Collaboration, cooperation and consultation: Work-Integrated Learning partnerships for enhancing graduate employability

Sonia Ferns
Bachelor of Education
Master of Education

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ABSTRACT

Collaboration, consultation and cooperation: Work-Integrated Learning partnerships for enhancing graduate employability

Graduate employability is of global interest as workplace demands and economic sustainability are driving the need for an innovative, agile, and motivated workforce. The quality of university graduates and their preparedness for the future workplace is central to national productivity and growth. Universities are increasingly accountable for the quality of learning experiences and graduate outcomes afforded through a university education. Metrics on graduate employability outcomes are used for national benchmarking, and to assess the impact of a university education. Furthermore, there is mounting assertion that greater collaboration, cooperation and consultation is required for a more holistic, relevant and inclusive educative experience that meets the needs of all stakeholders. This research explored how stakeholders can work collaboratively to embed Work-Integrated Learning (WIL) in the student experience and prepare graduates for the future workplace.

The aim of this research was to develop a partnership framework to support the attainment of graduates’ workplace proficiency in preparation for unpredictable and rapidly changing labour force requirements. Evidence was collected to substantiate how embedding WIL in curricula supports the development of graduates’ employability capabilities, thereby informing curriculum and assessment design. The ‘WIL Partnerships for Employability Framework’ outlines roles and responsibilities of stakeholders, and describes the features of partnerships among stakeholders to optimise graduate outcomes through shared expertise, collaboration and cooperation.

A multiple case study research design incorporating a mixed methods approach was employed. The case studies comprised three undergraduate professional degrees in an Australian university, namely Chemical Engineering, Occupational Therapy, and Primary Teacher Education. Data was collected from graduates, employers, teaching staff, current students, and representatives from professional accrediting bodies from March 2013 to April 2016. Data collection methods included two surveys: the national Course Experience Questionnaire (CEQ) and the Graduate Employability Indicator (GEI) Surveys. The CEQ measured graduate perceptions on the important components of a university education that prepared them for a dynamic workplace, while the GEI generated data from graduates,
employers, and teaching staff on important graduate capabilities and the gaps in graduates’ skills. Qualitative data was collected through individual and small focus group interviews with current students, and individual interviews with academic staff, employers, and a representative from each of the professional accrediting bodies. Finally, a content analysis of curriculum documents examined the authenticity of assessment profiles, allowing a link between stakeholder perceptions and the relevance of the student experience. A cross-case analysis was undertaken to identify the similarities and diversities across the cases, informing overarching criteria for graduate employability.

Across all three cases, the most highly regarded components of a university education were: 1. Work-Integrated Learning (WIL) embedded in curriculum, 2. Teaching staff who engaged and motivated students, 3. A cohesive curriculum, 4. Authentic assessment profiles, 5. Social connections, 6. Skill development that builds confidence, 7. Motivation, 8. Mentors and role models, 9. Professionalism and Professional identity, and 10. Workplace transition. The research highlighted the importance of partnerships, where all stakeholders (graduates, students, teaching staff, employers, and professional accrediting bodies) share in the responsibility for building these components into the university experience. Collaboration, cooperation and consultation among partners ensures learning experiences are relevant and cognisant of contemporary industry developments, with opportunities for learning and development for all stakeholders.

Findings from the research indicate that mutually beneficial partnerships establish a culture of shared responsibility for 1. Co-designing curriculum and assessment; 2. Enhancing the capacity and expertise of partners; 3. Facilitating opportunities for students to engage, network and connect with careers; and 4. Establishing mentoring models that benefit all partners. The research validates that partnerships facilitate a sense of belonging, a dynamic professional identity, and students’ motivation. The proposed partnership model, ‘WIL Partnerships for Employability Framework’, challenges university policy, procedures and protocols, prompting a rethink of how universities measure quality, determine staff priorities, and engage with external stakeholders. A series of recommendations were developed based on the research findings.
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>THESIS DECLARATION</td>
<td>ii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td>CONTENTS PAGE</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xiii</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>xv</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>xvi</td>
</tr>
<tr>
<td>LIST OF DEFINITIONS</td>
<td>xvii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xiii</td>
</tr>
<tr>
<td>Chapter 1 : INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Introduction to Thesis</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Changing Landscape</td>
<td>2</td>
</tr>
<tr>
<td>1.2.1 Emerging Knowledge Economy</td>
<td>3</td>
</tr>
<tr>
<td>1.2.2 Technology</td>
<td>3</td>
</tr>
<tr>
<td>1.2.3 Global Mobility</td>
<td>4</td>
</tr>
<tr>
<td>1.2.4 The Role of Higher Education</td>
<td>5</td>
</tr>
<tr>
<td>1.3 Economic Climate</td>
<td>6</td>
</tr>
<tr>
<td>1.3.1 National Productivity</td>
<td>6</td>
</tr>
<tr>
<td>1.3.2 Changing Workforce</td>
<td>7</td>
</tr>
<tr>
<td>1.3.3 The National WIL Strategy</td>
<td>8</td>
</tr>
<tr>
<td>1.4 Definition of Work-Integrated Learning</td>
<td>8</td>
</tr>
<tr>
<td>1.4.1 Work-Integrated Learning Pedagogy</td>
<td>9</td>
</tr>
<tr>
<td>1.5 Research Questions</td>
<td>9</td>
</tr>
<tr>
<td>1.6 Significance of the Research</td>
<td>11</td>
</tr>
<tr>
<td>1.7 Position of the Researchian</td>
<td>13</td>
</tr>
<tr>
<td>1.8 Structure of Thesis</td>
<td>14</td>
</tr>
<tr>
<td>1.9 Conclusion</td>
<td>16</td>
</tr>
<tr>
<td>Chapter 2 : LITERATURE REVIEW</td>
<td>17</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>17</td>
</tr>
<tr>
<td>2.2 Higher Education Trends</td>
<td>17</td>
</tr>
<tr>
<td>2.2.1 Competitive Environment</td>
<td>18</td>
</tr>
<tr>
<td>2.2.2 Widening Participation</td>
<td>19</td>
</tr>
<tr>
<td>2.2.3 Regulatory Framework</td>
<td>20</td>
</tr>
<tr>
<td>2.2.4 Financial Implications</td>
<td>21</td>
</tr>
</tbody>
</table>
2.3 Employability ................................................................................................................. 22
  2.3.1 Employability Models .............................................................................................. 23
  2.3.2 The Role of Education in Employability ................................................................. 27
  2.3.3 Stakeholder Perceptions ........................................................................................... 28
2.4 Work-Integrated Learning (WIL) ................................................................................... 35
  2.4.1 Learning Theories that Support WIL ................................................................. 35
  2.4.2 Elements of a WIL Curriculum ............................................................................. 36
  2.4.3 Assessment of Work-Integrated Learning ......................................................... 39
  2.4.4 Quality Assurance and Standards in a Work Integrated Learning Context .......... 45
2.5 Professional identity ....................................................................................................... 46
  2.5.1 Defining Professional Identity ................................................................................. 46
  2.5.2 Professional Identity and Employability ............................................................... 48
2.6 Partnerships .................................................................................................................... 48
2.7 Contribution to Gaps in the Research ............................................................................. 50
  2.7.1 Gaps in the Research ............................................................................................. 50
  2.7.2 How this Research Addresses the Gaps ............................................................... 51
2.8 Conclusion ...................................................................................................................... 53

Chapter 3 : METHODOLOGY ................................................................................................. 55
  3.1 Introduction .................................................................................................................... 55
  3.2 Pragmatist Research Paradigm ....................................................................................... 56
  3.3 Research Questions ........................................................................................................ 58
  3.4 Multiple Case Study Research Design ........................................................................... 61
  3.5 Data Collection Using Mixed Methods ........................................................................ 63
  3.6 Phases of Data Collection ............................................................................................. 64
    3.6.1 Overview of Phases ............................................................................................... 65
  3.7 Research Context ............................................................................................................ 67
    3.7.1 Bachelor of Engineering (Chemical Engineering) ................................................. 68
    3.7.2 Bachelor of Science (Occupational Therapy) ....................................................... 70
    3.7.3 Bachelor of Education (Primary Education) ......................................................... 71
  3.8 Data Sources, Data Collection Methods and Data Analysis ........................................... 73
    3.8.1 Phase One: Important Components and Gaps in a University Education ............. 73
    3.8.2 Phase Two: Graduate Outcomes and Student Perspectives ................................. 81
    3.8.3 Phase Three: Stakeholder Perspectives and Assessment Profiles ......................... 85
  3.9 Quality of the Research Design ...................................................................................... 91
  3.10 Ethical Considerations .................................................................................................. 92
  3.11 Conclusion .................................................................................................................... 93
Chapter 4: RESULTS CASE STUDY ONE: CHEMICAL ENGINEERING (CE) ............... 95
  4.1 Introduction .................................................................................................................... 95
  4.2 Phase One: Important Components and Gaps in a University Education for CE Stakeholders .......................................................................................................................... 95
    4.2.1 Course Experience Questionnaire (CEQ) for CE Graduates ................................. 95
    4.2.2 Graduate Employability Indicator (GEI) Surveys for CE Stakeholders ................ 108
    4.2.3 Overview of Phase One findings for CE Case Study ............................................. 114
  4.3 Phase Two: Graduate Outcomes and Student Perspectives for CE ...................... 117
    4.3.1 Graduate Destination Survey (GDS): CE Graduates ............................................. 117
    4.3.2 Individual and Small Group CE Student Interviews .............................................. 118
    4.3.3 Overview of Phase One and Phase Two Findings for CE Case Study ................. 123
  4.4 Phase Three: Partnerships and Curriculum Design to Enhance Employability of CE Graduates ........................................................................................................................ 125
    4.4.1 Representatives of Professional Accreditation Bodies and Employer Interviews: CE ......................................................................................................................................... 125
    4.4.2 Teaching Staff Interviews: CE ............................................................................... 128
    4.4.3 Curriculum Document Content Analysis: CE Curriculum .................................... 132
  4.5 Overview of Phase Three Findings for CE Case Study ................................................ 134
  4.6 Conclusion .................................................................................................................... 136

Chapter 5: RESULTS CASE STUDY TWO: OCCUPATIONAL THERAPY (OT) .......... 139
  5.1 Introduction .................................................................................................................. 139
  5.2 Phase One: Important Components and Gaps in a University Education for OT Stakeholders ........................................................................................................................ 139
    5.2.1 Course Experience Questionnaire (CEQ) for OT Graduates ................................. 139
    5.2.2 Graduate Employment Indicator (GEI) Surveys for OT Stakeholders .................. 153
    5.2.3 Overview of Phase One findings for OT Case Study ............................................. 163
  5.3 Phase Two: Graduate Outcomes and Student Perspectives for OT ...................... 165
    5.3.1 Graduate Destination Survey (GDS): OT Graduates ............................................. 165
    5.3.2 Individual and Small Group OT Student Interviews .............................................. 166
    5.3.3 Overview of Phase One and Phase Two Findings for OT Case Study ................. 171
  5.4 Phase Three: Partnerships and Curriculum Design to Enhance Employability of OT Graduates ........................................................................................................................ 173
    5.4.1 Representative of Professional Accreditation Body and Employer Interviews: OT ......................................................................................................................................... 173
    5.4.2 Teaching Staff Interviews: OT ............................................................................... 176
    5.4.3 Curriculum Document Content Analysis: OT ...................................................... 181
  5.5 Overview of Phase Three Findings: OT ....................................................................... 182
  5.6 Conclusion .................................................................................................................... 183
Chapter 6 : RESULTS CASE STUDY THREE: PRIMARY EDUCATION (PE) ............... 185

6.1 Introduction .................................................................................................................. 185

6.2 Phase One: Important Components and Gaps in a University Education for PE Stakeholders........................................................................................................................................... 185

6.2.1 Course Experience Questionnaire (CEQ) for PE Graduates................................. 185

6.2.2 Graduate Employment Indicator (GEI) Surveys for PE Stakeholders ................... 199

6.2.3 Overview of Phase One findings for PE Case Study ............................................. 209

6.3 Phase Two: Graduate Outcomes and Student Perspectives for PE ...................... 211

6.3.1 Graduate Destination Survey (GDS): PE Graduates .............................................. 211

6.3.2 Individual and Small Group PE Student Interviews .............................................. 212

6.3.3 Overview of Phase One and Phase Two Findings for PE Case Study ................... 218

6.4 Phase Three: Partnerships and Curriculum Design to Enhance Employability of PE Graduates ............................................................................................................................ 221

6.4.1 Employer and Representative of Professional Accreditation Body Interviews: PE ......................................................................................................................................... 221

6.4.2 Teaching Staff Interviews: PE ................................................................................ 225

6.4.3 Curriculum Document Content Analysis: PE Curriculum ..................................... 231

6.5 Overview of Phase Three Findings: PE ........................................................................ 233

6.6 Conclusion .................................................................................................................... 234

Chapter 7 : CROSS-CASE ANALYSIS ........................................................................... 237

7.1 Introduction .................................................................................................................. 237

