Newton and Butler (2018) engaged students in the production of videos to capture the scope and breadth of community nursing work. A similar aim was exercised by Williams et al. (2018) to draw together, consolidate, contrast and compare the range of work experiences undertaken by dietetics students.

For the third purpose, developing lifelong learning capacities, Noble et al. (2018) focused on responses to feedback, and so enacted an intervention for students to develop self-assessment capacities to respond productively to feedback. Harrison et al. (2018) sought to develop habits of professional engagement that would prepare medical students to initiate and engage in these activities across their professional working lives as practising doctors. Similarly, the processes to prepare midwifery students as critical and strategic practitioners (Sweet & Bass 2018) had the ability to inform their ongoing professional learning in their future careers in health care.

Much of the emphasis across these three broad educational goals is on employability. Here, employability is taken as having the capacities required for employment: securing initial employment and sustaining that employment across working life. In this way, educational interventions can seek to address purposes associated with employability such as developing occupation-specific capacities, identifying and securing situation-specific capacities and developing capacities for practitioners to engage in and mediate their ongoing learning, and possibly that of others.

Some educational purposes that have been identified for participation in post-practicum activities were identified in Chapter 4 ('Possible models for post-practicum interventions'). They were:

- discuss experiences during placement that you found worthwhile/interesting/confronting
- link what is taught at university to practice
- learn more about preferred occupation
- learn about other students' experiences during their practicum
- learn how preferred occupation is practiced across different work settings
- secure feedback on workplace experience
- align work experiences with course work and assessments
- identify how these experiences can increase employability
- make informed choices about career, work options or specialisations
- make choices about selection of subsequent courses/majors
- improve the experience for the next cohort of students (Billett 2015a).

All purposes except for the last in this list were the focus of one or more sub-projects. The sub-projects investigated how post-practicum interventions can be used to support students' learning as directed towards employability. Employability includes securing and sustaining employment.

This support includes smoothing the transition to employment, including providing insights into the kinds of work activities the students have not directly experienced, yet might be expected to be aware of upon being employed. There is also the preparation of students for the important lifelong learning goal of being active and intentional in their personal practices. Being active and agentic in practicum situations, purposefully engaging with practice experiences and integrating students within their coursework hopefully establishes personal habits and practices that support ongoing development associated with employability in the longer term. So, more than being about the teaching of content associated with the particular occupation, there are considerations about the requirements for practice and how they vary across work settings (hence, preparing for effective transitions), and preparing students to be effective in directing and managing their learning across lengthening working lives.

Aligning sub-projects with domain-specific knowledge

Beyond these broad purposes, and as discussed in chapter 1 (Billett 2018) and elsewhere (Billett et al. 2018), three forms of domain-specific knowledge underpin effective occupational performance and are the focus for educational provisions. Those forms of knowledge together encompass what those practising an occupation need to know (conceptual knowledge), do (procedural knowledge) and value (dispositional knowledge). Occupational standards and national curricula often attempt to capture this domain of knowledge. These can be seen as addressing the canonical knowledge required to practise an occupation and what all of those who undertake that practice would be expected to demonstrate in practising it.

A salient issue for the practising of an occupation is that its performance requirements vary across the diverse circumstances of its practice (e.g. different healthcare settings) and their needs. So,

the particular kinds and combination of knowledge, and the requirements for performance vary across the work settings in which this knowledge is deployed. In this way, the actual requirements for performance are quite situational. Beyond the canonical domain of occupational knowledge is that required for effective work performance in a particular healthcare setting where graduates will find employment and need to demonstrate competence and advance their careers. Therefore, an important goal for WIL is to provide opportunities for students to develop not only the canonical knowledge of the occupation, but also some experiences and possibly interventions to illuminate and assist them in understanding some of the diversity in how the occupation is practised and its performance requirements. Their personal domain of knowledge (what they know, can do and value) should address both the canonical and situational dimensions of practice.

Whilst both personal and occupational knowledge exist in the social world, ultimately it is the domain of occupational knowledge constructed by individuals that shapes what they know, can do and value (Billett et al. 2018). These are the kinds of domain-specific knowledge that students need to access and construct as they generate their personal domain of professional knowledge. These kinds of knowledge are:

- conceptual knowledge – 'knowing that' (Ryle 1949; Sun et al. 2001), i.e. concepts, facts, propositions – surface to deep (e.g. Glaser 1989; Greeno & Simon 1988; Groen & Patel 1988)
- procedural knowledge – 'knowing how' (Donald 1991; Ryle 1949), i.e. specific to strategic procedures (e.g. Anderson 1993)
- dispositional knowledge – 'knowing for', i.e. values, attitudes, related to both canonical and situated instances of practice (e.g. Perkins et al. 1993); includes criticality (e.g. Mezirow 1981).

Higher education programs seeking to prepare graduates for occupational roles need to provide experiences to assist students develop those capacities. It is likely that specific pedagogic practices are required to develop these forms of knowledge.

Each of these three kinds of domain-specific knowledge has its own qualities (e.g. specific and strategic procedures, factual to complex conceptual premises, personal and institutional dispositions), which have cultural relevance and situational pertinence (Billett 2003). When humans think and act, they use all three forms of this knowledge together and interconnectedly. Procedures are deployed when thinking, concepts are what is used to organise and direct thinking and acting, and dispositions shape how both procedures and concepts are deployed and monitored. However, the sources and processes of developing these three kinds of knowledge are quite distinct. Basic factual information can be learnt from books or interactions with others (Pea 1993; Sun et al. 2001). However, links and associations between concepts likely arise from having experiences of a particular kind (Groen & Patel 1988). Equally, procedural skills need to be initially developed, then practised and honed so that they can be used successfully (Anderson 1982). Strategic procedures also arise through repertoires of experiences from which individuals can learn (Stevenson 2001). Dispositions are often shaped by the experiences that people have had and their reactions to them, and it is these that shape how they think and act (Cleland et al. 2014; Perkins et al. 1993; Prawat 1989). These forms of knowledge are likely developed by individuals through their opportunities to engage in and construct personal domains of this occupational knowledge through accessing and engaging in a range of experiences.

In many instances, educational interventions have been introduced to address the development of specific knowledge that is seen to be hard to learn or hard to access (see Table 6.2). Educational efforts to mediate access to, and the development of these forms of knowledge are, therefore, far from new. Indeed, there is often, and quite rightly, strong alignment between particular pedagogic practices and the development of specific knowledge. All of this is informed by the fundamental

understanding that education provisions and practices should be intentional, and should be directed towards achieving specific outcomes. This need for alignment between intentions and processes to realise those outcomes then leads to a consideration of the kinds of strategies that have been adopted in these sub-projects, and as directed towards these purposes and specific forms of knowledge.

Post-practicum strategies

In the Round 1 sub-projects, a range of activities were trialled to secure intended outcomes and achieve specific purposes. As can be seen in Table 6.1, these included assessment tasks, small-group interactions among students (professional exchanges, learning circles, clinical and post-practicum debriefings), written tasks in the form of preparing resumes and appraisals of practicum experiences, interview preparation, workshops, personalised feedback and production of video clips. Common across the sub-projects is a concern for engaging students in intentional ways and for specific educational purposes – that is, intentional efforts to engage students to achieve particular kinds of learning outcomes. Universally, the selection and trialling of activities to achieve these educational purposes arises from concerns that, without these kinds of intervention, those educational outcomes may not be achieved.

Table 6.14*Post-practicum activities*

Sub-project lead	**Post-practicum activity**
Cardell	Post-practicum workshop organised and enacted by students emphasising: i) retrospection; ii) self-evaluation; and iii) reorientation, augmented by a collaborative learning strategy of students developing personal perspectives on issues that were shared with a peer, and group.
Clancy	Workshops comprising resume writing, interviews and networking with distinct focuses on briefings prior to work placements, how students might engage in practicum circumstances; and post-practicum promoting immediate employment.
Grealish	Structured learning circles accommodated students' readiness and engaged them in shared analyses of practice experiences through group discussion.
Harrison	Structured approach for students' professional exchanges, comprising: i) a number of students' circles; ii) small peer-led groups w/o direct teacher facilitation; and iii) relatively open-ended discussion topics on recent events during clinical practice.
Kirwan	Assisting students in the written and interview components of applying for employment through mock job application processes.
Levett-Jones	Assessment task using patient healthcare scenarios focused on pressing students into 'deep thinking' about clinical scenarios and options through oral examination.
Newton	Students contributed short video clips to a web-based interface to share their practicum experiences and as a vehicle for developing critical reflective capacities.
Noble	Intervention provided personalised feedback comprising: i) online primer; ii) workshop; and iii) subsequent activities to support students' self-evaluation of their placement and to seek, receive, share and compare feedback with peers.
Rogers	Written assessment appraising interprofessional practices students observed during practicums comprising: i) description of team work; ii) e.g., effective collaborative practices; iii) e.g., ineffective collaborative practices; and iv) suggestions to improve interprofessional working.
Steketee	Augmenting learning during clinical rotations through structured clinical debriefing tutorials for students to share, compare and appraise experiences and complexities of clinical practice.
Sweet	Reflective writing on students' clinical experiences to develop reflective practices, using a structured approach based on prompting students' responses when writing.

Williams	Face-to-face reflective post-practicum debriefs which assisted students who worked in relative social isolation to integrate and synthesise personal experiences in a supportive learning environment.

Table 6.2 brings together to identify alignments amongst focus (i.e. broad purpose), specific forms of knowledge being targeted for development (i.e. educational goals or objectives) and interventions (i.e. strategies) selected to secure all those intentions. This tabulation is provided to indicate and emphasise the importance of alignments across these three related sets of educational considerations.

Table 6.2 *Alignment amongst sub-project focus, forms of knowledge and intervention activities*

Sub-project lead	Focus	Knowledge targeted	Intervention activity
Cardell	Developing students' professional identity, self-efficacy and resilience to address non-routine work tasks.	Dispositional, conceptual and dispositional	Post-practicum workshop organised and enacted by students emphasising (i) retrospection, (ii) self-evaluation and (iii) reorientation, augmented by a collaborative learning strategy of students developing personal perspective on issues that were shared with a peer, and group.
Clancy	Developing students' self-awareness, opportunity awareness, decision-making and transitional learning capacities.	Conceptual, procedural and dispositional	Workshops comprising resume writing, interviews and networking with distinct focuses on briefings prior to work placements, how students might engage in practicum circumstances; and post-practicum promoting immediate employment.
Grealish	Developing capacities to co-work.	Procedural and conceptual	Structured learning circles accommodated students' readiness and engaged them in shared analyses of practice experiences through group discussion.
Harrison	Utilising and extending students' clinical knowledge.	Procedural, conceptual and dispositional	Structured approach for students' professional exchanges, comprising (i) a number of student circles, (ii) small peer-led groups without direct teacher facilitation and (iii) relatively open-ended discussion topics on recent events during clinical practice.
Kirwan	Enhancing ability to communicate attributes to potential employers.	Procedural and conceptual	Assisting students in the written and interview components of applying for employment through mock job application processes.
Levett-Jones	Improving clinical reasoning.	Procedural and conceptual	Assessment task using patient healthcare scenarios focused on pressing students into 'deep thinking' about clinical scenarios and options through oral examination.
Newton	Developing abilities to critically appraise clinical cases.	Procedural	Students contributed short video clips to a web-based interface to share their practicum experiences and as a vehicle to develop critical reflective capacities.
Noble	Developing students' feedback literacy in workplace situations.	Conceptual, conceptual and dispositional	Intervention provided personalised feedback comprising: (i) online primer, (ii) workshop and (iii) subsequent activities to support students' self-evaluation of their placement and to seek, receive, share and compare feedback with peers.
Rogers	Assisting develop understandings about and the capacities to work interprofessionally.	Conceptual	Written assessment appraising interprofessional practices students observed comprising (i) description of team work, (ii) e.g. effective collaborative practices, (iii) e.g. ineffective collaborative practices and (iv) suggestions to improve interprofessional working.
Steketee	Utilising and extending students' clinical knowledge.	Procedural, conceptual and dispositional	Augmenting learning in clinical rotations through structured clinical debriefing tutorials for students to share, compare and appraise experiences and complexities of clinical practice.
Sweet	Developing abilities to critically appraise clinical cases.	Procedural, conceptual and dispositional	Reflective writing on students' clinical experiences to develop reflective practices using a structured approach to prompt students' responses when writing.
Williams	Developing further student's understandings of their occupational practice.	Conceptual, conceptual and dispositional	Face-to-face reflective post-practicum debrief assisted students who worked in relative social isolation to integrate and synthesise personal experiences in a supportive learning environment.

Chapter 7: Project outcomes and discussion

This chapter synthesises the contributions and findings from the Round 1 sub-projects. It reports and discuss specific post-practicum interventions within the healthcare sector. It discusses purposes, principles and practices associated with curriculum and pedagogies, and their interrelationships, to understand how to effectively and purposefully utilise information about post-practicum experiences. In doing this, a concern is to identify and evaluate the particular educational purposes that these interventions have sought to achieve through the use of specific curriculum and pedagogic practices. This review of the sub-projects aims to assist in the informed and intentional provision of these interventions within tertiary education. It considers the educational and learning process issues that arose through the intervention enactments, outcomes achieved and bases that might be secured for improvement.

How students come to engage in post-practicum intervention and for what purposes, is central to their learning, as reported earlier (Billett et al. 2017 and elaborated in Cain et al. 2018). The bases of these engagements – what is referred to as students' personal epistemologies – are central to how students come to participate in and learn through activities and interactions in which they engage at work and through their tertiary studies. This includes how they reconcile those two sets of experiences, which is so central to their learning from both of these sets of experiences, and how, together, these experiences contribute to individual learning.

Chapter 6 included the range of purposes identified in these 14 contributions from Round 1 and from other sources, a review of the kinds of curriculum considerations (the sequencing, ordering and kinds of experiences) and pedagogic practices (the means by which these experiences have been enriched). These were aligned with particular kinds of educational purposes. This helps to identify principles and practices that might be utilised within tertiary education and across a range of disciplines to support the effective use of post-practicum experiences.

Considerations of the 'experienced curriculum' (what students come to experience and learn) needs to be considered within what is planned (the 'intended curriculum') and what experiences are being provided through these interventions ('enacted curriculum'). Earlier studies appraising WIL arrangements (Billett 2011, 2015a) indicated that optimising the educational benefits of practicum experiences requires preparing students prior to their engagement in practicums, supporting them during their practicums and identifying ways to enrich those experiences after they have completed their practicums. From these studies, particularly rich learning experiences were identified as those arising through engaging students in considering, sharing and comparing what they had encountered in their practicums. By this stage, students have had authentic experiences of occupational practices in action and have experienced the circumstances of their enactment. Therefore, they are well positioned to actively evaluate what they have experienced (Billett et al. 2017). That appraisal can occur through processes they can share and compare with peers and/or their teachers or workplace supervisors (e.g. clinicians) or engage in processes such as writing journals and reflective logs, where they are able to review their experiences and those of other students.

The projects conducted prior to this project set out some initial findings about curriculum and pedagogic practices (Billett 2015a). Experiences in work settings can assist students in learning the kinds of occupational goals and processes that are important for their transition to effective practice and employability. Those experiences can be diverse and varied in quality, because the activities and interactions in which students engage are the product of the specific requirements of work practice, not pre-determined by educational intents. Therefore, these experiences require means for learners to mediate them to secure effective and comprehensive learning and educational outcomes. The learning is something that can often best arise through processes of sharing with peers and comparing each other's experiences in a structured way, to direct considerations and appraisals towards the range of circumstances in which their occupation is practised, and to learn something of the variations in performance requirements. Importantly, learning processes are not hybrid or reserved for experiences organised through specific institutions (e.g. universities). Instead, learning is something that arises through thinking and acting, whatever the context of the physical circumstance.

If that thinking and acting can be augmented in productive ways and can be directed towards the intended outcomes of students' experiences, these outcomes are likely to be richer and far more effectively directed towards achieving intended outcomes. In particular, the ability for students to articulate, share, compare and critique those experiences is likely to lead to informed and adaptable outcomes through means that are structured and focused, and can go beyond what can be achieved through students' own mediated experiences (i.e. their zone of potential development) (Grealish et al. 2018; Harrison et al. 2018; Levett-Jones et al. 2018; Noble et al. 2018; Rogers et al. 2018). Whether experiences alone or processes of augmentation are being considered, the learning process needs to be interdependent, rather than independent or dependent. Learners need to be engaging actively with, and being informed by, the contributions of activities and interactions in which they think and act. Ultimately, experiences provided by educational programs and in work settings are nothing more than invitations to change; it is the learners who decide how and for what purposes they take up that invitation.

Hence, finding ways of engaging students, placing them in the driver's seat, supporting their construal and construction of what is provided for them will be central to the success of educational programs and interventions. It is for this reason that some studies have emphasised the importance of positioning a student in this way (Cardell & Bialocerkowski 2018; Harrison et al. 2018; Noble et al. 2018; Steketee 2018).

Issues for implementation in higher education

Crucial implementation issues emerged during the enactment of these post-practicum strategies. Identifying such issues is important because it is necessary to understand how best such interventions should be enacted and what factors shape their enactment. In particular, factors that either support or inhibit the enactment of these interventions need to be delineated and understood to assist them be enacted effectively. Through reviewing these chapters, four sets of issues were delineated:

- students' readiness to engage in these interventions
- managing student engagement
- considerations about both voluntary and compulsory activities

- the social and psychological environment in which these interventions were enacted.

Readiness

Readiness comprises learners' abilities and interest in engaging and learning productively from particular experiences (Billett 2015b) – that is, whether they have the existing conceptual, procedural and dispositional knowledge to fruitfully engage and learn from the experiences they encounter in work and educational settings, and, thereby, realise the intended outcomes. For instance, if students are totally new to a work environment and their practicums are at the commencement of their studies, then they may lack the readiness to fruitfully learn through these experiences. Instead, rather than learning what is intended, these experiences might be overwhelming and lead to dissonance, rather than to effective learning. Hence, there are issues associated with student readiness and the kind of experiences provided for them. One way of addressing this issue is to provide opportunities that are commensurate with their level of readiness, and that offer mechanisms to build on that level. For instance, an opportunity in which they might initially observe practice in action, or attend meetings where the occupation is discussed first, may assist them to develop a level of readiness to engage in more demanding activities. Without having the concepts associated with what is being discussed or experienced, the procedures to helpfully utilise those interactions and the interest to do so, immersion in authentic work activities in busy healthcare settings may simply be too much, too soon. That readiness is particularly important when it is anticipated that the students will learn specific knowledge from experiences, albeit in the education or workplace setting. It also needs to be remembered that in work settings, students will likely mediate their own learning, because there can be no guarantee that others will be available or in a position to mediate that knowledge for them via explanation or modelling.

If students lack readiness to engage in these activities, what was intended is unlikely to be achieved. Problem-solving activities might become guessing games; group activities might become individually focused attempts to contribute; activities based on assumptions about students' existing knowledge may become flawed. Consequently, and particularly in circumstances where students are positioned as solely mediating their learning, the degree of readiness to engage in the activities is crucial. For instance, the assessment tasks set for nursing students (Levett-Jones et al. 2018) were similar to those in which they had previously engaged. Consequently, students were familiar with these activities, and the assessment tasks provided fresh scenarios and prompting by teachers, which added novel dimensions to this way of augmenting the students' practicum experiences. This is referred to as managing the cognitive load of educational experiences (Kirschner 2002) to facilitate effective learning. Hence, because the students were familiar with part of the task, they were able to effectively manage novel aspects of those tasks and thereby build upon what they knew, could do and valued. The new requirements were not, therefore, overwhelming, as might have been the case if students were unfamiliar with this process; rather, they sat within their zone of potential development (Cole 1985).

In the Sweet and Bass (2018) sub-project, students from two universities were engaged in reflective writing tasks, yet only one of these universities had provided similar experiences to these students earlier. Therefore, this task was quite unfamiliar and was a challenge for students from the second university, compared with those from the first. In the first university, it was a requirement that all students had to engage in a reflective development

process that was used to prompt and structure their reflective writing activities. As a consequence, the students at this university could manage this task quite successfully and productively, and their cognitive resources could be directed towards engaging in learning through the novel aspects of the task in which they engaged. However, students from the second university had to engage in an entirely new pedagogical process (reflective writing) whilst also seeking to engage with the intended focus of the intervention. Accordingly, this lack of readiness, support was required for the cohort from the second university, so that the students could come to understand and engage effectively in the critical writing task. The point is that for students to effectively use this kind of intervention, they must have the capacity to utilise it before engaging with it effectively. So, when the students were asked to engage with two new tasks simultaneously, one of which was the focus of the intended learning outcomes, these may not have been realised as effectively because the students were not ready to engage in the process focused on that activity. In this way, familiarity and competence with the actual pedagogic process was a prerequisite for effective learning.

In a similar way, the intervention trialling the use of feedback (Noble et al. 2018) also found that students' ability to engage effectively with feedback was quite limited (i.e. teachers and clinical supervisors cannot rely on it). Students were not ready to engage in appraising feedback. This group of researchers concluded that students should have the capacity to engage in these processes, and the processes should not be merely integrated in their programs without support and guidance. It follows, they enacted an intervention which students were provided with experiences in how to engage effectively with feedback prior to participating in the intervention itself.