7.2 Comparison of Case Study Attributes .......................................................................... 237

7.3 Important Components of a University Education that Supports the Development of Employability Capabilities .......................................................................................................................... 237

7.4 Domains and Dimensions ............................................................................................. 238

7.4.1 Work-Integrated Learning (WIL) and Workplace Relevance Domain.................. 239

7.4.2 Staff Quality and Expertise Domain ...................................................................... 240

7.4.3 Course Content and Structure Domain ................................................................... 241

7.4.4 Assessment Domain ............................................................................................... 241

7.4.5 Social Connections Domain ................................................................................... 242

7.4.6 Confidence/Skill Development Domain ................................................................ 243

7.4.7 Motivation Domain ................................................................................................ 244

7.4.8 Role Models and Mentors Domain ........................................................................ 244

7.4.9 Professionalism/Professional Identity Domain ....................................................... 245

7.4.10 Workplace Transition Domain ............................................................................. 246

7.5 Overarching Themes ..................................................................................................... 246

7.5.1 Partnerships ............................................................................................................ 247

7.5.2 Professional Accreditation ...................................................................................... 248
7.5.3 University Policies, Procedures, Protocols and Priorities ........................................... 248
7.6 Stakeholder Perceptions of the Gaps in the Skills and Knowledge of Graduates in Workplace Preparedness ......................................................................................................... 249
  7.6.1 Graduates’ Perceptions of Gaps in Skill Development .................................................. 249
  7.6.2 Employer Perceptions of Gaps in Graduate Skills ....................................................... 250
  7.6.3 Teaching Staff Perceptions of Gaps in Graduate Skills ............................................... 252
  7.6.4 Additional Skills ........................................................................................................ 252
7.7 Embedding Work-Integrated learning (WIL) in Curriculum Supports the Development of Graduate Employability ........................................................................................................ 253
7.8 Characteristics of Partnerships that Facilitate Successful Outcomes in Preparing Work-Ready Graduates ................................................................................................................ 253
7.9 Conclusion ..................................................................................................................... 254
Chapter 8 : DISCUSSION AND CONCLUSION ...................................................................... 257
  8.1 Introduction .................................................................................................................... 257
  8.2 Research Problem ........................................................................................................ 257
  8.3 Important Components of a University Education for Employability ......................... 258
    8.3.1 WIL and Workplace Relevance Domain ............................................................... 259
    8.3.2 Staff Quality and Expertise Domain ...................................................................... 260
    8.3.3 Course Content and Structure Domain ................................................................... 261
    8.3.4 Assessment Domain ............................................................................................... 262
    8.3.5 Social Connections Domain ................................................................................... 263
    8.3.6 Confidence/Skill Development Domain .............................................................. 264
    8.3.7 Motivation Domain ............................................................................................... 265
    8.3.8 Role Models and Mentors Domain ........................................................................ 266
    8.3.9 Professionalism/Professional Identity Domain ...................................................... 267
    8.3.10 Workplace Transition Domain ............................................................................ 268
    8.3.11 Connecting the Domains ..................................................................................... 268
  8.4 Identifying Gaps in Graduate Employability ................................................................ 269
    8.4.1 Gaps in Graduate Employability ............................................................................ 270
  8.5 Embedding WIL to Enhance Graduate Employability .................................................. 274
    8.5.1 Professional Identity and WIL ............................................................................... 275
    8.5.2 Designing WIL Curriculum ................................................................................... 275
    8.5.3 Designing and Implementing Authentic Assessment ............................................. 277
  8.6 Partnership Characteristics to Facilitate Successful Outcomes for Graduates ............... 278
    8.6.1 The University Context .......................................................................................... 279
    8.6.2 Employers ............................................................................................................. 282
    8.6.3 Students ................................................................................................................ 283
    8.6.4 Graduates .............................................................................................................. 284
LIST OF TABLES

Table 3.1 Overview of the Methodology of the Study ................................................................. 55
Table 3.2 Research Questions aligned with Data Collection Methods and Analysis ................... 59
Table 3.3 Summary of Phases of Data Collection ..................................................................... 65
Table 3.4 Scales and Items from the Course Experience Questionnaire used in this Research ...... 75
Table 3.5 Quantitative and Qualitative Data Collected in Each Category of the GDS ................... 82
Table 3.6 Number of Students per Discipline to Attend Individual or Small Group Interviews .... 84
Table 3.7 Professional Accreditation Body Representatives Interviewed for Each Case Study ..... 86
Table 3.8 Summary of University Staff Interviews ................................................................... 87
Table 3.9 Descriptors for Categorising the Authenticity of WIL in Curriculum Documents ......... 88
Table 4.1 Number of CE Respondents and Percentage Response Rate for CEQ per Year .......... 96
Table 4.2 CE Respondents for CEQ by Gender and Residency .................................................. 96
Table 4.3 Number of Comments in CEQ for 2012, 2013 and 2014 CE Graduates ..................... 97
Table 4.4 Percentage Agree Plus Strongly Agree for 2012, 2013 and 2014 CE Graduates and Weighted Average ............................................................................................................... 100
Table 4.5 CEQ Items by Category of Agreement Levels for 2012, 2013 and 2014 CE Graduates . 102
Table 4.6 Themes Emerging from CEQ Qualitative Data for 2012, 2013 and 2014 CE Graduates .................................................................................................................................................. 104
Table 4.7 CE Case Study: Phase One Domains and Dimensions ................................................ 116
Table 4.8 Summary of individual and small group interviews for CE ......................................... 118
Table 4.9 CE Case Study: Phase One and Phase Two Domains and Dimensions ..................... 124
Table 4.10 Summary of Teaching Staff Interviews: CE ............................................................. 128
Table 4.11 Assessment types for CE ............................................................................................ 134
Table 4.12 CE Case Study: Phase One, Phase Two and Phase Three Domains and Dimensions .. 137
Table 5.1 Number of OT Respondents and Percentage Response Rates for CEQ per Year .......... 139
Table 5.2 OT Respondents for CEQ by Gender and Residency ................................................... 140
Table 5.3 Number of Comments in CEQ for 2012, 2013 and 2014 OT Graduates .................... 140
Table 5.4 Percentage Agree Plus Strongly Agree for 2012- 2014 OT Graduates and Weighted Average ..................................................................................................................................................... 144
Table 5.5 CEQ Items by Category of Agreement Levels for 2012, 2013 and 2014 OT Graduates . 146
Table 5.6 Themes Emerging from CEQ Qualitative Data for 2012, 2013 and 2014 OT Graduates .................................................................................................................................................. 148
Table 5.7 OT Case Study: Phase One Domains and Dimensions ................................................ 164
Table 5.8 Summary of Individual and Small Group Interviews for OT ....................................... 167
Table 5.9 OT Case Study: Phase One and Phase Two Domains and Dimensions ..................... 172
Table 5.10 Assessment types for OT ............................................................................................ 182
Table 5.11 OT Case Study: Phase One, Two and Three Domains and Dimensions .................. 184
Table 6.1 Number of PE Respondents and Percentage Response Rates for CEQ per Year ........ 186
Table 6.2 CEQ PE Respondents by Gender and Residency ......................................................... 186
Table 6.3 Number of Comments in CEQ for 2012, 2013 and 2014 PE Graduates ..................... 187
Table 6.4 Percentage Agree Plus Strongly Agree for 2012, 2013 and 2014 PE Graduates and Weighted Average ................................................................................................................................................ 190
Table 6.5 CEQ Items by Category of Agreement Levels for 2012, 2013 and 2014 PE Graduates 192
Table 6.6 Themes Emerging from CEQ Qualitative Data for 2012, 2013 and 2014 PE Graduates ................................................................. 194
Table 6.7 PE Case Study: Phase One Domains and Dimensions ...................................................... 210
Table 6.8 PE Case Study: Phase One and Two Domains and Dimensions ................................. 220
Table 6.9 Assessment types for PE .................................................................................................. 232
Table 6.10 PE Case Study: Phases One, Two and Three Domains and Dimensions .................. 235
Table 7.1 Employer Perceptions of Gaps in Graduate Skills .............................................................. 251
LIST OF FIGURES

Figure 2.1: Framework for embedding employability ........................................................................ 24
Figure 2.2: The essential components of employability .................................................................... 26
Figure 2.3: WIL curriculum framework .......................................................................................... 38
Figure 2.4: The Authentic Assessment Framework .......................................................................... 43
Figure 2.5: Conceptual framework of the study ............................................................................... 53
Figure 3.1: Research methods for each case study .......................................................................... 63
Figure 3.2: Overview of mixed methods multiple case study research design .................................. 67
Figure 4.1: CEQ responses for 2012, 2013 and 2014 CE graduates: Agree + Strongly Agree ............ 98
Figure 4.2: Comparison of CE graduate (n=32) perceptions of the extent the degree experience contributed to capability development with the importance of those capabilities .......................................................... 109
Figure 4.3: Sourcing employment 2012 and 2013 CE graduates .................................................... 118
Figure 5.1: CEQ responses for 2012, 2013 and 2014 OT graduates: Agree + Strongly Agree .......... 142
Figure 5.2: Comparison of OT graduate perceptions (n=26) of the extent the degree experience contributed to capability development with the importance of those capabilities ......................................................... 154
Figure 5.3: Comparison of OT employer perceptions (n=37) of the extent the degree experience contributed to capability development with the importance of those capabilities .............................................. 155
Figure 5.4: Comparison of OT teaching staff perceptions (n=19) of the degree experience contributed to capability development with the importance of those capabilities ..................................................... 156
Figure 5.5: Comparison of teaching staff (n=19) confidence (Quite Confident and Very Confident) in teaching and assessing capabilities .................................................................................................................. 157
Figure 6.1: CEQ responses for 2012, 2013 and 2014 PE graduates: Agree + Strongly Agree .......... 188
Figure 6.2: Comparison of PE graduate perceptions (n=30) of the extent the degree experience contributed to capability development with the importance of those capabilities ......................................................... 200
Figure 6.3: Comparison of PE employer perceptions (n=10) of the extent the degree experience contributed to capability development with the importance of those capabilities .................................................. 201
Figure 6.4: Comparison of PE teaching staff perceptions (n=9) of the degree experience contributed to capability development with the importance of those capabilities .............................................. 202
Figure 6.5: Comparison of teaching staff (n=9) confidence (Quite Confident and Very Confident) in teaching and assessing capabilities .................................................................................................................. 203
Figure 6.6: A comparison of graduate (n=30), employer (n=10) and staff (n=9) perceptions of capabilities perceived as more important to early professional success ........................................................................... 204
Figure 6.7: A comparison of graduate (n=30), employer (n=10) and teaching staff (n=9) perceptions of capabilities perceived as more demonstrated or developed ........................................................................... 205
Figure 6.8: Sourcing employment 2012 and 2013 PE graduates .................................................... 212
Figure 7.1: Important components of a university education that support the development of employability capabilities ........................................................................................................................................ 249
Figure 7.2: Comparison of CE (n=32), OT (n=26), and PE (n=30) graduate perceptions of the gaps in skill development ........................................................................................................................................ 250
Figure 8.1: Partners in designing learning for graduate work-readiness .......................................... 279
Figure 8.2: ‘WIL Partnerships for Employability Framework’: Simple version ............................... 288
LIST OF APPENDICES

APPENDIX A: Demographics and equivalent full time student load for Bachelor of Engineering (Chemical Engineering) 2012-2015 ................................................................. 323
APPENDIX B: Demographics and equivalent full time student load for Bachelor of Science (Occupational Therapy) 2012-2015 ................................................................. 324
APPENDIX C: Demographics and equivalent full time student load for Bachelor of Education (Primary Education) 2012-2015 ................................................................. 325
APPENDIX D: Australian Graduate Survey ........................................................................ 326
APPENDIX E: Graduate Employability Indicator Suite of Surveys ........................................ 332
APPENDIX F: Graduate Employability Indicator Survey: Demographics of CE Respondents .... 339
APPENDIX G: Graduate Employability Indicator Survey: Demographic of OT Respondents .... 342
APPENDIX H: Graduate Employability Indicator Survey: Demographic of PE Respondents .... 345
APPENDIX I: Individual and Focus Group Student Interview Questions ............................... 348
APPENDIX J: Employer and professional body representative interview questions ............... 349
APPENDIX K: University Teaching Staff Interview Questions .............................................. 351
APPENDIX L: Participant Information Statement ................................................................. 352
APPENDIX M: Participant Consent Form ............................................................................. 354
APPENDIX N: GEI Raw Data for Chemical Engineering Employers and Teaching Staff ........ 355
APPENDIX O: Gaps in Skill Development Identified in Interviews (Cross-case Analysis) ....... 357
APPENDIX P: Comparison of Overall Satisfaction with Course Assessment Profiles ............. 358
APPENDIX Q: ‘WIL Partnerships for Employability Framework’ .......................................... 359
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DEFINITIONS

Assessment: Evaluation of student progress towards achieving intended learning outcomes (Cooper, Orrell & Bowden, 2010).

Authentic assessment: Assessment of student learning where students perform tasks that are relevant to real world to evidence capabilities (Mueller, 2012).