Student readiness, therefore, stands as an important basis for the successful use of these interventions. If a particular kind of intervention is being used to promote learning, as was the case in the intervention by Newton and Butler (2018) where students had to construct videos, unless the students were competent in with presentational media required (e.g. making videos, reflective logs) then the learning associated with the intended outcomes may be limited because students have been directing their efforts to learnings not directly associated with the course. However, as with the oral assessments and reflective processes, these presentational capacities are required to be learnt either prior to or during these intervention in addition to those earning associated with course content. All this suggests that not only should something of students' readiness be understood, but also consideration should be given to how that readiness is aligned with what is intended to be learnt and the means selected to promote that learning.

Managing student engagement ('time-jealous' students)

Managing student participation and engagement with these interventions proved to be a key challenge for some of the sub-projects, in ways that are quite instructive. Put simply, engaging students in activities that they might view as being extracurricular and not part of their assessable program of study is an increasing challenge for those teaching in higher education. The key issue is that contemporary higher education students are often 'time jealous'. They have a range of conflicting demands upon their time, which include paid part-time work, friend and family commitments, along with their studies (Billett 2015a). As a consequence, they are often highly selective about how they direct their time and energy. Programs with work placements add another element that consumes their time and resources. Sometimes this element of the program is not part of their assessment or is not seen as being central to students' progress within their courses. Consequently, they may

view a work placement as being a lesser priority than course elements that are assessed. Of course, it is these kinds of programs that these sub-projects represent and in which interventions of different kinds were being piloted.

Most of those interventions that sit outside of directly assessable items encountered difficulty in encouraging engagement by students. Even some interventions that were deemed to be highly successful (Harrison et al. 2018) but that were voluntary had difficulty securing and sustaining engagement by and interaction with students. A factor here is how students perceive these activities. Hence, a different term was used in the Harrison intervention to describe these essential interventions, avoiding the terms 'reflection' and 'learning circles'. Interestingly, the processes used in this sub-project, although having similar qualities to the above-mentioned processes, were deemed by students to be highly effective. However, even feedback from students who deem these processes as highly effective does not necessarily guarantee that they will engage in them subsequently. For instance, despite the processes used in the intervention of Cardell and Bialocerkowski (2018) being judged as highly satisfactory by students, less than half of them indicated that they would engage in a subsequent activity of the same kind in the future.

Other interventions (e.g. those of Grealish et al. 2018; Newton & Butler 2018), reported considerable difficulty in securing student participation, even when incentives were offered. For instance, Newton and Butler (2018) reportedly had considerable difficulty in securing engagement by students, particularly in an activity that was not obviously related to assessment tasks and required particular sets of skills and time to enact (producing a video clip). Repeated efforts to engage with students were frustrated and students had many queries and questions about the approach. There were also some technical difficulties associated with students' access to the website. Students were given an incentive ($50 gift card) to participate. A total of six (ultimately, eight) students out of 54 engaged in this activity. Even those accepting the incentive were sometimes parsimonious in the kind and extent of their engagement in this task. Forced or reluctant participation is unlikely to lead to students engaging in the kind of thinking and acting that is conducive to the higher order outcomes (deep conceptual knowledge, strategic procedures) that can potentially be realised through such experiences.

Not all issues associated with student engagement were negative. Many sub-projects referred to successful engagements and outcomes from students' participation. Indeed, in one intervention (Cardell & Bialocerkowski 2018) the concern was that students were progressing too quickly and in ways that were difficult to manage. This was particularly the case when there was a sharing activity with the entire group. This caused problems with timing, organisation and advancing experiences in intended ways. Yet, given the demands upon students and their strategies to manage these demands means that the risk is that only tasks associated with assessment are likely to attract the kinds of engagements required by students to deeply learn. This concern leads to a consideration of whether these activities should be voluntary or compulsory.

Voluntary or compulsory activities

A conundrum is whether activities such as these interventions should be made compulsory, so that students are required to engage, or voluntary, so that students engage only of their own volition and as motivated by their interests. Whilst making activities compulsory means that students engage with them, the basis of the compulsion is usually that they are

assessed. Whilst this is often helpful and constructive, the great concern is that students will respond to the tasks in ways shaped by the assessment and, ultimately, this may well constrain the potential of their engagement and learning. With processes such as providing reflective logs, responses to feedback and critical accounts, students may elect to respond to the assessment criteria more than what they experienced, concluded or actually believe to be the case (Sweet & Glover 2011). If the activities are voluntary then not all students will engage with them and, indeed, fairly small numbers may take up these invitations. Again, participation in these circumstances might also be influenced by students who volunteer, seeking to curry favour with their teachers. Also, if experience is deemed necessary, it should be included for all students. For instance, Clanchy et al. (2018) used a process that involved the entire year cohort (albeit only 20 students) because the interventions they provided were essential for all the physiotherapy students to be prepared for practice after graduation. Similarly, Rogers et al. (2018) and Levett-Jones et al. (2018) made their interventions compulsory because they were part of the student assessment activities, and both of these studies reported that students positively engaged.

Perhaps the best option is to have activities that students find inherently interesting and would wish to engage in, either as part of assessment or outside of it. For instance, medical students are deemed to be very time jealous, and in previous activities were seen to only engage in those they were pressed into. Nevertheless, Harrison et al. (2018) enjoyed considerable success with their intervention because the students found it worthwhile and interesting, and they were provided with a safe and secure environment in which to discuss the aspects of their clinical experience that they found interesting and others found worthwhile. In this circumstance, as the teachers were not directly involved in the students' discussion, the students reported that they could share stories about errors that had made or seen, and that were of interest to the other students within a group of confidants.

Even in this seemingly successful intervention, not all students volunteered to engage, and some who did were not particularly supportive of the intervention; however, the majority were. Importantly, it is unlikely that an educational intervention that all students are willing to engage in and find helpful and express appreciation for will ever be identified and enacted. Another example of a compulsory, structured intervention in which students engaged effortfully was the structured case presentation that Steketee et al. (2018) enacted. In this intervention, there was a high level of student involvement, they identified and enacted the structured case presentation as identified by themselves, and they engaged in generating responses. Beyond this case presentation was an opportunity for students to compare and contrast their experiences and discuss them with peers.

It can be concluded that, under any circumstances, offering activities that students find relevant and can contribute to may secure the best and most effortful kinds of engagement. Similarly, compulsory activities associated with assessment may need criteria that are carefully crafted to align with the kind of outcome intended, and being open to the likelihood of students being most influenced in their responses by that criterion.

Safe environments in which to share

One issue identified across some of the sub-projects was the quality of the environment in which students could come together to share, compare their experiences. Having a safe (confidential) environment was an important factor, not only to encourage and engage students, but also to shape the progress of interventions. For instance, in the circumstances

in which medical students wanted to discuss learning through errors (Harrison et al. 2018), it was important that they had a safe and supportive environment that included minimal intervention by teachers. It was organised by the students and involved small-group participation. These groups appeared to permit a diversity of levels and kinds of engagement by the students, and were able to accommodate different student needs, at least to some degree. The environment and the activities of the student-led component of the intervention were shaped by the scope of what students wanted to discuss, and how those discussions would progress.

Similarly, with the dietetics program (Williams et al. 2018), a series of small-group interactions was provided for initial debriefing sessions and discussions of two or three critical incidents. Quite deliberately, these groups were structured to be small and intimate to assist students in overcoming the difficulties they faced in being relatively socially isolated within their practicums. The concern was to have a supportive environment that would allow them to share their experiences in a way that would be conducive for that sharing and the provision of responsible and responsive feedback. The imperative for the educators was to provide participant comfort and an environment in which openness was exercised by the students. In another medical education intervention (Steketee et al. 2018), effort was similarly exercised to ensure the small-group activities were collegial and supportive, and this was the key role undertaken by the teachers, rather than intervening in the discussions students were having about cases.

When students lead processes, there may well be potentially adverse outcomes for some or all students. Hence, there is a need for careful management of these experiences. In the speech therapy intervention (Cardell & Bialocerkowski 2018), the process of managing the student engagement of this kind was almost compromised by students themselves wishing to press on with the activity. The idea was for small groups to hold intimate discussions, and then for issues to be advanced and made available to the entire group. The teachers' concerns arose when students want to move too quickly into open disclosure of experiences, which for some students may have been too quick and potentially confronting.

In all, readiness, engagement, having voluntary or compulsory activities and the quality of the environment were identified as being salient for the effective implementation of these interventions.

Processes and forms of learning

From the sets of findings reported in the contributions to this report, it is possible to categorise the outcomes in terms of those associated with educational learning processes and those associated with outcomes in the form of knowledge learnt by students (Table 29). Both sets of outcomes are important. Ultimately, the concern within this report is to identify how learning can be enhanced by augmenting students' practicum experiences after they have been undertaken. Therefore, outcomes associated with the processes that were enacted and with which students engage are important. Moreover, being able to identify the kinds of learning outcome that have arisen is also helpful, particularly when it is possible to associate particular activities with particular learning outcomes.

Process outcomes

Engaging students in activities that represent a more authentic approach to the tasks they will need to do upon being employed in their preferred occupation was deemed to have a

range of benefits. For instance, nursing students reported that oral examinations were now better than assignments in demonstrating their ability to engage in clinical reasoning, as this approach more closely replicated what they would need to do in practice.

One successful set of arrangements in the interventions was using an element that was structured, followed by one that allowed students to initiate and discuss issues that were relevant to them. For instance, Harrison et al. noted that providing experiences in which all students could engaged, and then subsequently providing an opportunity where they could discuss specific experiences (including errors they had made) in small groups, was engaging and effective. Steketee et al. (2018) reported a similar outcome. In that intervention, a clinical rotation debrief was subsequently augmented by small-group discussions about experiences students found interesting during their recent practicums. Important in both of these instances was the structure provided by the educator, which included an element that was a presentation and discussion of topic aligned with the course, followed by student-initiated and led interactions. In this intervention, the students reported that the opportunity for them to articulate, discuss and share perspectives effectively augmented their clinical rotations. Indeed, activities that pressed students into declaring or articulating their ideas and sharing them with others are reported as having positive learning outcomes. This is because they require students to be active, make decisions and engage in judgements and processes such as justifying and extending what they know, can do and value. One of these activities was the use of concept maps that provided a vehicle for nursing students to articulate and share ideas and propositions about their recent practicum experiences (Grealish et al. 2018).

The structuring of experiences for students that included a space for their own engagement and discretion in the content and process was evident in a number of studies. For instance, in organising a workshop for speech therapy students that focused on three specific topics, the initial structured experience provided the platform for students to engage in processes of sharing with progressively larger numbers of peers (Cardell & Bialocerkowski 2018). It was this aspect of the workshop about which students reported the most satisfaction. Similar process outcomes were reported in the workshops organised for student dieticians (Williams et al. 2018). As noted, a particular concern was for students who had engaged in practicums in fairly socially isolated circumstances to be able to engage, share and compare experiences. Also, the kinds of process used (small groups) permitted students to be open about their experiences and share difficulties, challenges and problems they had encountered. Providing structure, which includes organising the event, and having an activity that was more than student discussion, led to an engagement that then exercised and extended student-led discussion.

The issue of structure was also emphasised in the intervention that assisted students to understand and develop competence in feedback processes (Noble et al. 2018). Students were provided with online experiences to help them understand the purposes and processes of providing feedback and then engage in and develop the capacities to provide and respond to feedback. Pressing students into approaching critical appraisals of an area of nursing practice (community nursing) through a novel means (video clips) appeared to press the students into a fresh consideration of this nursing practice, and using visual media emphasised aspects that might be different than those privileged by assignments. This approach, with its emphasis away from written assignments and using visual imagery, was

seen to generate particular insights that may not have easily been developed in written form.

In these ways, it is possible to identify some key process outcomes that can inform the organisation and enactment of interventions to realise effective post-practicum experiences for higher education students.

Learning outcomes

The intended learning outcomes of many of these interventions were intentionally aligned with the development of the knowledge that students required to engage in their preferred occupation. Where appropriate and defensible, links are made to the formation of conceptual, procedural and dispositional knowledge, as outlined earlier and as presented in Table 6.1 and Table 6.2. As a consequence, it is worthwhile considering the way that these particular interventions progress, and their prospects for developing these kinds of knowledge. These are presented in Table 7.1.

Table 7.16*Sub-project outcomes*

Sub-project lead	Outcomes
Cardell	Students reported satisfaction with the opportunity to engage in the workshop and focus on the three key topics and their interrelationships. The process of sharing with their peers and then with the entire group indicates a level of satisfaction and confidence in the process. However, less than half of the students expressed an interest in wanting to repeat the activity in the future.
Clancy	The intervention was judged effective from the participants' perspectives as it provided them with insights and the opportunity to consider post-graduation pathways. Students particularly valued experiences that were relevant to themselves and their circumstances. For instance, only those students intending to have their own businesses rated content about business models as being relevant to their needs and pathways.
Grealish	Concept maps were useful for understanding students' development through the learning circles, which provided a vehicle for the students to share, compare and contrast experiences. The initial and post experience student evaluations reinforced the importance of learning circles and concept maps, insofar as they allowed students to articulate and share their experiences. Clinical facilitators noted that the student-led discussions were important pedagogically, and allowed them to assess student engagement and learning.
Harrison	The process was engaging for students: both observational and reports from students. Students reported these effective means for learning, including comfort in reporting errors they had made in this environment and through these processes that they would not ordinarily do.
Kirwan	This outcome indicates the intervention was successful in improving students' ability to demonstrate attributes of employability when writing a new graduate application.
Levett-Jones	Identified strengths and deficits and students' learning and applicability to patient care and safety. Students endorsed this approach over written assessments in clinical reasoning; authenticity of tasks valued.
Newton	Students' reported developing nuanced understandings about (i) the role and requirements of a community nurse, (ii) intersections between this kind of nursing work and acute-care, (iii) enhanced understanding about care of elderly people, (iv) particularly those with chronic conditions and (v) how this experience shaped student nurses' practices in the future.
Noble	Students reported high levels of satisfaction with the intervention process and outcomes. This included being more effectively engaged with feedback processes because of the approach adopted. Students reported developing a more nuanced understanding of the quality of feedback they are receiving (i.e. its utility and focus) and developing criticality associated with feedback. For the majority of students, this was the first time that the feedback process had been explicitly addressed in their education.

Rogers	Claims this process had been effective in developing 'rich and nuanced' understanding of interprofessional working, based on analyses of written assessment tasks and how key elements of the interprofessional working paradigm are addressed.
Steketee	The majority of students found the clinical debriefs to be useful, based on the combination of the clinical event and the opportunity to discuss it with peers. These discussions were seen as building a trustworthy, safe and supportive environment for students to share and learn from each other. Overall, students claimed these as a valuable supplement to their clinical rotations, including a source of feedback informing their progress.
Sweet	Introduction of the structured approach to generating critical analyses through students' evaluation of practicum experiences. It is claimed students demonstrated greater depth of critical analysis of the kind required to be reflective practitioners.
Williams	Facilitators reported positive outcomes in terms of students' ability to share openly and engage with others in constructive appraisals of their experiences, including commonalities and differences to be articulated, shared and appraised. Mixed views about whether facilitators (i.e. competent clinicians) should intervene or merely observe. Students reported positive outcomes on a set of four measures designed to support their professional preparation.

Assessment processes, such as those enacted by Levett-Jones et al. (2018), were able to identify what students know, and deficits in their knowledge. The development of understanding (conceptual knowledge) was identified as being the product of students engaging in written assignments. For instance, Rogers et al. (2018) identified written assignment tasks as being an effective way of allowing students to understand what constitutes interprofessional working, when these assignments were focused on events they had encountered in their clinical placements. In this instance, the students were pressed into identifying what was deemed to be effective and ineffective about these interprofessional working arrangements. In this way, grounded instances of practice observed by the students can be used to instantiate and to justify decisions about whether these were positive or negative instances of this way of working. The concern is that students may simply rehearse what they have been advised in the classroom about what constitutes effective interprofessional working and examples from their practice experiences accordingly. This might be the case for a more open form of assessment that allow students to support but also to contest the orthodoxies of what might lead to effective interprofessional working and learning.

Procedural outcomes in terms of students being ready to engage in applying for employment and being interviewed were evident in the contributions of Clanchy et al. (2018) and Kirwan et al. (2018). In both instances, experiences were provided for students to engage in the processes through which they would apply and be selected for employment. Of course, there are conceptual outcomes as well in terms of understanding the processes and goals for engaging in the procedures leading to seeking and being employed in both sub-projects. Both procedural and conceptual outcomes were reported from the use by Sweet et al. (2018) of reflective writing activities to develop critical capacities required for nursing practice. The procedures were those associated with considering, appraising and evaluating what has been observed, thereby seeking to develop the kinds of higher order procedure required for engaging critically in clinical work. The conceptual development was associated with the concept and practices that needed to be appraised, compared, and linked and associated, through a consideration of the clinical cases. Moreover, dispositional development (e.g. interest, values and beliefs) likely arose through critical appraisal of clinical cases.

Equally, concept maps were helpful for engaging students in considering and appraising concepts that were abstracted (Grealish et al. 2018). The use of concept maps is usually associated with conceptual development because it presses students into engaging with concepts, but also into identifying links and associations amongst them. In this way, this is an activity that can capture, utilise and develop higher forms of propositional knowledge required for activities such as clinical reasoning. Grealish et al. (2018) reported that engaging with concept maps presses students into articulating and sharing those constructions and associations, which is likely to further assist the development of their personal domain of knowledge.

Evident in the development of feedback literacy were all three forms of knowledge: conceptual (understandings and goals for feedback processes), procedural (ability to engage in and optimise these processes) and dispositional (how one's beliefs and values are enacted) (Noble et al. 2018). As an indication of achieving a specific outcome from a specific pedagogic means, Newton et al. (2018) were able to develop nuanced understanding about the work of community nurses by encouraging students to use their practicum experiences to produce a brief video clip about that kind of work. The use and selection of images required these students to make value judgements and reflect these in that process of selection.

In this way, it is possible to identify how specific educational interventions have come to secure particular kinds of learning outcomes for students. This analysis is particularly important because, as stated earlier, educational provisions are intended to achieve specific kinds of outcomes. Therefore, knowing which kinds of intervention are more likely to develop the intended kinds of knowledge permits greater efficacy in the design and enactment of interventions such as these.

Potential improvements

Most of the contributions also suggested areas for further or future improvements to the interventions. A range of suggested improvements to post-practicum processes trialled within these various sub-projects were advanced through critical appraisal of their enactment. These can be categorised in terms of improvements to intervention processes, and student engagement (Table 7.2).

Improving intervention processes

Ensuring that there is an adequate and appropriate level of structure in the experiences, including the sequencing of activities and the management of student progress (Cardell & Bialocerkowski 2018), is likely to be an important basis for improving these processes. Part of that structuring can be to include more of the kinds of experience that comprise an overall structure with a compulsory focused activity, and then one that provides opportunities for students to discuss issues of immediate interest. Even within these processes, there is concern to provide a structure that permits students to engage in their interactions in measured ways. For instance, in the intervention of Cardell and Bialocerkowski (2018), the intention was for students to work through a process in which they initially discuss issues in pairs, then in groups and then with an entire cohort. However, it was found that whilst it was important to allow these processes to be student led, it was helpful to guide the pace and means of their progression. One concern is that students may be rushing through these rounds, rather than relishing and optimising the experience at

each stage. Also, there was concern that the process was designed to permit students to manage what is shared with others, and if the process progresses too quickly, students may lose the ability to manage the nature and content of what is discussed with ever larger groups. So, there is a balance to be achieved between initiating and encouraging student engagement, including granting them discretion to progress with a process, and then to manage the process in a way that is aligned with achieving the desired outcomes. A similar concern was articulated by clinical facilitators who were concerned that the process of engaging students and guiding them in their conversations needed to be incremental and managed to achieve the best learning outcomes (Grealish et al. 2018). So, from these we learn that the process of student-initiated and led processes may need to be managed, particularly in the first instances.

Part of the structuring of the experiences should be, if it is required, to develop the students' capacities to engage effectively in these activities. For instance, Levett Jones et al. (2018) note that if students were to engage more in oral assessments, they may well develop further their clinical reasoning skills, but this needs to be premised upon practice in considering and articulating their ideas orally. Hence, the importance of practice and frequency of experiences that support the development of these capacities that, in turn, will be used to develop clinical competence. Of course, when there is alignment between the kinds of activity being used and those that will be required in practice, the justification for rehearsing such activities becomes stronger, as is the case here. As noted below, there is a range of activities that students were not necessarily ready to engage in. Much of this readiness was associated with the kinds of capacity required to participate effectively and constructively in these interventions. Part of that is to understand the process and outcomes of such activities, so that they can be seen as being worthwhile educational experiences. If students do not view the didactic presentation of information as being a legitimate and worthwhile educational experience, then how they come to engage with such activities is likely to be limited. So, it might be necessary to emphasise the process aspects of such educational interventions to promote student engagement. Issues associated with the location of these activities (Grealish et al. 2018), their duration (e.g. short and intense or longer term and accumulative) (Williams et al. 2018) were also raised in these discussions.

A concern often raised about student-led processes is that they may be informed and progress in erroneous ways. This issue was raised by the clinical facilitators in the learning circles sub-project (Grealish et al. 2018) and in the discussions by medical students (Steketee et al. 2018). While there is genuine reason to be concerned about such processes and outcomes, there is also a view by some educators that an educational experience not mediated by teachers is inherently a weaker proposition than one in which they are involved. Yet, perhaps most student interactions occur outside of directly taught or facilitated processes. Of course, such processes should leave open the options for teachers to facilitate and to encourage areas of uncertainty or lack of clarity, in order that they be raised and discussed. Certainly, such processes need to be followed at some point by assessments, to ensure that what is learned through these experiences is appropriate and in accordance with the domain of learning. What is clear, however, is that processes of knowledge construction are at the core of individuals' learning and these arise through their activities and interactions, rather than being passive recipients of knowledge.