Curriculum: The organisation, sequencing and enactment of elements that contribute to and influence students’ learning experiences and outcomes. This includes the explicit and implicit learning agenda incorporating educational processes and activities and the learning environment (Billett, 2011).

Employability: The capability to move self-sufficiently within the labour market and realise potential through sustainable employment (Bennett, 2016).

Entrepreneurship: Act of transforming opportunities and ideas into financial, cultural, or social value for others (Bacigalupo, Kampylis, Punie & Brande, 2016).

Fieldwork: An approved practical component of a course usually conducted outside the normal place of university business. Fieldwork includes but is not limited to clinical placements, plant visits, industrial site visits, internships, practicums, study tours, field trips, or service learning.

Global Mobility: Experiences in social, cultural, political and economic areas around the world.

Host organisations: An organisation which has a partnership with the university and hosts students on work-integrated learning (WIL) experiences.

Pedagogy: The art or science of teaching and the principles and practices of instructional methods.

Placement/Practicum: A credit-bearing (mandatory course requirement) WIL experience that occurs in an industry or community setting.

Unit Outline: A document containing essential and administrative information about a unit of study, including details of learning outcomes, assessments and schedules.

Work Integrated Learning (WIL): Structured and purposefully designed learning experiences that blend theoretical concepts with practice-based learning. WIL involves authentic engagement with workplace and community settings where students interact with industry/community settings and personnel (Ferns, Campbell & Zegwaard, 2014).
LIST OF ABBREVIATIONS

AAF – Authentic Assessment Framework
ACEN – Australian Collaborative Education Network
AGS – Australian Graduate Survey
AITSL – Australian Institute for Teaching and School Leadership
BA – Best Aspects
CE – Chemical Engineering
CEQ – Course Experience Questionnaire
DOM - Domestic
EA – Engineers Australia
ESS – Employer Satisfaction Survey
EFTSL – Equivalent Full Time Student Load
GCA – Graduate Careers Australia
GDS – Graduate Destination Survey
GEI – Graduate Employability Indicator
GOS – Graduate Outcome Survey
HEA – Higher Education Academy
IChemE – Institute of Chemical Engineering
ICT – Information and Communication Technologies
INT – International
MU – Most Useful
NI – Needs Improvement
OT – Occupational Therapy
OTB – Occupational Therapy Board
PE – Primary Education
RQ – Research Question
SD – Staff Development
SRC – Social Research Centre
TEQSA – Tertiary Education Quality and Standards Agency
TRBWA – Teachers Registration Board of Western Australia
UA – Universities Australia
WFOT - World Federation for Occupational Therapists
WIL – Work Integrated Learning
Chapter 1 : INTRODUCTION

1.1 Introduction to Thesis

The world of work is a highly volatile and unpredictable entity as technology and global forces impact on the way industry operates. In order to navigate this rapidly emerging landscape, graduates require attributes and proficiencies that equip them with the skills needed to pursue a career in a constantly changing workplace (Hagel, Brown, Mathew, Wooll & Tsu, 2014; Helyer, 2015). Hagel et al. refer to a “learning ecosystem” (p. 5) where students are provided experiential learning opportunities in an engaging and diverse educational setting that incorporates firsthand experience in workplace dynamics, directly impacting on the development of skills for the future.

Work-Integrated Learning (WIL), where discipline theory and knowledge are assimilated in real-world contexts, is essential to ensure graduates are equipped with the skills required to succeed in the unpredictable workplace of the future (Foundation for Young Australians [FYA], 2017; Peach & Matthews, 2011). WIL facilitates students to align perceptions of practice closely with reality, and initiates the formation of a professional identity pursuant to their chosen field (Cohen-Scali, 2003). Learning experiences enacted in a WIL curriculum enable students to envisage future possible selves, reflect on their capabilities, and promote a life-long learning approach to employability and career progression (Trede, 2012). Partnerships with community and industry organisations are fundamental to the design and realisation of a curriculum that incorporates real-world learning experiences.

The aim of this research was to develop a partnership framework to support the attainment of graduates’ workplace proficiency in preparation for unpredictable and rapidly changing labour force requirements. The thesis begins with a synopsis of the changing landscape, economic climate, higher education trends, employability, partnerships, and professional identity. An overview of WIL and WIL pedagogy supported with reference to contemporary literature is then provided. The increasing importance of advanced employability skills for a sustainable Australia is explored, and how this impacts on expectations of the higher education sector and graduate outcomes. The research problem is positioned within the future of higher education, changing workforce requirements, and recognition of the importance of education to cultural, social, political and economic facets of humanity. The centrality of the quality of university graduates and their preparedness for the future workplace to national productivity and growth is emphasised and consolidated through the research outcomes.
1.2 Changing Landscape

Global competitiveness, disruptive technologies, and greater world-wide mobility are having a profound impact on “environmental, social and economic conditions” (Hajkowicz, Cook, & Littleboy, 2012, p.2). Large transformative global forces, known as ‘megatrends’, are having a “far-reaching impact on business economies, industries, societies and individuals, and impacts on every fabric of humanity” (Ernst & Young Global, 2015, p. 2). In response to these global influences, heightened accountability requirements, and the implementation of a standards-based regulatory framework, higher education providers are undergoing a transformation (Ernst & Young, 2012). The emerging knowledge economy, rapidly advancing technological capabilities, increasing global mobility, and growing demands for economic productivity require a proficient, innovative and competitive work force. Maintaining a competitive economic edge and a resilient and agile infrastructure relies on a skilled population with the capacity to meet the global demands of the 21st century. An inclusive and engaging education system is perceived as key to a sustainable and prosperous economy (Ernst & Young, 2012; Tremblay, Lalancette, & Roseveare, 2012). Universities need to rise to the challenges confronting them through rethinking traditional models of teaching and learning, perceived as barriers to innovation and change (Ewan, 2016).

Innovation and entrepreneurship are critical attributes for the future as the job market transitions into a more flexible, contracts based, short term employment pattern (Helyer & Lee, 2014; FYA, 2015). Working life is a standard feature of the Australian way of life and is commensurate with financial stability, dignity, personal achievement, and success, leading to a sense of self-efficacy and a resilient self-identify (Bakhshi, Downing, Osborne & Schneider, 2017). The workplace and the role of worker meets the most basic human needs and sense of belonging, thereby facilitating physical and mental well-being (Productivity Commission, 2017). However, it is claimed that the modern day youth will have 17 different jobs, across five diverse careers throughout their working lives (Australian Technology Network [ATN], in press). Thus, career adaptability and the ability to cope with an unpredictable working life, and possibly unstable employment, will be an imperative (Chartered Accountants Australia and New Zealand, 2017).

The economy is in “the midst of a great transition” (Australian Higher Education Industrial Association (AHEIA) & Price Waterhouse Coopers [PWC], 2016, p. 30) as a result of rapid and unprecedented technological advancements. The emergent nature of these innovations has impacted, and will continue to do so, on fundamental aspects of higher education as outlined below.
1.2.1 Emerging Knowledge Economy

Canonical knowledge is diminishing in value as knowledge and information has become readily available through digital technology (Hagel et al., 2014). Universities have ceased to be the sole repositories of knowledge (Ernst & Young, 2012). Enhanced global connectivity enables information access and transfer to occur in seconds. These rapid information flows are more conducive to creating new knowledge through consultation, exploration and collaboration. Online platforms where information is easily accessible and there is prompt and efficient connection with people around the world, challenge the relevance and currency of traditional models of knowledge and content delivery to learners. The need for learners and teachers to be co-located for face to face instruction no longer exists. “The value accorded to what people know (knowledge stocks) is progressively being replaced by an emphasis on the ability to find and share new knowledge (knowledge flows)” (Evans-Greenwood, O’Leary & Williams, 2015, p. 6). These authors attest that the traditional approach of building “stocks of knowledge” (p. 15) is no longer relevant in contemporary society where the focus is on skill application and what one can do rather than what one knows. Furthermore, the shelf life of skills and knowledge is rapidly decreasing as information and technology become more readily available, enabling exponential growth in development and innovation. Hagel et al. (2014) suggest that knowledge becomes redundant after five years. Technological innovations are largely responsible for this rapid obsolescence of information.

1.2.2 Technology

Digital technologies pervade all aspects of society and consequently have a profound effect on industry needs and communication platforms. Composite skills are required to maintain currency and adapt in a dynamic environment where technological innovations are constant. Furthermore, the rate of change in technology is influencing the way universities conduct their business, and develop and offer learning experiences. Technology has enabled a connected, collaborative and mobile community that has expectations of immediacy (Beeson, 2016). Changes and progress in relation to technological innovations can only be expected to increase with intense impact on organisational and individual process, performance and purpose (AHEIA & PWC, 2016; Hajkowicz et al., 2012).

For example, with the prevalence of online communication and evolution of digital networks, the quality, substance and impact of an individual’s online profile is increasingly important. With the drive for global engagement and cultural inclusivity, employers engage with potentially talented personnel and undertake much of their recruitment in the online environment where they are not restricted by location or time. As potential recruitees, students and graduates need to orchestrate
online networks that facilitate connections with employers and professional affiliates. This enables the promotion of skills relevant to the demand, and reconfiguring their online presence to suit specific requirements. To compete in a globally competitive environment, “lifelong employability in a digital world needs to be a core student capability” (Chatterton & Rebbeck, 2015, p. 4).

1.2.3 Global Mobility

Student global mobility is deemed valuable for enhancing intercultural capabilities and promoting a centrifugal perspective, thereby broadening one’s sphere of knowledge and experience, and building employability (Tan, Flavell, Ferns & Jordan, 2016). According to Anderson (2014), an international experience is life-changing as it exposes students to learning experiences in diverse cultural settings. International education is also perceived as a driver for change and innovation and as a mechanism for the development of skills required for success in the 21st century (Organisation for Economic Co-operation and Development [OECD], 2012).

Students are increasingly seeking opportunities to study outside their country of citizenship with numbers doubling from 2000 to 2010, equating to more than 4.5 million internationally (OCED, 2014, p. 342). Australian institutions benefit from international student enrolments as the social and cultural diversity enriches the educational community. In addition, the international connections are instrumental in building partnerships with potential for research, benchmarking and sharing of intellectual resources. International students are also a valuable source of income to the Australian economy with education listed as the third largest export, contributing a 5.4 percent share of export income for the nation (Department of Foreign Affairs and Trade, 2016; Universities Australia, 2017). To gain a competitive edge in the employment stakes, the demand for an international education experience is increasing at a vast rate worldwide, with Australia being the fifth most popular destination globally (Australian Government, 2016). This translates into a high proportion of international students studying in Australia with more than 440 000 enrolled in Australian universities in 2016 (Barton et al., 2016). However, world-wide competition for international students means institutions must ensure high levels of student and stakeholder satisfaction to maintain the competitive edge.

Against this backdrop of global mobility is the growing demand for international work placements where students engage with employers and workplaces in varying cultural contexts (Tan et al., 2016). International work placements are powerful experiences which nurture highly sought after employee attributes such as cultural sensitivity and awareness, adaptability, curiosity, tolerance and resilience (Centre for International Mobility, 2014). Despite the acknowledgement of the benefits of global mobility, international students studying professional degrees in Australia are frequently
compromised through their inability to source professional placements and meet professional accreditation standards (Barton et al., 2016).

1.2.4 The Role of Higher Education

Education has multiple benefits for society from both an individual’s perspective and a holistic societal outlook. An individual may benefit both economically and intellectually from education, while society profits from a productive workforce that contributes to economic well-being (Schneider & Preckel, 2017). In addition, it is claimed that education nurtures responsible, caring and engaged citizens that benefits humanity as a whole, and ensures safe and stable communities (Universities Australia, 2016). While this may be the intent of higher education, it is a contested perspective as traditional university approaches prioritise content delivery over skill development. Jackson (2010) argues that the reality of effecting change to embrace a ‘life-wide’ approach “are messy and full of contest, conflict, avoidance and non-engagement” (p. 496). Notwithstanding, Australians continue to maintain a long held tradition of aspiring to university study with 41 percent of adults aged 25-65 having a tertiary qualification, well above the OECD average of 33 percent (Evans-Greenwood et al., 2015, p. 9).

There is an expectation for universities to prepare students with work-ready skills through learning which incorporates work-based experiences and opportunities to engage with industry (Helyer & Lee, 2014; Edwards, Perkins, Pearce & Hong, 2015). Stakeholders including government, industry, and students are demanding that the university curriculum includes experiences that ultimately facilitate the work-readiness of students upon graduation (Productivity Commission, 2017). Against claims that a university education does not meet the needs of industry, nor provide graduates with the skills required for global competitiveness, educational institutions face complex challenges in meeting the demand to incorporate the integration of theory and practice in the student experience.

There is a perception that universities are not preparing students for jobs of the future (Chartered Accountants Australia and New Zealand, 2017; Humburg, van der Velden & Verhagen, 2013). It is estimated that 60 percent of student enrolments are in fields of study that are predicted to be obsolete in 5 - 10 years (FYA, 2015). Many stakeholders are challenging the traditional four year degree where students are committed for extended periods of time at considerable cost and unable to commit to ongoing, developmental employment that contributes to long term career aspirations (Evans-Greenwood et al. 2015; Hagel et al. 2014). Probert and Alexander (2015) contend that given the uncertainty about the future job market and the skills that will be required by industry, higher education needs to reconceptualise curriculum and assessment, and adapt the student
experience to meet contemporary economic demands. A broadened educational experience that encompasses depth of disciplinary knowledge blended with the acquisition of generic skills is imperative in preparation for the future workplace and career longevity.