So, there are a range of issues associated with the focus for these activities, how they are managed and the circumstances in which they are enacted. All of which suggests that there is a role for the educator in organising, establishing and managing these experiences that goes beyond being the communicator of information. Process considerations become an important component of teachers' work.

Improving student engagement

Evident in some studies was that the preparedness and readiness of students to engage effectively in interventions was a key issue and a focus for improvement. This preparedness included the ability to participate in oral assessments (Levett-Jones et al. 2018), familiarity with processes of written critical reflections (Sweet et al. 2018), familiarity with accessing and engaging with online learning support (Noble et al. 2018) and ability to produce video clips (Newton et al. 2018). So, where there is a particular capacity or set of capacities required to engage in these interventions, it may be necessary to prepare students or ensure that they possess the capacities to be able to effectively engage in those activities. Clearly, if students are being expected to do something for which they are not ready or adequately prepared to productively engage, the learning outcomes are likely to be inferior or even potentially negative.

The other key issue with students' engagement is their willingness to participate. The evidence from across nearly all sub-projects was of difficulty with engaging students in activities not perceived to be an inherent element of their existing program. If students elect not to participate or participate in ways that are grudging, it is unlikely that productive learning outcomes will be achieved. For instance, at least one group of students indicated reluctance to participate in particular kinds of activity (learning circles and critical reflections) (Harrison et al. 2018) because of their overuse. Hence, a different term had to be used, but also perhaps a slightly different focus was adopted. The consideration here is that learner engagement is essential, and the quality of that engagement is likely to be aligned with the effort they will expend in these interventions and, therefore, the kind and extent of learning likely to arise from them.

Whilst some interventions were part of compulsory student activities, it is not possible to know how students elected to engage in these kinds of activity. In particular, the concern is that students merely respond to the assessment criteria in a superficial and intentional way, rather than engage in ways that lead them to learn what is intended. Throughout, it was reported that wherever the content and activities were pertinent to student needs and interests, their engagement was far stronger. In the group work organised by Steketee et al. (2018) and Harrison et al. (2018) there was evidence of rich interaction and effortful engagement by students because the topics and the conversations were relevant to their interests and studies. However, even then the participation was not universal or universally valued. Nevertheless, this suggests that relevance of activities, pertinence to student needs and alignment with what they are engaging with currently are likely to be what attracts their interest.

Table 7.2 *Potential improvements identified in interventions*

Sub-project	Improvements
Cardell	These interventions are an initial attempt to promote professional identity, self-efficacy and resilience and much was learnt about structured approaches to achieving these outcomes. Essential here is that students would have had practicum experiences to achieve the intended outcomes. Yet the prospects for ongoing participation and further engagement in these activities will be constrained without students more fully appreciating the worth of these experiences. This stands as a challenge for their teachers.
Clancy	The evaluation suggested the need for activities that increase participants' industry knowledge, i.e. work opportunities and potential pathways. Enhancing the relevance to their sector and needs was a key basis for promoting engagement by students.
Grealish	Issues faced in this study were associated with finding rooms or spaces to undertake learning circles in busy hospitals, and the time for them to occur. Clinical facilitators reinforced the importance of them shifting from initiating these interactions to being able to observe, and coaching and guiding the conversations within them. Overall, feasibility seems strong. Students reported specific outcomes from these learning processes, including deepening their understanding, having opportunities to articulate and understand concepts and the usefulness of concept maps as a mechanism for realising these outcomes.
Harrison	Broader engagement by larger number of students, enhancing environments for students to report their learning and work through errors in a supportive and non-judgemental environment.
Levett-Jones	Student readiness (ill prepared) and need for more adequate preparation. Assessment instrument refined through the process. Offer students more of these kinds of experiences to develop that clinical reasoning capacity.
Newton	Four themes emerged that shape future consideration of this kind of initiative: (i) reasons for participation, (ii) barriers encountered, (iii) pressing the student into thinking and (iv) potential use of this strategy. There is a need to prepare students to engage in these kind of activities – designing the activity so it encourages descriptive and reflective activities, as well as dialogue and critical engagement.
Noble	Some students reported difficulty in accessing and engaging with the electronic resources prior to the workshops. Also, students suggested feedback should be integrated within their university studies, not offered as a one-off intervention. Students also commented that their supervisors might benefit from similar training.
Rogers	Need to be more widely applied.
Steketee	While students reported that the interventions were effective opportunities for rich learning, it was not always evident that transformative learning had occurred. It was unclear whether the survey device was sufficiently sensitive to pick up these kinds of outcome. However, other outcomes indicated that students' personal knowledge had been transformed through these experiences.
Sweet	If students are provided with a more structured experience based around this particular model and then their efforts are assessed on the elements of that model, then there are likely to be stronger outcomes.
Williams	Key lessons included: (i) even relatively short interventions to gather evidence-based approaches requires considerable resources, (ii) care about the overlap between assessment and these kinds of interventions, (iii) the importance of gathering both quantitative and qualitative data and (iv) the importance of having skilled facilitators to maximise these processes. However, issues still exist associated with the degree of intervention by facilitators, particularly when occupationally competent.

Considerations for curriculum and pedagogy

Having reviewed the purposes, strategies, implementation issues, outcomes and suggestions for improvement, it is possible to identify some key considerations for curriculum and pedagogy.

Relationship between assessment and interventions

One strategy for encouraging students' engagement and participation in post-practicum interventions is to make it part of the assessment of the course in which they are enrolled. This has a number of advantages. These include the likelihood that all students will participate in the activity, and engage with the assigned task with a high degree of interest. Moreover, such an approach allows the intervention to be directly related to the intended outcomes of the course or unit. However, there are also some disadvantages when post-practicum interventions are intermingled with assessment of students' performance. This includes students' responses being constrained to the specific focus or topics of the intervention and this may ignore important learning outcomes that sit outside of those specific intentions. There is a danger that students' participation and responses to these activities will be mediated by their concerns about grades, and by providing the kind of responses which they conclude their teachers or clinical supervisors want. In addition, such processes inhibit students' sharing with others openly and honestly, because their responses might be constrained by concerns associated with disadvantaging themselves and advanced in others in an assessment process where they will be rated and ranked. The limitations here are particularly important when there is an intention to have an open discussion amongst students and for the students to feel free to share their experiences, compare them with others, and also within the safety of a non-judgemental process.

Structuring of interventions

Staged processes that either permit students to discuss, share, compare seem to render the most significant outcomes. Various patterns of sequencing of structured experiences are evident in the interventions reported here and there is no set pattern that offers an unequivocal way forward. In some instances, a case is presented and discussed, and then from that students discuss the case, and share experiences. In other circumstances, the students commence by having discussions with peers and then engage in a more structured activity. Elements of structuring the engagement, however, appear to have a more common focus – that is, starting from smaller group engagement, including working in pairs, then moving through to larger group engagement, and then engagement involving an entire cohort.

One pattern of the structuring of successful interventions was reported across some of the interventions. Having a structured experience in which students collectively focus on a specific activity (e.g. presentation, case study, clinical case), which is then followed by a student-led discussion, seemed to be effective in initiating and engaging students in critical discussions. The majority of these were student led and students have the discretion in terms of the content and process adopted. One of the qualities of this approach is that it provides a safe environment for students to discuss any mistakes they may have made, problems they may have encountered, and matters associated with their preparation that sat outside of the control and engagement by teachers.

Student-led or facilitated intervention activities

The issue of whether intervention activities should be entirely student-led and managed, facilitated by a teacher, or facilitated in a way that permits interventions on the part of the teacher or clinical supervisor, is discussed in some of the sub-project reports. In some processes, students are allowed and encouraged to lead, manage and shape the experiences for themselves and their peers. This approach, when the students elect to engage in it, seems to elicit some of the highest outcomes. However, there are concerns that such processes can lead to the pooling of ignorance and misery. Students become distracted by negative experiences and may arrive at incorrect judgements and erroneous outcomes because of not being guided by a more experienced interlocutor (i.e. teacher, clinical supervisor). So, there are concerns about facilitation being directed towards the process of student participation (i.e. directing towards intended outcomes), and the risk of inappropriate or perilous learning outcomes arising because of limits in students' knowledge and competence. These are perennial issues. One way of advancing them is to be clear about the purposes of the interventions and what they seek to achieve, and then act accordingly.

References

Abuzar, M. A., Burrow, M. F., & Morgan, M. (2009). Development of a rural outplacement programme for dental undergraduates: Students' perceptions. *European Journal of Dental Education*, 13(4), 233. doi:10.1111/j.1600-0579.2009.00581.x

Amini, H., Moghaddam, Y., Nejatisafa, A., Esmaeili, S., Kaviani, H., Shoar, S.& Mafi, M. (2013). Senior medical students' attitudes toward psychiatry as a career choice before and after an undergraduate psychiatry internship in Iran. *Academic Psychiatry*, 37(3), 196-201. doi:10.1176/appi.ap.10120171n

Anderson, J. R. (1982). Acquisition of cognitive skill. *Psychological Review, 89*(4), 369-406.

Anderson, J. R. (1993). Problem solving and learning. *American Psychologist, 48*(1), 35-44.

Bain, J. D., Mills, C., Ballantyne, R., & Packer, J. (2002). Developing reflection on practice through journal writing: Impacts of variations in the focus and level of feedback. *Teachers and Teaching*, *8*(2), 171-196. doi:10.1080/13540600220127368

Berntsen, K., & Bjørk, I. T. (2010). Nursing students' perceptions of the clinical learning environment in nursing homes. *Journal of Nursing Education*, *49*(1), 17-22. doi:10.3928/01484834-20090828-06

Billett, S. (2003). Sociogeneses, activity and ontogeny. *Culture and Psychology, 9*(2), 133-169.

Billett, S. (2011). *Curriculum and pedagogic bases for effectively integrating practice-based experiences.* Retrieved from www.olt.gov.au/resource-integrating-practice-based-experiences-griffith-2011

Billett, S. (2015a). *Integrating practice-based experiences into higher education*. Dordrecht: Springer.

Billett, S. (2015b). Readiness and learning in healthcare education. *Clinical Teacher, 12*, 1-6.

Billett, S. (2018). Augmenting post-practicum experiences: purposes and practices. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences.* Dordrecht: Springer.

Billett, S., Cain, M., & Le, A. (2017). Augmenting higher education students' work experiences: Preferred purposes and processes. *Studies in Higher Education*. Vol 43(7) 1279-1294. doi:doi.org/10.1080/03075079.2016.1250073

Billett, S., Harteis, C., & Gruber, H. (2018). Developing occupational expertise through everyday work activities and interaction. In K. A. Ericsson, R. R. Hoffman, & A. Kozbelt (Eds.), *Cambridge handbook of expertise and expert performance.* 2nd Edition. New York: Cambridge University Press, pp. 105-126.