Some claim that universities need to rethink how business operates – shift from traditional content-focussed, classroom-based delivery to “work-integrated learning” (Evans-Greenwood et al., 2015, p.6). These authors promote a lifelong approach to learning where there is a constant quest to seek creative ways to apply new knowledge in professional environments. Educational institutions that survive the test of time will reflect the real world and foster skills in a meaningful and relevant way, engendering a culture of learning across the life span, thereby contributing to sustainable global economies.

1.3 Economic Climate

Economies worldwide are vying for enhanced national productivity and assurance of sustainable and viable markets which are globally competitive. While change and evolution have featured as economic drivers since history began, contemporary megatrends impacting on the dynamics of the economic climate are exceeding those of previous decades (Durrant-Whyte, McCalman, O’Callaghan, Reid & Steinberg, 2015). It is essential that Australia responds with stimulating economic reforms to navigate these challenging times. A quality higher education system is paramount to vigorous national productivity through adequate preparation of graduates for a changing workforce (Committee for Economic Development of Australia [CEDA], 2015). The importance of these factors is highlighted below along with a description of how Australia is responding nationally to the requirement for universities and industry to improve collaboration, thereby facilitating a holistic educative experience for students and contributing to a skilled Australian workforce.

1.3.1 National Productivity

Bradley, Noonan, Nugent & Scales (2008) and Schwartz (2009) advocate that to sustain strong economic growth and development, an increase in the proportion of Australia’s population with a university qualification is required. The Australian Government has a strong commitment to equity, skills development, economic growth and quality, and acknowledges that skilled professionals are in demand (Edwards et al., 2015). However, Schwartz (2009) argues that the intention of government is to focus on economic growth rather than the scholarly level of Australians.

Producing entrepreneurial graduates is perceived as pivotal to long term economic productivity and a critical role for universities (Spike Innovation, 2015). An actively engaged university sector is
central to establishing an entrepreneurial culture and encouraging innovation (Schwab, 2015). Spike Innovation cite Stanford and Massachusetts Institute of Technology (MIT) as examples of universities who have successfully contributed to building entrepreneurial cultures across the local region. This has been achieved through establishing industry partnerships to incorporate real-world learning experiences that provide opportunities for students to engage in innovative and creative approaches to business. “These universities have produced graduates who have created thousands of companies and generated millions of dollars for the US economy” (Spike Innovation, 2015, p. 17). Australian universities can emulate this example through strengthening partnerships with industry, ensuring currency and multi-disciplinary approaches in curriculum, and providing real-world learning experiences for students that align to industry needs (Chartered Accountants Australia and New Zealand, 2017).

The economic sustainability of a nation is heavily reliant on the employability capabilities of its people, a quality for which higher education is deemed a pivotal player. Rapid skill obsolescence, increasing volume and frequency of ‘new knowledge’, ever-evolving new jobs, and the impact of technology, requires employees to constantly upskill and rethink career aspirations and direction. Organisations are seeking resilient personnel in the face of accelerating change – autonomy, agility and creativity are becoming highly sought-after capabilities (Ferns & Lilly, 2015).

1.3.2 Changing Workforce

Exponential shift in workplace requirements and the impact of technological innovations, makes it impossible to predict the skills and knowledge that will fit with the workforce of the future. With the acceleration of change, some traditional skills are rapidly becoming obsolete and replaced by other skills more suitable to the contemporary workplace. Constant re-training and re-skilling is required to remain employable in the future. “New roles and professions are being created, and existing ones redefined, as firms blend domains and disciplines as they explore and synthesise new solutions” (Evans-Greenwood et al., 2015, p. 13). In addition to acquiring knowledge in an ever-expanding knowledge bank, the capacity to apply that knowledge in innovative and entrepreneurial ways is paramount. Entrepreneurship is the key to driving productivity, creating a challenging and high-satisfaction job market, and maintaining growth in living standards (Bacigalupo et al., 2016).

With youth unemployment in Australia sitting at a critical level of 14 percent for males and 12 percent for females, young people are turning increasingly to entrepreneurship to create their own opportunities (Healy, 2015, p.352). This was further exacerbated by a weak labour market in 2014 and 2015, with Healy predicting an even more difficult phase in the coming years. Furthermore, Healy claims that those born between 1974 and 1996, dubbed the ‘millennials’, are making lifestyle
choices which changes the way they conduct their working life. Such influences are challenging
traditional organisational structures, recruitment approaches and employment systems. With only 71
percent of 2016 graduates of Bachelor degrees in Australian universities successful in sourcing
employment, compared to 85% in 2007 (Chartered Accountants Australia and New Zealand, 2017),
it is challenging for university graduates seeking work post-university.

1.3.3 The National WIL Strategy

The Australian National WIL Strategy was released in March 2015 (Australian Collaborative
Education Network [ACEN]. This strategy is premised on collaborative partnerships between
educational institutions, enterprises and the community. Through these linkages, the purpose of the
Strategy is to provide authentic WIL experiences for students thereby culminating in work-ready
graduates. The Strategy endorses the role of WIL in improving employability capabilities of
graduates, and recognises its contribution to ensuring a productive and sustainable Australian
economy. The approaches and actions outlined in the Strategy were negotiated by the three major
peak industry groups in Australia: the Business Council of Australia (BCA), Australian Industry
Group (AiG) and the Australian Chamber of Commerce and Industry (ACCI) together with
Universities Australia (UA) and ACEN.

Exemplified in the Strategy is the pivotal role of partnerships between industry and higher
education in broadening and strengthening WIL in Australia. Partnerships facilitate a productive
and globally competitive economy through the development of human capital (Hodges, 2011; van
Rooijen, 2011). The emphasis on partnerships encourages employers to participate in WIL to
provide the support required to transcend learning from the classroom to the workplace
environment, supporting graduate employability. The National WIL Strategy is informing emerging
trends and imminent changes for the higher education sector but offers no resources to enable
partnerships development and no legislation to ensure industry and community cooperation with the
Strategy.

1.4 Definition of Work-Integrated Learning

WIL is internationally recognized and nationally endorsed as a strategy for ensuring students are
exposed to authentic learning experiences with the opportunity to apply theoretical concepts to
practice-based tasks which enhances graduate employability (Peach & Matthews, 2011; Rowe &
Zegwaard, 2017). WIL is viewed as a mechanism for connecting the theoretical and practical
aspects of professional knowledge and skills, resulting in a well-rounded employee who has the
ability to apply knowledge and skills in a diverse range of contexts (Ferns et al., 2014). Patrick et
al. (2009) define WIL as an “umbrella term for a range of approaches and strategies that integrate
theory with the practice of work within a purposefully designed curriculum” (p. iv). The holistic nature of this definition has appeal for both educational and non-educational institutions as the flexibility allows for diverse models of WIL. Essentially, WIL comprises an experiential curriculum where students learn by doing (Ferns, Campbell & Zegwaard, 2014). Industry or community engagement is fundamental to WIL pedagogy, as the partnership ensures authentic experiences for students. WIL experiences vary in intensity across a continuum from low to high authenticity, thus reflecting the importance of scaffolding skill development (Bosco & Ferns, 2014).

1.4.1 Work-Integrated Learning Pedagogy

Conventional knowledge-focussed pedagogy remains an integral component of a university education for the acquisition of depth and breadth of discipline knowledge, and intellectual growth and development (Ferns, Russell & Smith, 2015). However, quality university outcomes require pedagogy that incorporates the application of knowledge to real-world problems. ‘WIL pedagogy’ is an approach to teaching and learning that reconciles knowledge-based content with experiential learning in authentic scenarios, thereby enhancing graduate employability (Pegg, Waldock, Hendy-Isaac & Lawton, 2012). Jackson (2010) refers to this as “life-wide learning through a life-wide curriculum” (p. 503), believing the balance between theoretical knowledge and practical application equips students with attributes necessary for success beyond university. WIL pedagogy is characterised by collaborative problem-solving in real-world contexts; affording the student ownership of personal outcomes; a focus on self-awareness, reflection and recognition of personal skill development; partnerships with industry or community, inclusive of social, cultural, academic and workplace aspects; and authentic assessment models (Fung, 2017). A cohesive, connected and developmental curriculum underpins WIL pedagogy.

1.5 Research Questions

This research explored the impact of educational approaches on the student experience and the preparation of graduates for the world of work. Practices for establishing a professional identity for life-long career-development feature in the research plan. The disciplines of Chemical Engineering (CE), Occupational Therapy (OT) and Primary Education (PE), all of which undergo professional accreditation, were the focus of the study. The impact of authentic educational experiences in preparing graduates with appropriate skills to acceptable standards, thereby equipping them with skills essential for the future workplace was investigated. The research aimed to answer the following overarching research question:

How can stakeholders work collaboratively to prepare graduates for the future workplace?
This overarching research enquiry was assayed through the following guiding questions:

1. What are the important components of a university education that support the development of employability capabilities?

   This question aimed to identify the aspects of a university education that were perceived as having the greatest impact on employability outcomes for students and graduates. The impact of educational approaches on the student experience and the preparation of graduates for the world of work were explored. Strategies which supported the development of a professional identity for life-long career-development was a key focus of RQ1. Particular emphasis was on students’ perspectives on the value of the degree for developing industry networks and the impact on personal career aspirations.

2. What are stakeholders’ perceptions of the gaps in the skills and knowledge of graduates in workplace preparedness?

   The intent of this question was to gather the perceptions of stakeholders on the most highly regarded employability capabilities and the gaps in graduates’ skills for workplace preparedness, thereby highlighting shortfalls in the course experience. This provided information about the value of the degree in incorporating opportunities for students to practice and develop generic skills deemed important for work-ready graduates. Furthermore, the data enabled a comparison of stakeholder perceptions on the skills deemed important and the work-readiness of graduates.

3. How does embedding Work-Integrated Learning experiences in curriculum support the development of graduate employability?

   This question focused on the curriculum experienced by students, and how embedding WIL in curriculum influenced the acquisition of employability capabilities. Relevance to the workplace and authenticity of learning experiences and assessment tasks were explored. Evidence was collected to substantiate how embedding WIL in curriculum supports the development of graduates’ employability capabilities, thereby informing curriculum and assessment design that nurtures these desirable skills.

4. What are the partnership characteristics that facilitate successful outcomes in preparing work-ready graduates?

   This question explored the notion of partnerships in preparing work-ready graduates. The roles, responsibilities and contributions of partners, who the partners are, and the dynamics of partnerships to facilitate real-world learning for students was investigated. The aim was to ascertain the value and impact of collaboration and co-operation among stakeholders.
1.6 Significance of the Research

This research aligns to current trends and priorities in higher education, industry and community sectors, and government agencies. As higher education institutions respond to demands for greater accountability, financial sustainability, and expectations of graduate outcomes around employability, an evidence-base to support anticipated long term outcomes of WIL through a broad engagement framework is a valuable reference for the sector. This research is commensurate with the National WIL Strategy objectives to enhance industry’s involvement with the higher and vocational education sectors for the provision of WIL opportunities.

The employability of graduates provides kudos for universities, and is a criterion by which universities differentiate themselves in the competitive market place. Furthermore, federal performance funding will be tied to graduate destinations and employer satisfaction is increasingly becoming a quality indicator for universities (Probert, 2015). An increased emphasis on WIL is a natural consequence of such drivers, as is greater effort to identify and assure standards of employment-related generic outcomes (Oliver & Whelan, 2011). Despite the prominence of WIL on government, industry and university agendas, evidence suggests there is dissatisfaction with the university experience and graduate outcomes in relation to preparation for the future workplace (Kinash & Crane, 2015). This research determined how WIL can be actualised to ensure the acquisition of workplace proficiencies of graduates and a professional identity that prepares them for a volatile workplace. The research outcomes specified the characteristics of quality WIL, outlined the role of stakeholders in designing and implementing a WIL curriculum, and described how the university context can be reshaped to effect a WIL curriculum which contributes to work-ready graduates.

With increasing accountability measures facing the higher education sector, and societal demands that the higher education experience prepares graduates for the dynamic environment of a global workforce, curriculum development and focus requires a paradigm shift (Probert & Alexander, 2015; Orrell, 2011; Yorke, 2011). The rigour and relevance in students’ learning experiences and assessments is paramount to quality assurance and accountability for universities (Ferns & Pegden, 2012). Despite these well-documented demands, traditional approaches to curriculum design where subjects are siloed, incoherent, and disconnected thereby impeding progressive development, continue to be characteristic of the higher education sector (Ewan, 2016; Scott, 2016; Williams, Simmons, Levett-Jones, Sher & Bowen, 2012). In addition, assessment is often perceived as poorly constructed, irrelevant to industry needs, and lacking workplace preparation (Lynham & Cachia, 2017; Skidmore, Hsu & Fuller, 2018). The relevance and authenticity of the learning experience is integral to successful student outcomes and ultimately work-ready graduates, but remains a
contested area for higher education (Krause et al., 2014). This research addressed this dilemma in higher education by gathering evidence from a range of stakeholders to identify the important components of a university education that support the development of employability capabilities. In addition, the elements of the student experience that address each of the components is outlined, providing the context and approach for quality and assurance of graduate outcomes. This research moved beyond gathering the ‘satisfaction’ of stakeholders, typical of previous research, with a greater focus on the impact of a university education on employability. These findings provide the foundation for designing authentic curriculum and assessment approaches.

There is an increasing trend for education to move to a more inclusive model with the expectation that universities and industry partners work collaboratively to ensure work-ready graduates through a contemporary and authentic curriculum. The imperative for universities and industry to cooperate in equipping graduates with the skills and attributes for the future workplace is a resonating theme for universities and industry (AHEIA & PWC, 2017). However, while partnerships are actively encouraged and promoted, there is scope to broaden the partnership model to a more rigorous relationship which has greater impact on both the university and industry sectors (Williams et al., 2012). Strategies for establishing, maintaining and sustaining partnerships between stakeholders, while perceived as vital, are not supported in the traditional institutional operational infrastructure. This research identified how university processes, protocols, and policies need to change to nurture a culture of collaboration and cooperation, thereby providing holistic learning experiences for students and instilling an inclusive culture within the university environment. Furthermore, the role of university leadership in realising this cultural shift is outlined. The research extended the notion of partnerships beyond that of industry only, to a more inclusive approach where teaching staff, students, graduates, university leadership, and professional accreditation body representatives are integral to the partnership. The development of a partnership framework which provides a broader perspective on partnerships, itemises the characteristics of the partnership, and defines the benefits for all stakeholders was a key deliverable from this research. The inclusive partnership model addresses the mismatch between stakeholders’ perspectives identified in this research.

According to Hagel et al. (2014), higher education pedagogy is shaped in a way that tends to identify students as empty vessels waiting to be filled with knowledge from the expert professor at the front of the room. Such an approach is not conducive to building resilience, self-awareness, or decision-making skills, all of which are pertinent skills for workplace aptitude. To prepare learners for the future, working, learning and living should be “integrated and harmonious resulting in new economic realities and overall life satisfaction” (Jassal & Clark, 2016, p. 4). This research highlighted the importance of students playing a more agentic role in their education, facilitating
greater immersion and engagement, and resulting in heightened student outcomes, a concept supported by Peach and Matthews (2011). The research outcomes informed student agency further with establishing a partnership framework in which students are an integral part. The roles and responsibilities of students in optimising their learning are defined, thereby instilling a life-long approach to education and professional success. The similarities across stakeholders’ perceptions, including current students, provides a clear vision of the students’ role and how their role could be shaped to prepare students for an unknown future.

Finally, little research exists that captures stakeholder perceptions of WIL, the value and challenges; and impact on development and learning. The inaugural *Employer Satisfaction Survey* (Social Research Centre, 2018a) focuses on employers’ satisfaction with skills students demonstrate during work placements, but does not explore the impact of WIL on the employer and the organisation. Graduate and student surveys seek to ascertain overall satisfaction rather than their perceptions of the value of WIL. The voices of professional accreditation bodies and teaching staff, both important stakeholders in graduate employability, are largely unheard. This research is unique in that input from multiple stakeholders: graduates, students, teaching staff, employers and professional accreditation body representatives informed the overall findings. The process of professional accreditation was investigated with findings that identified how the process can inform curriculum design, build staff capacity, facilitate employer engagement, support graduates’ transition into a career, and enhance student outcomes.

A series of Recommendations have been developed as a result of this research (See Section 8.9). The Recommendations are intended to instil a culture of collaboration across the higher education sector, while also addressing national strategic directions and compliance requirements.

1.7 Position of the Researcher

With a career in education spanning 40 years and encompassing leadership and teaching roles across the primary, secondary, vocational and higher education sectors, I have explored and implemented a plethora of approaches to learning and teaching, some of which were (and still are) highly successful, and many which failed to achieve the impact I aimed for. My grounding in the school sector where active participation is paramount to student engagement, laid the foundations for my personal philosophy on education, which is constantly evolving as I continue to meet the challenges and address the issues inherent in the higher education sector. My role in upskilling academic staff and providing professional learning, both nationally and internationally, has sharpened my interest in educative approaches that actively engage participants and encourage reflection on their personal practices.
My experience in leading strategic projects on curriculum renewal and an institutional framework for WIL, alerted me to strategies for initiating, driving and sustaining a cultural shift in higher education settings. In addition to extending my knowledge of curriculum design and WIL, these projects sparked personal interest in what constitutes a quality higher education experience and the purpose of higher education. Both projects had strong synergies as their impetus was student satisfaction and graduate outcomes, with the underlying aim to enhance staff capacity to adopt innovative models of teaching. The strategic projects exposed the barriers to implementing change at universities, prompting interest in how universities might improve their agility and responsiveness.

I have also worked on several national research teams on WIL and industry engagement. With industry engagement fundamental to enacting a WIL curriculum, the process and support for connecting with industry has emerged as a key issue for universities. The combined experiences of my work at the university and research activities have stimulated personal interest in graduate outcomes, student satisfaction, and staff capacity to embed authentic learning and assessment in curriculum. Involvement in national working parties and the National WIL Strategy have further developed my expertise, networks and opportunities to identify challenges in national and international contexts, a major impetus for this research. I have published extensively on WIL as a result of my research activities. These factors have led to this research which encompasses input from all key stakeholders and identifies how stakeholders might collaborate to ensure an inclusive and holistic student experience to enhance graduate employability.

1.8 Structure of Thesis

Chapter 1 of the thesis begins with a definition of WIL and WIL pedagogy, highlighting the unique characteristics of WIL and the student outcomes it affords. This is followed by an expose of the literature pertaining to present-day influences on contemporary workplaces, future career trajectories, and the economic, social and political ramifications. The current trends in higher education are outlined, highlighting the challenges faced by the sector. This sets the scene for the primary focus of the research and the research questions which follow. The significance of the research to the higher education sector and the Australian economy is outlined. The researcher’s position in relation to this research and the relevance to personal aspirations and interests features, along with a description of the structure and sequence of the thesis.

Chapter 2 provides an overview of employability and employability models, emphasising the complexity of this construct. The role of higher education in the employability agenda, along with perceptions of key stakeholders including employers, students, graduates, university staff, and
professional accreditation bodies is provided. An overview of learning theories that support WIL pedagogy, and elements of a WIL curriculum, provide the context of WIL and its global prominence as key to employability. Assessment is highlighted as an integral part of the higher education experience, although presents challenges in the WIL and employability debate. Given that outcomes from a WIL experience are unpredictable and variable, implementing a quality framework and defining quality standards are somewhat amorphous. Chapter 2 also includes insight into the importance of professional identity in relation to employability and the focus of partnerships in higher education.

Chapter 3 provides a detailed explanation of and rationalisation for the research methodology, incorporating the research paradigm; research design and methods; data collection and analysis approaches; and ethics. The overarching pragmatist research paradigm that guides and informs the theoretical foundations of the research is justified. The phased approach to implementing a multiple case study research design and the mixed methods approach for collecting and analysing multiple quantitative and qualitative data is explicated. Importantly in mixed methods research, strategies for merging the quantitative and qualitative data and how the blend of both strengthens the findings is clarified in the chapter. The three case studies which formed the basis for the research are described in detail: Chemical Engineering, Occupational Therapy, and Primary Teacher Education.

Chapters 4, 5 and 6 present the results for each of the three case studies: Chemical Engineering, Occupational Therapy, and Primary Education. These chapters follow an identical format with the results for each phase of the research presented and the cumulative findings shown as the analysis progresses. Details on the number and demographics of research participants is included, along with samples of the raw data, a description of the analysis, and a summary of the findings. At the conclusion of each phase for each of the case studies, a summary of emerging themes is provided demonstrating the consolidation of the findings and enabling comparison of the case studies.

Chapter 7 presents a cross-case analysis for each of the research questions, identifying the similarities and diversities across the case studies. This approach enabled validation of the findings for each research question, the details of which are included in Chapter 7. The chapter documents the themes emerging from each case study and provides narrative on how the themes are consolidated to develop an overarching schema of ‘How stakeholders can work together to prepare graduates for the future workplace’.

The thesis culminates in Chapter 8 which draws the findings together and outlines the ramifications for all stakeholders. The ‘WIL Partnerships for Employability Framework’ is introduced, highlighting the roles and responsibilities of partners who are central to optimising graduates’
workplace preparedness. Each of the Domains identified as important components of a university education for the development of employability capabilities are addressed in detail, with reference to how partnerships can effectively realise these components. The connections and integration of the collective Domains are highlighted, demonstrating how the Domains merge to contribute to quality employability outcomes for graduates. The value of partnerships in addressing the perceived gaps in graduates’ employability skills is also discussed. A rationale for the varying stakeholder perceptions is provided, as well as suggestions for how functional stakeholder partnerships might consolidate the divergent acuities. Additional attributes emerging from the research as essential for future workplace proficiency are also explained. WIL as a strategy for designing curriculum, implementing authentic assessment profiles, and establishing a professional identity features, along with the impact of a WIL curriculum. Recommendations are proposed which address the challenges identified through the research, and suggestions for how partners can work collaboratively to co-design authentic curriculum and achieve real-world assessment profiles. The Chapter concludes with the limitations of this research and recommended topics for further investigation.

1.9 Conclusion

Higher education is regarded as a means for ensuring sustained national productivity and a globally competitive economy. In the context of unrelenting change in the workplace, it is imperative that a university education provide graduates with a lifelong professional identity rather than specific occupational outcomes. Innovative and creative graduates who are globally aware and culturally inclusive are required for the future labour force. The focus on knowledge acquisition needs to be replaced with experiential learning where knowledge is applied in real-world settings. WIL is recognised as a strategy that supports the development of employability skills in preparation for the future workforce. Partnerships are the mechanism by which a WIL curriculum is realised. With expectations that universities will provide learning experiences that meet the needs of future generations, universities need to rethink traditional approaches to education. This research validated the important components of a university experience that supports the attainment of employability skills, and developed a partnerships framework that provides a pathway for universities to navigate the tumultuous time ahead. Working collaboratively enables a focus on active student engagement and interaction with external stakeholders, whereby students are afforded an authentic university experience that ensures workplace preparedness. Chapter 2 provides a critique of literature relevant to the research topic.


Chapter 2: LITERATURE REVIEW

2.1 Introduction

This chapter provides a synopsis of contemporary literature pertaining to the challenges and trends impacting on the higher education sector; a definition of employability and a selection of employability models; and the role of higher education in the employability agenda. The increasing importance of advanced employability skills for a sustainable Australia is explored, and how this impacts on expectations of the higher education sector and graduate outcomes. An overview of the philosophical and theoretical basis of WIL as a strategy for developing employability skills is discussed, providing the background on which this research is built. The challenges of designing a WIL curriculum and assessing WIL outcomes are delineated, and a framework for designing authentic assessments described, thus ascertaining the complexities of assuring quality in a WIL context. Professional identity is defined with reference to the multifaceted nature of this construct, and its connection to employability. To position this research, the prominence of partnerships within higher education is highlighted, with emphasis on the significance of partnerships to WIL. The chapter concludes with a summary of how this research contributes to gaps in current enquiry and a conceptual framework representing the rationale for this research.

2.2 Higher Education Trends

Universities have long been considered esteemed contributors to the social, political, human and economic capital of a nation. Their role in knowledge creation, social mobility, quality of life, civic awareness and societal health and well-being is well recognised (AHEIA & PWC, 2016). Despite this longstanding respect, higher education institutions are experiencing unprecedented impact from external factors including innovations in technology, funding reductions, stakeholder expectations, and a regulatory, standards-based framework for monitoring accountability (Barber, Donnelly & Rizvi, 2013). A series of external reviews and subsequent policy changes in Australia in the 1980s saw rapid growth of the higher education sector in the 1990s (Probert, 2015) – a trend which is predicted to continue. “Today’s universities are in transition and at a crossroads. The winds of change in the global economy, culture and society has created a dichotomy for most universities: how do they retain their traditional heritage, traditions and focus whilst aligning their mission with the rapidly changing demand of modern society” (van Rooijen, 2011, p. 6). To remain viable entities, universities have to reconceptualise the way they operate. Workforce configurations, industry and community engagement, structure of degree programs, and leadership qualities and approaches, are among the elements that require re-thinking to ensure global competitiveness and
sustainability. The sections below summarise the major contemporary influences on universities, all of which are challenging traditional practices and protocols.

2.2.1 Competitive Environment

The higher education market has morphed into a highly competitive business venture in recent years. Technological platforms and digital communications have allowed universities to access students from around the world – location is no longer a restriction. Both international and domestic students are seeking flexible study options to accommodate multiple demands. In response, universities globally are adopting online strategies that negate the need for students to reside in the location at which they study. Increased global competition is perceived as one of the top challenges universities across the world will face in the next decade (AHEIA & PWC, 2016).