Cain, M., Le, A., & Billett, S. (2018). Student preferences for purposes and processes of post practicum interventions. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Cardell, L., & Bialocerkowski, A. (2018). Bouncing Forward: A Post-practicum workshop to promote professional identity, self-efficacy, and resilience in Master of Speech Pathology students. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.),

Augmenting health and social care students' clinical learning experiences: Outcomes and processes. Dordrecht: Springer.

Chan, D. (2001a). Combining qualitative and quantitative methods in assessing hospital learning environments. *International Journal of Nursing Studies*, *38*(4), 447-459. doi:10.1016/S0020-7489(00)00082-1

Chan, D. (2001b). Development of an innovative tool to assess hospital learning environments. *Nurse Education Today*, *21*(8), 624-631. doi:10.1054/nedt.2001.0595

Chan, D. S. K. (2002). Associations between student learning outcomes from their clinical placement and their perceptions of the social climate of the clinical learning environment. *International Journal of Nursing Studies*, *39*(5), 517-524. doi:10.1016/S0020-7489(01)00057-8

Chan, D. S. K., & Ip, W. Y. (2007). Perception of hospital learning environment: A survey of Hong Kong nursing students. *Nurse Education Today*, *27*(7), 677-684. doi:10.1016/j.nedt.2006.09.015

Clanchy, K., Sabapathy, S., Reddan, G., Reeves, N., & Bialocerkowski, A. (2018). Integrating a career development learning framework into work-integrated learning practicum debrief sessions. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Cleland, J., Leaman, J., & Billett, S. (2014). Developing medical capacities and dispositions through practice-based experiences. In C. Harteis, A. Rausch, & J. Seifried (Eds.), *Discourses on professional learning: On the boundary between learning and working*. Dordrecht: Springer.

Cole, M. (1985). The zone of proximal development where culture and cognition create each other. In J. V. Wertsch (Ed.), *Culture, communication and cognition: Vygotskian perspectives*. Cambridge, UK: Cambridge University Press, pp. 146-161.

Courtney-Pratt, H., FitzGerald, M., Ford, K., Marsden, K., & Marlow, A. (2012). Quality clinical placements for undergraduate nursing students: A cross-sectional survey of undergraduates and supervising nurses. *Journal of Advanced Nursing*, *68*(6), 1380-1390. doi:10.1111/j.1365-2648.2011.05851.x

Curran, L. (2004). Responsive law reform initiatives by students on clinical placement at La Trobe law. *Flinders Journal of Law Reform*, 7(2), 287-301.

Dean, B.A. & Clements M. (2010). *Pathway for student self-development: A learning orientated internship approach*. University of Wollongong Research Online. Accessed at: http://ro.uow.edu.au/cgi/viewcontent.cgi?article=2478&context=commpapers

Dean, B.A., Sykes, Ch., Agostinho, S. & Clements M. (2012). *Reflective assessment in work-integrated learning: To structure or not to structure, that was our question*. University of Wollongong Research Online. Accessed at: http://ro.uow.edu.au/cgi/viewcontent.cgi?article=3617&context=commpapers

Doel, S. (2008). Fostering student reflection during engineering internships. *10th anniversary edition of the Asian-Pacific Journal of Cooperative Education. Selected papers from the 2008 Biennial Asia-Pacific Conference on Cooperative Education*, Manly, Australia.

Donald, M. (1991). *Origins of the modern mind: Three stages in the evolution of culture and cognition*. Cambridge, MA: Harvard University Press.

English, L. (2014). Assessing undergraduate nursing students' integration of theory and practice within a capstone clinical stream. Sydney: Office for Teaching and Learning.

Forde, S., & Meadows, M. (2011*). Industry placements in journalism education: Exploring enhanced learning and professional growth for interns*. Journalism Research and Education Section of IAMCR. Accessed at: http://jrejournal.com/ojs-2.3.7/index.php/jre/article/view/12

Fuscaldo, G. (2013). *Addressing cultural diversity in health ethics education*. Accessed at: http://chs.unimelb.edu.au/programs/ethics_in_human_research_practice/projects/addressing_cultural_diversity_in_health_ethics_education

Glaser, R. (1989). Expertise and learning: How do we think about instructional processes now that we have discovered knowledge structures? In D. Klahr & K. Kotovsky (Eds.), *Complex information processing: The impact of Herbert A. Simon*. Hillsdale, NJ: Erlbaum & Associates, pp. 289-317.

Grealish, L., Mitchell, M., Armit, L., van de Mortel, T., Shaw, J., Mitchell, C., et al. (2018). Using learning circles to develop intersubjectivity. In S. Billett, J. Newton, G. D. Rogers, & W. Nijhof (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Greeno, J. G., & Simon, H. A. (1988). Problem solving and reasoning. In R. C. Aitkinson, R. J. Hormiston, G. Findeyez, & R. D. Yulle (Eds.), *Steven's handbook of experimental psychology and education, Vol 2* (pp. 589-672). New York: Wiley.

Groen, G. J., & Patel, P. (1988). The relationship between comprehension and reasoning in medical expertise. In M. T. H. Chi, R. Glaser, & R. Farr (Eds.), *The Nature of Expertise* (pp. 287-310). New York: Erlbaum.

Harrison, J., Molloy, E., Bearman, M., Ting, C. Y., & Leech, M. (2018). Clinician Peer Exchange Groups (C-PEGs): Augmenting medical students' learning on clinical placement. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Hartigan-Rogers, J. A., Cobbett, S. L., Amirault, M. A., & Muise-Davis, M. E. (2007). Nursing graduates' perceptions of their undergraduate clinical placement. *International Journal of Nursing Education Scholarship*, *4*(1), 9-12. doi:10.2202/1548-923X.1276

Henderson, A., Beattie, H., Boyde, M., Storrie, K., & Lloyd, B. (2006). An evaluation of the first year of a collaborative tertiary–industry curriculum as measured by students' perception of their clinical learning environment. *Nurse Education in Practice*, *6*(4), 207-213. doi:10.1016/j.nepr.2006.01.002

Holt, D., Mackay, D., & Smith R. (2004). Developing professional expertise in the knowledge economy: Integrating industry-based learning with the academic curriculum in the field of Information Technology. *Asia-Pacific Journal of Cooperative Education, 5*(2), 1-11.

Johnson, G., & Blinkhorn, A. (2012). Faculty staff and rural placement supervisors' pre- and postplacement perceptions of a clinical rural placement programme in NSW Australia. *European Journal of Dental Education*, 17, 100-108.

Kirschner, P. A. (2002). Cognitive load theory: Implications of cognitive load theory on the design of learning. *Learning and Instruction, 12*(1-10).

Kirwan, G., Tuttle, N., Weeks, B., & Laakso, L. (2018). Post-practicum strategies to translate clinical experience to attributes of employability: Responding to graduate selection criteria. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Levett-Jones, T., Cortney-Pratt, H., & Govind, N. (2018). Implementation and evaluation of the post-practicum clinical reasoning exam. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Lindgren, B., Brulin, C., Holmlund, K.&, Athlin, E. (2005). Nursing students' perception of group supervision during clinical training. *Journal of Clinical Nursing*, *14*(7), 822-829. doi:10.1111/j.1365-2702.2005.01245.x

Macleod, C., Sweet, L., Cavaye, A., Fanning, C., Mills, D., & Oliphont, J. (2011). Learning and leading: An innovative approach towards maximising the effectiveness of work-integrated learning at Flinders University. *Ergo 1*(2). Accessed at: http://www.ojs.unisa.edu.au/index.php/ergo/article/view/1068/758

Mak, D. B., & Miflin, B. (2012). Living and working with the people of 'the bush': A foundation for rural and remote clinical placements in undergraduate medical education. *Medical Teacher*, *34*(9), e603-e610. doi:10.3109/0142159X.2012.670326

Maire, J. (2010). Bridging the gap between learning at work and in the classroom through a structured post-placement seminar. *Special Issue of the Asia-Pacific Journal of Cooperative Education Work Integrated Learning (WIL): Responding to Challenges*, 103-113. Accessed at: http://www.apjce.org/files/APJCE_11_3_103_113.pdf

Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education 32*(1), 3-24.

Midgley, K. (2006). Pre-registration student nurses perception of the hospital-learning environment during clinical placements. *Nurse Education Today*, *26*(4), 338-345. doi:10.1016/j.nedt.2005.10.015

Nash, R. (2012). *Good practice report. Clinical teaching.* Sydney: Australian Learning and Teaching Council.

Newton, J., & Butler, A. E. (2018). Facilitating students' reflections on community practice: a new approach. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Noble, C., Armit, L., Collier, L., Sly, C., Hilder, J., & Molloy, E. (2018). Enhancing feedback literacy in the workplace: a learner-centred approach. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Owen, S., & Stupans, I. (2008). *Experiential placements in Pharmacy. Quality indicators for best practice approaches to experiential placements in Pharmacy programs*. Adelaide: Carrick Institute, University of South Australia.

Pailhez G., Bulbena A., Coll J, Ros, S., & Balon, R. (2005). Attitudes and views on psychiatry: A comparison between Spanish and U.S. medical students. *Academic Psychiatry*, *29*, 82-91.

Papathanasiou, I. V., Tsaras, K., & Sarafis, P. (2014). Views and perceptions of nursing students on their clinical learning environment: Teaching and learning. *Nurse Education Today*, *34*(1), 57-60. doi:10.1016/j.nedt.2013.02.007

Pea, R. D. (1993). Learning scientific concepts through material and social activities: Conversational analysis meets conceptual change. *Educational Psychologist, 28*(3), 265-277.

Perkins, D., Jay, E., & Tishman, S. (1993). Beyond abilities: A dispositional theory of thinking. *Merrill-Palmer Quarterly, 39*(1), 1-21.

Perrone, L., & Vickers, M. (2003). Life after graduation as a 'very uncomfortable world': an Australian case study. Education + Training, 45, 69-78

Peters, K., Halcomb, E. J., & McInnes, S. (2013). Clinical placements in general practice: Relationships between practice nurses and tertiary institutions. *Nurse Education in Practice*, *13*(3), 186. doi:10.1016/j.nepr.2012.09.007

Prawat, R. S. (1989). Promoting access to knowledge, strategy, and dispositions in students: A research synthesis. *Review of Educational Research, 59*(1), 1-41.

Ralph, E., Walker, K., & Wimmer, R. (2009). Practicum and clinical experiences: Postpracticum students' views. *Journal of Nursing Education*, *48*(8), 434-440. doi:10.3928/01484834-20090518-02

Rogers, G. D., Parker-Tomlin, M., Clanchy, K., & Townshend, J. (2018). Utilising a post-placement critical assessment task to consolidate interprofessional learning. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Ruth-Sahd, L., Beck, J., & McCall, C. (2010). During a nursing internship program: The reflections of senior nursing students. *Nursing Education Perspectives, 31*(2), 78-83.

Ryle, G. (1949). *The concept of mind*. London: Hutchinson University Library.

Sierles F. S., & Taylor, M. A. (1995). Decline of U.S. medical student career choice of psychiatry and what to do about it. *American Journal of Psychiatry*, *152*, 1416-1426.

Steketee, C., Keane, N., & Gardiner, K. (2018). Consolidating clinical learning through post-rotation small group activities. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Stevenson, J. (2001). Vocational knowledge and its specification. *Journal of Vocational Education and Training, 53*(4), 647-662.

Stockhausen, L. (2005). Learning to become a nurse: Students' reflections on their clinical experiences. *Australian Journal of Advanced Nursing, 22*(3), 8-14.

Sun, R., Merrill, E., & Peterson, T. (2001). From implicit skills to explicit knowledge: A bottom-up model of skill development. *Cognitive Science, 25*, 203-244.

Sweet, L., & Bass, J. (2018). The continuity of care experience and reflective writing: Enhancing post-practicum learning for midwifery students. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Sweet, L., & Glover, P. (2011). Optimising the follow through for midwifery learning. In S. Billett & A. Henderson (Eds.), *Developing learning professionals: Integrating experiences in university and practice settings*. Dordrecht: Springer, pp. 83-100.

Tarquin, K. M., & Truscott, S. D. (2006). School psychology students' perceptions of their practicum experiences. *Psychology in the Schools*, *43*(6), 727-736. doi:10.1002/pits.20182

Watson, B., Cooke, M., & Walker, R. (2016). Using Facebook to enhance commencing student confidence in clinical skill development: A phenomenological hermeneutic study. *Nurse Education Today*, *36*, 64.

Williams, L., Ross, L., Mitchell, L., & Markwell, K. (2018). Using students' placement experiences to enrich understandings of distinct kinds of nutrition and dietetics practice. In S. Billett, J. Newton, G. D. Rogers, & C. Noble (Eds.), *Augmenting health and social care students' clinical learning experiences: Outcomes and processes*. Dordrecht: Springer.

Appendix A

Certification by Deputy Vice-Chancellor (or equivalent)

I certify that all parts of the final report for this OLT grant/fellowship (remove as appropriate) provide an accurate representation of the implementation, impact and findings of the project, and that the report is of publishable quality.

Professor Debra Henly
Senior Deputy Vice-Chancellor (Academic)
Griffith University

Date: 04/01/2019

Appendix B

This appendix comprises a report of the progressive evaluation conducted by Professor Janice Orrell (Flinders University) that was used to guide the project during its enactment and make judgements about its overall efficacy.

Office of Learning and Teaching (OLT) Key Evaluation Questions

1*. What processes were planned and what were actually put in place in the project?*

All the plans described in the original submission to the OLT were implemented and very effectively led by Stephen Billett at Griffith University. In addition, a survey of students regarding their opinions about post-placement (practicum) activities was conducted, analysed, and shared with the stage one group of sub-project leaders. This information, together with a comprehensive literature review, was also shared at the February 2016 conference, and ensured that those initiating the sub-projects had a shared knowledge base that was elaborated through critical discussion within the initial 2016 conference procedures.

2. How might the project be improved?

Thus far, this has been a thoughtfully planned, and well-executed and supported project. In an evaluation survey seeking advice from the participants of the sub project, their only suggestions was that there was a need for greater time allowance for projects. For the most part, this is beyond the control of the project leader, as many of the projects experienced delays due to drawn out ethics approval processes before they could commence. This need for greater lead-time in setting up projects is not at all uncommon. Participants also suggested that they would find it helpful if there was some way to foster small working groups of like projects and perhaps quarterly updates on all projects

3. What are the observable short-term outcomes?

Observable short-term outcomes at this stage include:

- A comprehensive literature review of research on augmenting post placement (practicum) learning.
- An informative survey of student opinions regarding post-placement support and learning.
- Supportive leadership and advising of sub-projects by Stephen Billet.
- Careful project management by Melissa Cain.
- Successful execution of 14 health care professions education projects from 5 higher education institutions.
- Collaborative partnerships between professionals in health services and academics in universities.
- Initiation of a second group of projects in areas such as education, journalism, media and communication, engineering, business, exercise science, and psychology.
- A summary of advice from the first group of project leaders for the second group of project leaders.
- A draft of key principles for consideration for designing post-practicum experiences.

4. To what extent have the intended outcomes been achieved?

The intended outcomes of this project were:

1.	Identify and appraise the effectiveness of post-practicum interventions promoting outcomes associated with students' employability, including readiness to practice;	This has already been achieved in the first round of sub-projects and the evaluation and learning from those initial projects has been distilled and shared with those in the second round of projects.
2.	Identify how these interventions are aligned with achieving specific educational goals across a range of occupational sectors;	In progress.
3.	Generate and test principles and practices supporting the effective enactment of these educational interventions realising particular learning goals across a range of disciplines and occupations; and	In progress.
4.	Initiate and support a systematic process of adoption, evaluation and adaptation of these processes across Australian universities.	Round one completed Round two commenced On target with project plan

The completion of Stages 1 and 3 set the ground-work to achieve the intentions of Stages 3 and 4**.**

5: What factors helped achieve the outcomes of the project?

Factors that helped achieve the outcomes of the project included:

- A project leader who has an established reputation in the scholarship of work place learning as well as a sound track record leading multiple practice-based projects.
- Good engagement from key staff at the partner health care institutions and universities.
- Funding for groups to address a strongly felt issue.
- Ongoing support from the project leader and the project manager for the leaders running the sub projects.
- Being required to engage in regular reporting.
- Willingness of students to volunteer to participate.
- Team work was highly underscored.
- The presence of a larger community of practice of similar people coming together to develop similar projects which grew from being a part of the bigger collegial environment created by the February 2016 workshop.
- Concern for Quality Student Learning. The presence of a strong motivation and desire to maximize students' learning in a meaningful way was a significant factor in successfully enacting the project.

6. What factors may have inhibited achievement of the outcomes.

- **Time:** project leaders found finding time for the project especially difficult when it competed with the work demands of the primary employment. In addition, it was felt that there was a relatively short time frame to enact the project.
- **Recruiting:** Complexities of the clinical environment for recruiting and conducting the intervention.

- **Managing and Overseeing Projects:** This included managing the input of busy team members who had varying levels of engagement with the project.
- **None**: Many reported that they had experienced no constraints.

7. What measures, if any, have been put in place to promote the sustainability of the project's focus and outcomes?

The project has been carefully staged to incrementally develop frameworks and strategies generated from practice by the practitioners to foster embedding and upscaling of new initiatives in post-practicum learning. For example, the literature review and survey analysis, and templates for developing the reporting progress ensured that learning within the projects was grounded on what is already known, and captured and recorded new learning for the future use by groups of academic or academic units.

Evaluation conclusions

This project is being well led, achieving its intended goals, adheres to its original intentions, and is well within its planned time frame. The attached survey provides good evidence that participants who are leaders of the project are well motivated and intentioned and applaud the project leader and manager for their accessibility and the quality of support provided. The projects themselves are well on the way to establishing and embedding new practices in related practicum education, and have been systematically evaluated so that they are evidence based and can then be shared, embedded, and upscaled. Most projects were systematically evaluated using summative assessment, however, it was noted that many of the projects had devised sound learning activities that, outside of a context of project evaluation, would have been formative and productive of sound learning in and of themselves. In addition, these projects have been vehicles for the enhancement of mature, productive relationships between health care providers and academic educators of the next generation of health care practitioners.

Commendations arising from the evaluation:

1. The quality of scholarship that has been generated to underpin the sub-project.
2. The leadership and the support to the sub-projects by both the leader and manager of the larger project.
3. The creativity and effectiveness of the first round of projects.
4. The generation of principles to guide future initiatives that have been derived from the first round of sub-projects.

Recommendations from the evaluation

Several factors were crucial to the success of the project and it is important they are acknowledged and included in this type of project in future. The following recommendations outline these factors.

1. Appoint a respected scholar in the field and one who has prior experience in leading complex Teaching and Learning projects as the project leader.
2. Ensure that projects have effective and well supported project management.
3. Provide appropriate support to participating staff. This need became clear from staff feedback.
4. Allow sufficient start up time in which the project intentions can be transformed into action and ethics approval gained to allow for dissemination via publication.

Professor Janice Orrell

Flinders University

Appendix C: Student survey

Post-practicum project (student survey/focus group items)

Dear students – Staff at Griffith, Newcastle, Monash, Flinders and Notre Dame universities have recently been funded by the Commonwealth government for a teaching and learning project that aims to identify how to optimise students' experiences in work placements (e.g. practicum, clinical experiences). The project focus is on engaging with students **after** they have completed those placements so that they can discuss, share, contrast and compare their experiences with peers and their teachers. We aim to trial and evaluate a range of individual, small group and large group educational activities designed to optimise work placements with students across a range of programs. So, we would like your perspective and ideas about these activities before we trial them.

Your responses to this survey will assist the design and enactment of these activities. It will take about 10 minutes to complete this survey. Your responses will be anonymous and treated confidentially. No one who teaches you or assesses you will be able to identify you or your responses. So, your anonymity is assured.

Please note: the term practicum is used here to capture the range of students' work experiences.

1. Your host university is (please indicate):

Griffith	Notre Dame	Newcastle	Monash	Flinders

2. Please indicate your field of study (indicate two areas if you are undertaking a double major)

Field of study		Field of study			
Education		Speech pathology		Exercise physiology	
Nursing		Pharmacy		Occupational therapy	
Midwifery		Psychology		Rehabilitation	
Dietetics		Social work		Medicine	
Physiotherapy		Other (please state)			

3. What year level do you identify as a student (please indicate):

Year level	1st	2nd	3rd	4th	5th	6th

4. Are you a:

Full-time student	Part-time student

5. Are you a:

Domestic student	International student

6. Are you an:

Undergraduate student	Postgraduate student

7. Your age grouping is:

15-19	20-24	25-29	30-34	35-39	40 and over

8. Your gender is:

Female	Male	Transgender, (inter-sex)

9. How many practicums are included in your current degree program?

0	1	2	3	4	5	6	7	8	9	10 or >

10. In what format do you undertake practicum and for how many days?

Format	Duration (days)
Full-time, intensive blocks during the program	
Full-time during the latter part of the program	
Part-time, continuously throughout the duration of your program	
Part-time, one day per week….	
Other (please describe)	

Purposes

This project is about optimising the educational worth of students' practicums after their completion.