In direct competition with universities, corporate organisations are increasingly developing a personalised approach to professional development that is contextualised and directly addresses the needs of the business (Ernst & Young, 2012). Workers are taking control of their careers and seeking specialised training solutions that meet their needs for specific career purposes. In contrast to qualifications driving career choices, career pathways are progressively determining options for further education. Private higher education providers present an additional competitor to universities as they specifically cater to the employability agenda, a high priority for consumers, and are not constrained by competing agendas characteristic of public institutions (Barber et al., 2013).

There are pressures on higher education institutions to reconfigure learning experiences for students and rethink assessment models to verify student outcomes (Business Council of Australia, 2017). Universities need to focus more on creative and innovative ways people source information and how they use and apply their knowledge in diverse contexts. It is the capacity to build on the knowledge and demonstrate resilience and persistence that matters for impending employability. According to the (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2015), higher education “must proceed to the most radical change and renewal it has ever been required to undertake” (p. 2). As costs of tuition fees for higher education rise and employers’ dissatisfaction with graduates’ proficiencies is on the increase, there is mounting uncertainty of the return on investment in higher education (Hagel et al., 2014; Barber et al., 2013).

Massive Online Open Courses (MOOCS) have had a dramatic influence on the scope of higher education. With formal learning opportunities accessible anytime, anywhere and by anyone, the notion of the elite institution and formal qualifications are being challenged. Rather than awarding
an institutional badge evidencing knowledge and skills acquired over an extended period of time, the demand is for credentials focused on evidencing ability to work in multi-disciplinary contexts with creative problem solving skills (Evans-Greenwood et al., 2015). Accessible, flexible and personalised learning is keenly sought by consumers in a globally competitive environment. This contrasts with traditional university operations where degree courses are conducted over extended periods with inflexible timing and organisation of the learning (Business Council of Australia, 2017).

While the landscape for higher education providers is volatile and unknown, increasing competition is a certainty. As traditional industries decline and new business models emerge, universities will be a vital factor in generating innovation and change (UA, 2016). Universities are critical to Australia’s prosperity and economic viability in the future with quality in research and teaching remaining fundamental to the sustainability of a university going forward (Business Council of Australia, 2017; Ernst & Young, 2012).

2.2.2 Widening Participation

Traditionally, universities have sought to attract high achieving students, but with changing accountability requirements from regulatory bodies there is now a drive to attract students from a range of diverse social groups (Gore et al., 2017). Higher education is perceived as a mechanism for closing the gap between the low-socioeconomic and more privileged sectors of the community (Naylor, Baik & James, 2013). As higher education moves from an elitist model to one of inclusivity, student cohorts will grow in both number and diversity (Harvey et al., 2016; Fullan & Scott, 2009). The widening participation agenda forces universities to increasingly focus on teaching and learning approaches that cater to students with a range of academic backgrounds, a variety of work place experiences, varying cultural legacies, and an array of personal challenges (Helyer, 2010; Devlin, 2011). Mason (2010) perceives the massification of education as both an opportunity and a challenge. The opportunities arise from the benefits students gain from studying with a diverse cohort which fosters an appreciation of different perspectives and an inclusive outlook. Furthermore, higher education is potentially a transformative experience for students from equity groups and the catalyst which opens up opportunities that may have otherwise been inaccessible. Catering to the personalised learning needs of a large and diverse student group, and supporting and upskilling teaching staff to adapt teaching strategies accordingly, are challenges faced by universities in accommodating widening participation.

The development of employability capabilities has become an increasingly important aspect of the widening participation agenda (Harvey et al., 2016; Pitman, Roberts, Bennett & Richardson, 2017).
This presents multiple challenges in the provision of learning experiences in the workplace. Keeping up with developments in the profession and the workplace, along with maintaining the integrity of an academic program, is a challenge for some university teaching staff. According to Ward (2007), higher education systems worldwide are being called upon to educate more students, provide more support for them, address workforce needs, and solve social, scientific and technical problems. Moreover, amid these growing demands, they must operate more efficiently, in physical facilities and surroundings appropriate to the task, and comply with prescribed regulatory standards.

2.2.3 Regulatory Framework

In addition to operating in a climate of increased student diversity, enhanced global competition, budgetary constraints, and stakeholder demands for work-ready graduates, regulation of universities is becoming more stringent and prescriptive. The Tertiary Education Quality and Standards Agency (TEQSA) is an independent statutory authority established in 2011. It is responsible for regulating and assuring the quality of Australia’s higher education providers (Tertiary Education Quality and Standards Agency [TEQSA], 2015). While TEQSA is the arbitrator of quality and standards in Australian higher education, the core agenda is the student experience. There is also mounting responsibility for educational regulatory frameworks to incorporate governance protocols that support the acquisition of generic skills for students and ensure that government funds are being allocated appropriately (CEDA, 2015). For sustained economic growth and productivity, quality higher education is expected to produce graduates with the skills required to contribute to and thrive in a globally competitive labor market (Yorke & Vidovich, 2014). Yorke and Vidovich attest that “Contemporary quality policies seek to assure learning standards in a globally competitive context, and to provide a level of protection for higher education consumers (students, employers) from substandard providers” (p. 226).

Quality in higher education has been a global topic of interest for over two decades (Mertova, Webster & Nair, 2010). The Quality Assurance in Higher Education committee was established in Australia in November 1992 with a remit to conduct quality audits and provide recommendations to the Australian Government on quality issues and the allocation of institutional funds (Krause, 2012). Quality in higher education intensified in the early 1990s with massification of higher education, global financial pressures, increasing international competition, and growing expectation for universities to substantiate the quality of teaching and overall operations (Yorke & Vidovich, 2014).

Feedback from graduates on the quality of their university experience has been gathered for several decades. Metrics indicate that students are generally satisfied with their educative experience;
however, responses pertaining to “measures of ‘active learning’, ‘interactions with academic staff’ and ‘enriching educational experiences’ received poor levels of satisfaction” (Probert, 2015, p. 5). According to Probert, there is some disparity between the indicators used to measure student satisfaction and graduate outcomes.

Measures of performance indicators for Australian institutions have been the subject of ongoing debate since the 1990s. Validating quality in an educational context is fraught with uncertainty and complexity. The quest for quality attracts polarised opinions - some see it as a valuable mechanism for reward and recognition for excellent teaching, while at the other end of the continuum is the sentiment that it builds a culture of mistrust and signals the demise of staff creativity. “Conceptions of quality remain multiple, malleable, and highly contested” (Yorke & Vidovich, 2014, p. 226). Teaching excellence is a sophisticated concept and is yet to be defined and articulated to enable measuring quality consistently with appropriate evidence (Gunn & Fisk, 2013). While Ramsden (2003) agrees on the complex and multi-variable nature of teaching, he argues that “we know what good teaching is” (p. 212) and there is general consensus on what constitutes a quality student experience. Quality standards, however, frequently fail to capture the essence of what constitutes quality teaching. A tenuous balance exists between quality assurance processes to inform best practice and asserting ‘control’ of how teaching should be done, thereby minimising creativity and imagination, and the willingness and opportunity to experiment with new approaches.

Despite the conjecture on the topic of quality, The Higher Education Standards Framework was developed and implemented in 2015. Higher education providers are required to provide evidence addressing Threshold Standards across the following seven domains:

1. Student Participation and Attainment
2. Learning Environment
3. Teaching
4. Research and Research Training
5. Institutional Quality Assurance
6. Governance and Accountability

**2.2.4 Financial Implications**

Funding cuts to higher education budgets have been a regular occurrence since 2011. Reduced funding based on variable funding models is creating challenges for the higher education sector, especially in an era of widening participation which requires more intensive learning support and
increased resourcing (AHEIA & PWC, 2016). Furthermore, over the past 15 years, funding models for higher education have incorporated financial rewards for evidence of quality student outcomes and high levels of satisfaction (Bennett, 2010).

The financial dependence of the sector on income from fee-paying international students is a concern as many institutions rely on this tenuous source of funds for sustainability (Probert, 2015). University executives argue that the reputation of Australia as a global provider of quality education is vulnerable as a result of reduced funding. With the perception that universities are key to a sustainable, competitive and innovative Australian economy, increased funding is perceived as paramount to continued confidence in the sector, and the ability to meet stakeholder expectations (UA, 2017).

2.3 Employability

Employability is a dynamic concept which morphs and shifts according to stakeholder perspectives (Smith, Ferns & Russell, 2014). Chatterton and Rebbeck (2015) describe employability “as a continuous and lifelong journey” (p.21). The acquisition of skills that make one employable are enhanced with input from multiple stakeholders. Many definitions of employability exist but all resonate a similar perspective – employability is not about securing a job, it is about developing attributes that prepare a person for all aspects of life incorporating social, ethical and professional behaviours.

Employability has been a topic of debate for several decades but has become more prominent with the emergence of the global economy, a rapidly changing workplace and an international focus on innovation. Dacre-Pool & Sewell (2007) describe employability as an “elusive concept” (p. 277) where it is hard to balance the complexity while incorporating all elements that comprise employability. Hillage and Pollard (1998, p.2) define employability as “about being capable of getting and keeping fulfilling work”. In essence, employability is the capability to move self-sufficiently within the labour market and realise potential through sustainable employment (Bennett, 2016). The notion of employability has transitioned over time, from a static set of skills “which support the successful accomplishment of task-based activities” (Department of Education, Science and Training [DEST], 2006, p.8) to a dynamic paradigm whereby people are adept at moving across different contexts and adapting skills as required (Oliver, 2015). A selection of employability models are outlined below.
2.3.1 Employability Models

While abundant employability models are in existence, precedence in this research is given to employability models that inform curriculum design as it directly impacts on students’ learning experiences and graduate outcomes. The complexity of employability prevents a prescriptive approach to conceptualising how it is configured. A flexible and adaptable understanding is required to enable applicability to specific discipline contexts and professional requirements (Cole & Tibby, 2013). Four models of employability relevant to this research are outlined:

A. A model of course provision,
B. A framework for embedding employability,
C. Six dimensions of employability, and
D. The essential components of employability.

The first model of employability, A model of course provision, proposed by Bennet, Dunne & Carre, (1999), informs how employability might be integrated into higher education curriculum through five key elements:

1. Disciplinary content knowledge
2. Disciplinary skills
3. Workplace awareness
4. Workplace experience and
5. Generic skills.

This model supports a developmental approach to advancing employability skills through a curriculum design which incorporates opportunities to acquire and evidence generic skills. Bennet et al., (1999) approached their study on generic skills for employability on the premise that there was “semantic confusion” (p. 74) around terminology in relation to employability. This conundrum resulted in a disparity in stakeholders’ perceptions of employability and the skills that transpired into work-readiness. These authors were also critical of the lack of teaching staff involvement in discussions on transferrable generic skills, despite the expectation that teaching staff were the drivers of change. A more consultative approach was effected to increase the likelihood of staff engagement and their support in rethinking curriculum design which embeds generic skills essential for employability. The Model of course provision for curriculum design was trialled with 32 teaching staff across 16 discipline areas and four institutions based in the United Kingdom. In conceptualising curriculum, the model was found to provide “useful, theoretically justifiable,
guidance on how generic skills link to into frameworks of disciplinary and employment related content knowledge” (p. 91).

The second, more complex model was developed by The Higher Education Academy [HEA] (2015), an independent, non-profit organisation in the United Kingdom with a commitment to quality teaching in higher education. In 2012, HEA conducted a Teaching and Learning Summit on Employability. This Employability Framework was developed as a consequence of recommendations stemming from debate at the Summit, with the intention of supporting UK higher education institutions to embed employability in curriculum (Cole & Tibby, 2013). The cyclic Framework for embedding employability, represented in Figure 2.1 is specifically designed for higher education institutions. The framework reflects the lifelong learning nature of employability and incorporates three fundamental pillars: engagement, collaboration and inclusivity. The model outlines four stages in actualising a curriculum where employability is embedded throughout. In Stage One, the institutional-specific definitions and stakeholders are identified. Stage Two involves the auditing and mapping to determine gaps and strengths in curriculum design. In Stage Three, the plan is activated and deliverables identified, while in Stage Four, impact is measured to evaluate outcomes and determine areas for improvement.

![Figure 2.1: Framework for embedding employability](https://www.heacademy.ac.uk/enhancement/frameworks/framework-embedding-employability-higher-education) Copyright 2015 by the Higher Education Academy.
The third model, Six dimensions of employability, was designed by Smith et al. (2014) who considered employability to be amorphous as it is reliant on shifting global trends and economic imperatives. This prompted the development of broad concepts drawn from contemporary literature and discursive collegial debate and collaboration. Sub-themes more specific in nature are grouped within the dimensions. The dimensions and sub-themes were used in the creation of data-gathering instruments designed to evidence the impact of WIL curriculum on student work-readiness.

Through a process of consultation involving academic teaching colleagues from 13 Australian Universities, Smith et al. (2014) identified six key dimensions of employability. The first Dimension is *Professional practice and standards*. This Dimension encompasses a broad range of professional behaviours required for employability including ethical practice, working autonomously, taking personal responsibility, and managing multiple workplace priorities. The second Dimension, *Integration of theory and practice*, focuses on the application of theory in practical settings, and the recognition of how theoretical ideas are important in professional contexts. *Commencement readiness* is the third Dimension. This Dimension refers to overall work-readiness and confidence to seek work and compete in a recruitment process. The ability to assess one’s own skills and ascertain career aspirations also fits in this Dimension. The fourth Dimension covers capabilities required for *Informed decision making*. This Dimension relates to the ability to source information, synthesise information, consider alternatives, and make decisions relevant to the workplace. The fifth Dimension, *Lifelong learning*, encompasses the motivation and commitment to continued learning and development, and the ability to identify personal skill gaps and where additional training may be required. The sixth and final Dimension, *Collaboration*, comprises the social context of employability, whereby workplace interactions are appropriate, respectful, and effective. The ability to listen, compromise, and learn from others are elements in this Dimension.

These six Dimensions of employability were validated through a rigorous research process where 3323 students across nine Australian universities responded to a cross-sectional survey. The survey contained 45 items designed to measure employability outcomes. The items were derived from an extensive review of the literature, collegial consultation across the 13 institutions, and input from a panel of international experts (Smith, Ferns & Russell, 2016). Survey respondents were asked to rate their ability against each of the 45 items which when compared with their work-based experiences, revealed the key factors in relation to employability. The factors were consolidated into the six Dimensions outlined above.
Dacre Pool and Sewell (2007) developed the fourth model titled ‘CareerEDGE’ which is shown in Figure 2.2. This framework is holistic in its philosophical underpinnings as it encompasses dimensions of self-perception, highlighting its importance in employability. The model is premised on five fundamental components for employability: career development learning, experience (work and life), discipline knowledge, understanding and skills, generic skills, and emotional intelligence. Students’ sense of self-efficacy, self-esteem, and self-confidence, considered as “crucial links to employability” (p. 281) are developed through personal reflection and evaluation of learning experiences which encompass these central components (Dacre Pool & Sewell).

Figure 2.2: The essential components of employability from “The key to employability: developing a practical model of graduate employability”, by L. Dacre Pool and P. Sewell, Education and Training. 49(4), 277-289. Page 280. Copyright 2007 by Emerald Group Publishing Limited.

While this framework doesn’t specify elements of a curriculum that has employability at its core, it does highlight the importance of building a sense of self and promoting self-reflection as mechanisms for building employability skills in students. The model is useful for guiding educational institutions in developing their approaches to employability, as the components are sufficiently broad for adaptability in different disciplinary contexts (Pegg, et al., 2012). The model was tested by Dacre Pool, Qualter and Sewell (2013) who developed a diagnostic tool aimed to measure employability. The CareerEDGE Employability Development Profile (EDP) aligned to the five elements in the CareerEDGE Employability model. Eight hundred and seven undergraduate students from a UK university were asked to rate personal performance against 28 items relating to employability. Nineteen of the 807 respondents completed the EDP before and after a 12-week
career development learning module which enabled an assessment of the capacity of the EDP to
detect and measure change as a result of an intervention targeted to enhance employability. While
Dacre Pool et al., (2013) acknowledged the small number of participants who completed the EDP at
two points, the findings indicated that the CareerEDGE Employability Model is multidimensional
and can “discriminate between the different aspects of employability development” (p. 310).

Each of these models are unique in how employability is depicted and the perspective from which
employability is perceived. The first model outlines broad components of a curriculum that
promotes employability. In contrast, Model two provides a cyclic framework for curriculum design
and interventions, based on three distinct pillars. This model is more recent than the other models,
and includes a focus on resilience and adaptability, attributes that have gained prominence in
contemporary literature. Model three highlights broad Dimensions, each of which covers skills and
competencies deemed integral to the development of employability. The fourth Model, while linear
in presentation, provides a more holistic framework. This model suggests essential elements of
learning experiences that facilitate personal reflection and evaluation, with a view to building self-
efficacy, self-esteem and self-confidence, ultimately enhancing employability. While expressed and
represented differently, all four models incorporate lifelong career development, skill development,
reflection and personal recognition of skills, social connections, a sense of self, and promote a WIL
pedagogy.

2.3.2 The Role of Education in Employability

Employment outcomes are an accountability indicator for universities, a measure that is enhanced
through the nurturing of employability skills (Knight & Yorke, 2004; Productivity Commission,
2017). A key strategy for achieving this is by incorporating WIL into the curriculum (See Section
2.4.2). Graduate satisfaction, also a measure used in national benchmarking, is enhanced through
the inclusion of ‘real-world’ learning experiences (Little & Harvey, 2006; Patrick et al., 2009).
National survey instruments assessing the generic skills acquired by students during their university
studies have been developed by the Australian Council for Educational Research (ACER) over the
years, the intent being to gauge the performance of an institution in embedding skill development in
the student experience (Coates, 2010). The Graduate Skills Assessment (GSA) was developed to
measure students’ acquisition of generic skills, and is available for universities to administer to
students at entry or exit points (Australian Council for Education Research [ACER], 2017). This
instrument is rarely deployed by universities, with the most recent report being from 2001. The
Graduate Destination Survey (GDS) provides information on graduate employment outcomes, but
does not explore the notion of employability. It is administered by The Social Research Centre
(SRC) to all Australian university graduates, three months after completing their degree. In 2016, the survey was disseminated across 96 institutions and collected a total of 104,208 valid responses, equating to a 39.7% response rate (Quality Indicators for Learning and Teaching, 2017). Until 2016, this survey was administered with the Course Experience Questionnaire (CEQ), a survey for measuring graduate satisfaction. The Graduate Outcomes Survey (GOS) is the successor of the CEQ, with the inaugural survey event taking place in 2016. The GOS will continue to collect GDS data, but the instrument explores graduates’ satisfaction with their university experience in relation to employability (SRC, 2018b).

According to Mason (2010) the growing expectation that universities have direct responsibility for the skill level of the population and subsequently economic productivity, raises concerns about the role of higher education. Mason argues that the focus on employability and recruitment opportunities for employers compromises the intended focus of educational institutions, which is ultimately to enhance the standard of education from a philosophical perspective. Harvey (2001) posits that educational institutions cannot take full responsibility for employability capabilities, as it is also contingent on personal aspirations and motivation of students. Furthermore, employers play a key role as they ultimately “convert the employability of the graduate into employment” (p.102).

Despite this perceived conflict between the traditional and contemporary role of higher education, the employability agenda is rapidly becoming the norm in higher education programs (Robertson & Scott, 2010). Learning experiences that promote the development of employability capabilities should be embedded across the curriculum and inherent in policies, procedures and protocols (HEA, 2015; Tran, 2016). The current reform agenda of higher education is challenging the traditional knowledge driven focus of universities and the philosophical underpinnings on which they have been built (van Rooijen, 2011). There is a perception that academic prowess and scholarly success are disconnected from skill development and potential employability. However, it can be argued that performing complex workplace tasks requires a high level of critical thinking and intellectual reasoning within a specific discipline context. Building intellectual capacity in students is imperative for the development of employability skills for a multifaceted workplace environment (Business Council of Australia, 2017).

2.3.3 Stakeholder Perceptions

Perceptions of what constitutes a quality higher education experience for employability differs among students, graduates, employers and higher education providers. Evidence collected via a survey with 705 respondents, and focus groups totalling 147 participants, suggested that the perspectives of what constitutes a quality higher education experience for heightened employability
differs among students, graduates, employers, and higher education personnel (Kinash & Crane, 2015). This Australian study aimed to determine the challenges of graduate employability and identify and promote strategies that have been successful in addressing the challenges. A key aim was to gather the perspectives of diverse stakeholders including students, graduates, higher education staff, and employers. In addition to a gap in stakeholders’ views on employability outcomes, research participants confirmed that graduates with the capacity to showcase their skills were more employable than those who could not. The development of skills transferable across diverse discipline contexts was deemed more important than discipline knowledge. Furthermore, workplace experience while studying at university, was identified as critical for nurturing graduate employability.

A smaller study (25 graduates, 67 employers, and 30 teaching staff) conducted by Ferns (2012) revealed a similar mismatch in stakeholders’ views on graduate employability. Also conducted in Australia, the Graduate Employability Indicator (GEI) Surveys were administered to participants to determine employability capabilities determined as most important and the degree to which graduates demonstrated the capabilities. While the Kinash and Crane (2015) study was broader in scope, both studies ascertained that stakeholders’ insights on employability differed as did their perceptions of graduates’ skills upon graduation. These studies also revealed that little progress was made between 2012 and 2015 to address these divergent perspectives.

However, there is agreement on the need for a holistic experience encompassing the development of “personal identity, brand and profile” (Kinash & Crane, p. 1). There is also general consensus among students, employers and graduates, that transferable skills are more important than the attainment of discipline knowledge. These key sponsors all benefit from an education that produces highly skilled and work-ready graduates, but each has different purposes and outcomes. There is limited research that provides the opinions of professional accreditation body representatives, who are highly-valued stakeholders. A more detailed overview of each of the stakeholder perspectives is provided below.

**Employers**

Employer satisfaction has become a key metric for measuring quality and accountability in higher education (Coates, 2010) and creates an imperative for universities to consider in strategic planning and core business. For sustainability, universities require engagement of and support from industry partners. In order to facilitate these arrangements, employers must have confidence in the higher education sector and the quality of graduates produced.
Employers consider it the role of higher education to produce employable graduates with many industry representatives expressing criticism of the quality of graduates (PhillipsKPA, 2014; Popenici, 2015). Moreover, “industry increasingly demands that graduates are work-ready upon completion of university studies as they transition into the workplace…” (AHEIA & PWC, 2016, p. 11). While industry representatives are generally satisfied with the technical or discipline-specific skills of graduates, employability skills are considered to be under-developed (Precision Consultancy, 2007; Productivity Commission, 2017). These perceptions have resulted in widespread consensus among employers that universities do not meet the needs of students or industry.

Several Australian studies collating the views of employers have been conducted in recent years in response to heightened government attention on graduate employability and the focus on a sustainable Australian economy. PhillipsKPA (2014) collected 264 employer responses to a survey intended to identify factors that impact on employer engagement in WIL. Employers reported lack of resources and time for student supervision as disincentives for supporting students on WIL activities. Enablers for employers to engage in WIL included robust partnerships with a supportive university, and effective organisation by the university. Another study conducted by Jackson, Rowbottom, Ferns and McLaren (2016) collected survey responses from 112 employers and followed up with 17 of the survey respondents who attended a focus group. While the PhillipsKPA (2014) study was multidisciplinary, the Jackson et al. (2016) study targeted employers from the business/commerce sector only. Findings showed that employers had limited understanding of WIL and the opportunities it afforded, lacked clarity on industry-based projects suitable for students, and were disheartened with the low levels of student engagement. However, employers indicated that they were motivated to participate in WIL with recognition of the potential benefits for their organisations.

For a comparison across international borders, in 2012 Humburg, van der Velden and Verhagen (2013) explored employers’ perspective on graduate characteristics sought by employers. The study collected responses from 903 employers across nine European countries through surveys and in-depth interviews. The outcomes from this study highlighted the importance of real-world and relevant content in the curriculum for ensuring graduate employability. Employers also emphasised the importance of interpersonal, creative, and entrepreneurial skills along with professional expertise and exposure to the international settings. While the focus of each of the above studies varied and sample sizes differed, the value of providing workplace connections for students in developing employability, and doubt about the capacity of a university to achieve this, are recurring themes.
Employers are direct beneficiaries of university graduates and as such, greatly interested in the quality of graduates and their effectiveness and productivity in the workplace. The value of the degree is in question when it comes to employability and employer expectations. In 2016, Ernst and Young, a UK based enterprise that employs people across many industry sectors, removed the requirement for entry level employees to have a degree (AHEIA & PWC, 2016). The rationale for removing the degree requirement was the lack of evidence that success in higher education was linked to future professional success. Employers are increasingly ignoring ‘formal credentials’ and preferring to judge the suitability of candidates through observing attitudes and behaviours. Work experience or evidence of where applicants have integrated knowledge and work skills is also highly desirable (Evans-Greenwood et al., 2015). Employers consider WIL curriculum to be integral to enhancing graduate employability but have identified a range of challenges and barriers to their involvement (PhillipsKPA, 2014).

In 2017, The Social Research Centre administered the inaugural national survey called the Employer Satisfaction Survey (ESS) to employers across Australia. The survey explored employers’ satisfaction with the quality of Australian university graduates and asks for ways in why they could improve (SRC, 2018a). The ESS aims to gather data to ascertain whether higher education institutions across Australia are meeting employers’ expectations. The ESS is the only national benchmark for employer satisfaction, and identifies where they deem the strengths and gaps in graduates’ skills lie. This will provide valuable ‘intelligence’ for universities and provide insight into how best to respond to labour market needs.

**Students and Graduates**

There is uncertainty among students and graduates of the value of gaining a university degree and the return on investment. These stakeholders are demanding a more customer-focussed service which incorporates flexibility, customisation and a personalised approach (AHEIA & PWC, 2016). In previous generations, a university qualification was highly aspirational and keenly sought (Popenici, 2015), however, there are an increasing number of options for continued learning and development post-school. Potential university students are showing preference for those choices that are most relevant to real-world learning and are more likely to result in employment outcomes.