11. How interested are you in participating in post-practicum activities for the following reasons?

Educational purpose	Very interested	Some interest	Interest	Not interested	Irrelevant
discuss experiences during placement you found worthwhile/interesting/confronting					
linking what is taught at uni to practice					
learn more about your preferred occupation					
learn about other students' experiences during their practicum					
learn how your preferred occupation is practiced in across different work settings					
secure feedback on your workplace experience					
linking your work experiences with course work and assessments					
identify how these experiences can make you more employable					
make informed choices about career, work options or specialisations					
make choices about selection of subsequent courses/majors					
improve the experience for the next cohort of students undertaking practicum in that venue					
Some other purpose (please specify)					

12. Please provide 1 or 2 statements about why having the opportunity to discuss/share/compare practicum experiences is educationally important for you

1

2

OR:

If you believe that there is **no need** to discuss and consider your practicum experiences, please say why that is:-

1

2

Timing and process of engagement

13. Having opportunities to engage in structured discussions about your practicum experience would best support my learning:

Timing of interventions	Yes	No
early in the program, perhaps after your first practicum		
after having had a number of practicum experiences		
towards the end of your course		
after every practicum experience		
some other time (please state)		

14. What are your preferences for engaging in post-practicum activities with other students and/or teachers? Please respond to all items.

Intervention	High preference	Okay	Low preference	Would not participate
one-on-one with teacher				
one-on-one with a peer (another student)				
one-on-one with a more experienced student				
small self-managed groups (3 to 6 peers) across your course				
small groups (3 to 6 students) facilitated by more experienced students				
small groups (3 to 6 students) facilitated by teachers/tutors				
shared classroom-based group activities				
whole of class activities (i.e. large group processes 10-100 students)				
small groups (3 to 6 students) meeting periodically facilitated by placement supervisor				
individually completed activity with feedback from teachers				
presentations to peers				
as part of usual scheduled class activities				
a special event each semester				
something students should organise				
on-line with peers				
on-line moderated by tutor				
Other – please specify				

15. What would be important features of post-practicum experiences for you?: (please respond to all items)

Features	Essential	Very important	Important	Not very important	Irrelevant
focused on course content					
linked to assessment items					
focussed on work activities of selected occupation					
student-led and implemented					
teacher-led and implemented					
engaging as many students' perspectives as possible					
engaging with students at similar stages in the program					
engaging with students at different stages in the program					
engaging with students from other disciplines					
opportunity to share and discuss with peers					
opportunity to share and engage in structured consideration of experiences					
input from a practicing professional					
opportunity to provide feedback to the practicum site about student experiences					
development of coping skills for the workplace					

16. If you had the opportunity to organise a post-practicum experience for yourself and other students, what would it seek to achieve, what would it comprise, and when would it occur?

Purpose of activity -

What would happen? -

How and when would it occur? –

Thank you for your time and contributions to this survey

Stephen Billett for the project

Appendix D: Round 1 projects

Reports of these projects can be found on:
https://vocationsandlearning.wordpress.com/resources/

Round 1 project titles, contacts, institutions and disciplines

The titles, contact, institutions and disciplines of the 14 Round 1 projects undertaken in 2016 are set out below, as provided at the Development Conference held in February 2017.

	Project	Participants/contacts	Institution	Discipline
1	Evaluation of the Post-Practicum Clinical Reasoning Oral Exam	Tracy Levett-Jones, Helen Courtney-Pratt and Natalie Govind	UTS	Nursing
2	Peer group simulation activity post-practicum	Helen Courtney-Pratt and Tracy Levett-Jones	UTAS	Nursing
3	Post-practicum strategies to translate clinical experience to attributes of employability	Garry Kirwan, Neil Tuttle, Ben Weeks and Liisa Laakso	Griffith (AH)	Physiotherapy
4	Post-placement week – using students' experiences to enrich understandings of distinct kinds of nutrition and dietetics practice	Lauren Williams Lynda Ross, Lana Mitchel and Katherine Markwell	Griffith (AH)	Nutrition and dietetics
5	Post-practicum debrief focussing on the development of resilience and occupational identity	Andrea Bialocerkowsk, Libby Cardell and Shirley Morrisey	Griffith (AH)	Speech therapy
6	Integrating an Employability Intervention into Clinical Practicum Debrief Sessions	Kelly Clanchy; Grad Dip Ex Sci Teaching Team.	Griffith (AH)	Exercise Physiology
7	Individual student feedback: critical reflective piece of writing	Gary Rogers	Griffith	Medicine
8	Feedback from practicum using web-based engagements with peers	Julia Harrison and Liz Molloy	Monash/Melbourne	Medicine
9	Reflective learning circles	Julia Harrison and Liz Molloy	Monash/Melbourne	Medicine
10	Graduate entry students community practice/facilitating reflective group activities	Jenny Newton	Monash	Nursing
11	Midwifery continuity of care experiences: enhancing learning through reflective practice	Linda Sweet,Trudi Mannix, Kristen Graham, Janice Bass, Mary Sidebotham & Jenny Fenwick	Flinders/Griffith	Midwifery
12	Learning circles to develop inter-subjectivity	Laurie Grealish, Lyn Armit, Thea van de Mortel and Marion Mitchell	Griffith/GCH	Nursing
13	Using programmed de-briefs to augment students' experiences	Niamh Keane and Carole Steketee	Notre Dame	Medicine

14	Enhancing students' feedback literacy in the workplace: a learner-centred approach	Christy Noble, Lyn Armit, Leigh Collier Christine Sly and Liz Molloy	GCH/Melbourne	Medical, Allied Health, Nursing, Midwifery

Projects: Principal focus for teaching and learning strategies and participants

	Project	Actors	Principal focus (Day One)	Implementation (Day Two)
1	Post-Practicum Clinical Reasoning Oral Exam -	Tracy, Helen & Natalie	Peer feedback	Approximately 100 second year undergraduate nursing students
2	Peer group simulation activity post-practicum	Tracy & Helen Newcastle - Nursing	Simulation – pre-brief activity	60 first year nursing students
3	Post-practicum strategies to translate clinical experience to attributes of employability	Garry K, Neil, Ben & Liisa, Physiotherapy	Specific post-placement learning tasks	72 second year students
4	Using students' experiences to enrich understandings of distinct nutrition and dietetics practices	Lauren, Lynda, Lana and Katherine, Nutrition and Dietetics	Sharing and comparing group activities during week-long debrief event	All final year undergrad ND students
5	Debrief focussing on the development of resilience and occupational identity	Andrea, Libby & Shirley, Speech therapy	Debriefing workshops	All first and second year masters students 35-40 per year)
6	Integrating the Employability Framework into Grad Dip of Exercise Science Post-Practicum Debrief	Kelly & Grad Dip Ex Sci Teaching Team	Enhancing debriefing sessions	20 students enrolled in
7	Individual student feedback: critical reflective piece of writing	Gary Rogers, Medicine	Reflective writing pieces based on critical observation task	150 final year medical, ~30 pharmacy, ~80 physiotherapy, ~20 exercise physiology, ~30 clinical psychology students
8	Feedback from practicum using web-based engagements with peers	Julia & Liz, Medicine	Online engagement with critical thinking, reflection and peer discussion	500 final year medical students via on-line forums
9	Using reflective learning circle post clinical placement	Julia & Liz, Medicine	Facilitated learning circles	120 final year medical students
10	Students discussing placement experiences through producing a video clip	Jenny, Nursing	On-line discussion forums	60 masters level nursing practice students
11	Midwifery continuity of care experiences: enhancing learning through reflective practice	Linda, Trudi, Kirste, Janice, Mary & Jenny, Midwifery	Reflective writing and group discussion	1st year: 60 (approx.), 2nd year: 60 (approx.) and 3rd year: 40 (approx.) midwifery students

12	SUCCEED 2.1: Learning circles to develop inter-subjectivity	Laurie, Lyn, Thea & Marion, Nursing	Facilitated student appraisal of practice	2nd and 3rd year nursing students (70-120)
13	Using programed de-briefs to augment students' experiences	Niamh & Carole, Medicine	Debriefs of work activities	Two groups of 20 Fourth year medical students
14	Feedback strategies at end of practicums	Christy, Lyn, Leigh, Christine & Liz	Combination of self-evaluation and feedback from expert others	Three groups of 6-8 students from allied health, medical, nursing and midwifery

Appendix E: Round 2 projects

Reports of these projects can be found on:
https://vocationsandlearning.wordpress.com/resources/

Round 2 project titles, participants and institutions

	Project	Participants	Institution
1	Responding to Feedback at QUT – a post-practicum workshop	Yasmin Antwertinger, Ingrid Larkin, Esther Lau, Erin O'Connor, & Manuel Serrano Santos	QUT
2	Increasing employability through sustainable assessment practices and familiarity with recruitment practices	Rachel Bacon, Jane Kellett, Yui Ting Chan & Jie Yie Yong	Canberra
3	The Development and Evaluation of an Organisational Psychology Postgraduate Competency Trajectory	Christine Boag-Hodgson, Kaitlyn Cole, & Liz Jones	Griffith
4	Integrating career development learning interventions into an exercise science professional practice curriculum: students' perception of understanding and confidence in their employability attributes	Jessica Colliver, Kagan Ducker, & Peter Gardner	Curtin
5	Implementing post-practicum strategies to enhance professional identity and employability in final year physiotherapy students	Susan Edgar, Joanne Connaughton, & Stacy Sutherland	Notre Dame
6	Optimizing Post Graduate Enterprise Skills and Professional Identity Development: Collaborative Workshops in a Google+ Community	Kerin Elsum	RMIT
7	Supporting professional identity and personal resilience in a first semester professional experience course for graduate entry occupational therapy students	Susan Gilbert Hunt, Wendy Cearns, & Susie Owens	South Australia
8	Occupational therapy students preferred method of reflection during a fieldwork placement: video, written or artistic?	Nigel Gribble, & Julie Netto	Curtin
9	Business students' perceptions of completing teamwork as part of post-practicum learning experiences	Y Rachael Hains-Wesson & Kaiying Ji	Sydney
10	AGRIWIL – "Embedding Employability into the Experience"	Julie Harbert, Kelly McDermott, Marnie Long, & Michael Healy	La Trobe
11	Master of Teaching: Developing the first practicum experience	Deborah Heck, Susan Simon, Peter Grainger, Alison Willis, & Julie Karyn Smith	Sunshine Coast
12	Augmenting career development learning and professional identify development through post-practicum interventions	Denise Jackson[1], & Franziska Trede[2]	[1]Edith Cowan, [2]Charles Sturt
13	Developing resilience, self-efficacy and professional identity in allied health students	Abigail Lewis, & Janica Jamieson	Edith Cowan
14	Embedding Clinical Reasoning beyond theory using simulation: Nursing students' rural placements	Fiona Little[1] & Michael Grande[2]	[1]Newcastle, [2]Southern Cross
15	Augmenting public health and environmental health student learning through pre- and post-practicum educational processes	Zoe Murray	Griffith

16	Post-practicum interventions for advancing the professional disposition of postgraduate nursing students	Debra Palesy & Tracy Levett-Jones	UTS
17	Developing personal and professional identity through transformational experiences	Carol-Joy Patrick & Fleur Webb	Griffith
18	Post Practicum Debriefing: putting the 'wise' into wise practice within university-led work-integrated learning projects	Faith Valencia-Forrester	Griffith
19	Listening Circles for Journalism Placements	Alexandra Wake, & Kristy Moore	RMIT