Students, as key stakeholders in the quality and outcomes of the learning experience, have clear expectations of a university education (Karns, 2005). They want to acquire mobility in their skills, enabling knowledge transfer from one context to another. Students expect that a degree will comprise authentic experiences and adequately prepare them for the world of work, ultimately resulting in employment (Ferns & Lilly, 2015; Robertson & Scott, 2010). These authors argue that
students view a degree as a mechanism for enhancing employment opportunities and outcomes, which is the key motivational influence for engagement in university study. In an analysis of the CEQ (Australian national graduate survey) data in 2016, from a sample of 120,247 valid survey responses, The Productivity Commission (2017) found that “37% of graduates were dissatisfied with the work-related skills developed as a result of their degree” (p. 104). By comparison, graduates’ perceptions from 2010 through to 2015 hovered between 23% and 25% dissatisfaction with the attainment of work-related skills as a result of their course (Graduate Careers Australia [GCA], 2015), suggesting graduates are increasingly unhappy with the outcomes of their studies. Given their investment, students and graduates need to have confidence that university studies will culminate in skill development that equips them for a challenging and rewarding career (Smith et al., 2014; Productivity Commission, 2017).

**University Staff**

University staff question their role in equipping students for the world of work (Jackson, 2010), perceiving it as a distraction from ‘core business’. Based at a UK university, Jackson endeavoured to influence a cultural shift in staff attitudes to curriculum design and the student experience. In 2008 and 2009 he undertook extensive collaboration involving discussions with executive leadership; presentations at external forums; and consultation with university staff and employers. A framework for life-wide learning (a holistic approach to learning in contrast to a focus on discipline knowledge) was developed as a result of these deliberations. While the concept was embraced by the university community, Jackson concedes that effecting change in traditional staff practices takes time and effort. Evidence suggests that staff challenge the notion of innovative practises in university teaching, preferring to focus on disciplinary knowledge and content delivery (Biggs & Tang, 2011).

There are many reasons for this perspective. Firstly, in traditional assessment-driven models of higher education, it is much easier to validate what students know rather than what they can do. Secondly, many academic staff in universities have little, if any, experience of the contemporary work place, and thus lack currency of industry practices and innovations. A study conducted in Canada by Peters (2012), gathered survey responses from 3,624 faculty members. Peters reported that 44.2% of respondents had no experience working in the industry sector in which they were teaching. While 67.4% agreed that WIL enhances institutional reputation and 83.6% considered that WIL strengthens links between the institution and industry, only 33.3% felt they received the necessary support and development from their institution.
Higher education teachers generally have expertise in research and the discipline knowledge of the area in which they teach (Schneider & Preckel, 2017). Arguably, the most challenging aspect of enacting an experiential curriculum is the ‘how’. Many staff are comfortable with the long-standing ‘lecture and tutorial’ tuition model, which does not allow for the richness of authentic practice (Barber et al., 2013; Scott, 2016). With the internal and external demands confronting universities, “the capability requirements, and roles and responsibilities of the higher education workforce will need to change” (AHEIA & PWC, 2016, p. 6).

Within a university context, WIL is a relatively recent concept as the philosophical underpinnings of learning through experience differ from the traditional classroom bound, content driven, and knowledge focussed university education (Hodges, 2011). Popenici (2015) argues that despite this growing demand for industry ready graduates, universities continue to teach in long standing methods which don’t suit the current dynamics of economic, social and political paradigms. A common theme in contemporary literature on employability is the need to equip graduates with the skills that prepare them for the unknown (Gunn & Fisk, 2013). Implementation of a curriculum that encompasses problem-solving, critical thinking and collaboration is paramount to nurturing such skills. However, the quality of and impact on student outcomes is dependent on staff engagement, expertise and confidence.

**Professional Accreditation Bodies**

Professions are increasingly seeking to enhance profile, status and sustainability through professional accreditation. While roles, terminologies, influences and processes vary from discipline to discipline, universities recognise the value-add that professional bodies provide to the integrity, credibility and appeal of a degree program (Harvey, 2004). A study aimed to determine the impact of accreditation on the quality of university programs was conducted by Ulker and Bakioglu (2018). Ulker and Bakioglu received 96 valid questionnaires from staff involved in accreditation processes across various international locations. The findings from this study supported the claim that professional accreditation impacts positively on the quality of academic programs, with an emphasis on learning experiences and outcomes. However, respondents reported that professional accreditation had minimal influence on the active engagement and ownership of students for their learning.

There is often a mismatch between practitioners who design curriculum to reflect standards, and those responsible for assessing adherence to standards (Ralph, Birks, Cross & Chapman, 2015). Competing priorities, limited resources, staff capacity to address the needs of professional
accreditation in curriculum design, and limited funds, are catalysts for tensions associated with professional accreditation.

Professional accreditation takes one of two approaches. The first approach is specifying content and skills that must be evident in the curriculum, with the underpinning assumption that students will gain proficiency in stipulated areas throughout their studies. The second approach is where graduates are required to produce evidence that addresses a range of attributes deemed essential for entry into the profession. While this approach is focussed on assessment of an individual, it informs the student experience with clearly articulated expectations of graduate competencies.

Professional accreditation is perceived as a quality assurance mechanism through informing the professional attributes and standards necessary for competent and work-ready graduates. The process addresses the need for external peer review and benchmarking in higher education (Ralph et al., 2015). Professional bodies benefit from university collaboration as it provides credibility for the profession, while universities gain by gleaning feedback to inform curriculum focus to ensure graduates are job ready and eligible to apply for positions in the profession. Despite the numerous advantages, the process of professional accreditation can be an expensive, time consuming and inflexible procedure (Christ & Henderson, 2014). A tenuous relationship exists between universities and professional accrediting organisations as the dynamics of the balance of control between the two is uncertain.

**Summary**

The development of employability skills in university graduates is reliant on input from employers, students and graduates, university staff, and professional accrediting bodies. Employers benefit from work-ready graduates who contribute to the productivity and competitiveness of their organisations. Partnerships with employers are becoming a priority for universities as the perspectives of employers is an important national quality indicator for universities. Employers have a key role in providing learning experiences that optimise the employability of graduates. Many students and graduates perceive university study as a means of enhancing employability skills and realising career ambitions. These stakeholders are seeking a flexible, customer-focussed, and real-world learning experience. Developing and enacting a curriculum involving industry engagement and students’ skill development coupled with discipline knowledge, is a shift from traditional approaches for university staff, thereby challenging their capacity to deliver on stakeholder demands. Professional accreditation bodies are valuable sources of national industry standards and professional integrity. However, the role of professional accreditation bodies and their relationship with higher education institutions remains nebulous.
2.4 Work-Integrated Learning (WIL)

The sections below describe the philosophical and theoretical origin of WIL, and how this informs curriculum and assessment design. Frameworks are provided that are useful tools for informing the elements of a quality WIL learning experience.

2.4.1 Learning Theories that Support WIL

The notion of experiential learning is not a recent phenomenon; indeed educational theorists have promoted ‘learning by doing’ in a practice-based environment for many decades. Dewey (1938) is regarded as one of the most influential educational philosophers of modern history. He promoted active learning as a mechanism for integrating theoretical concepts and practical applications. His contributions to the field of education (among other discipline areas such as psychology, social and political theory) continue to influence contemporary practices. Similarly, education was perceived by other well-known theorists to be a fundamentally social activity where learning was enhanced through social engagement and interaction with the environment (Piaget, 1953; Vygotsky, 1978). Piaget attested to learning as a social process where development was progressive through exposing the learner to free exploration in facilitated learning environments. Vygotsky’s Social Development Theory advocated that social interaction was fundamental to cognitive development (Vygotsky, 1978). Vygotsky espoused the value of learning in a collaborative environment where the learner establishes collegial relationships underpinned by a culture of shared learning.

These high profile educational theorists posit that student outcomes improve with the inclusion of free and guided exploration within a defined framework. This approach enables problem solving through guided discovery learning, thereby scaffolding the learning process and facilitating developmental progression (Bruner, 1961). Bruner supported the notion of learners discovering facts and relationships when exposed to particular environmental stimuli. He was a proponent of ‘learning to learn’ in contrast to ‘teaching to learn’. He believed the aim of education should be to create autonomous learners. Bandura (1986) advocated the benefits of learning in a social context through observation and imitation. Similarly, Bandura developed the Social Learning Theory which essentially attests that learning is undertaken in a social context through observation, imitation and modelling. According to Kolb (1984), learning encompasses four phases: experience, perception, cognition and behaviour. Kolb believes the combination and cyclic dimension of these phases assumes a holistic approach to learning. More recently, authors such as Lave and Wenger (1991) and Boud and Miller (1996) have built on the work of earlier theorists and made reference to the benefits of learning through authentic activity beyond the confines of the classroom.
Communities of practice as vehicles for active, social and collaborative learning were promoted by Wenger (1998). Wenger views the common thinking and aspirations of such a community enables learners to transition from novice to expert through scaffolding experiences in authentic scenarios. Wenger positions experiential learning as the essence of meaningful learning and essential for a deep and transformative impact on the learner. Common threads apparent in these theoretical perspectives is immersion of the learner in a social context where they engage with, and learn from others. While the learning experience is guided through specific stimuli, there is a personalised element, as outcomes are dependent on the motivation and capacity of the learner.

These constructivist and social learning theories are fundamental to WIL philosophy and form the pedestal on which this research is built. According to Trowler (2012), social theory provides a context for understanding facets of life and features of the world and makes “descriptive, explanatory and predictive statements about them” (p. 274). Networking, collaboration and social connections form the cornerstone of WIL pedagogy. Theoretical perspectives that apply to WIL include behaviourist beliefs, cognitive development theories and sociocultural philosophies (Hodges, Eames & Coll, 2014). “In effect, the human mind and the way it constructs knowledge is embedded in a social setting” (p. 197). Behaviourism perceives human behaviour to be observable and quantifiable responses to external factors. Behaviours are shaped through adapting stimuli and positive reinforcement for desired behaviours, and negative reinforcement for undesirable responses. Cognitive development theories view the learner more holistically, and consider intellectual processes as well as behavioural aspects. Cognitive theorists attest that “the mind seeks patterns and relationships” (Stewart, 2012, p. 6) building reasoning and cognition skills, and assimilating them into an existing conceptual framework. The learner makes meaning of the new knowledge and grows in complexity and higher order thinking. The sociocultural view of learning is concerned with learning through social interactions and engagement. The learner learns through engaging with others, observation and imitation, and support and guidance in a social context, where behaviours are modelled by others. The interplay between these learning theories forms the foundation of WIL pedagogy. Guided learning in a WIL context incorporates social interactions (people) in an active learning environment which affords personalised cognitive development (knowledge) and progressively complex behavioural patterns (practices) through experience and feedback.

2.4.2 Elements of a WIL Curriculum

Increasingly universities are required to provide a greater emphasis on experiential learning where students apply knowledge in practical situations, thereby integrating theory with practice (Coll &
With the National WIL Strategy (see 1.4.3) and the focus on graduate employability, many universities have developed targets around WIL. While the strategic imperatives and interpretations of WIL vary across institutions, the mandate for WIL to be embedded in all degree programs and incorporate explicit industry/community engagement is a common feature (Pham, Saito, Bao & Chowdhury, 2018). Designing and implementing an authentic curriculum is espoused to promote the development of entrepreneurship, creativity and problem solving skills (Spike Innovation, 2015). Balancing the tensions and optimising the synergies in a whole-of-course design approach is challenging for universities and practitioners (Ewan, 2016). While WIL is not a new phenomenon, the notion of explicitly building it into curricula through the implementation of authentic experiences and assessments is a relatively recent development in some disciplines. Reorientating education providers to industry outcomes will require a major cultural and professional change for many staff – a significant transformation (Skills Australia, 2010; Probert, 2015). This is reinforced by Robertson and Scott (2010) who refer to this as a “metamorphosis” (p. 73) in higher education delivery. In recent years, universities have engaged in intensive curriculum reform and redevelopment in light of stakeholder demand for a more engaging and relevant learning experience.

The quality of the learning experience and the design and enactment of the curriculum need to be given precedence if the expectation is to provide suitably prepared graduates for an unknown future (Probert & Alexander, 2015). Enacting a WIL curriculum which integrates real-world learning experiences validated by authentic assessment, contrasts traditional university practices and conventions (Ferns & Zegwaard, 2014). WIL outcomes are highly variable and dependent on “cultures, workplaces and people” (Higgs, 2014, p. 254), thereby requiring a curriculum that allows for personalised learning and progression. A WIL curriculum is informed through mutually beneficial partnerships between industry/community, universities and students. Figure 2.3 presents the seven quality dimension of WIL curriculum.

- Authenticity of the learning experience: Students actively engaged in real-world scenarios
- Discipline knowledge: Knowledge relevant to the professional context
- Integration of theory and practice: Theoretical knowledge applied in real-world contexts
- Assessment aligned to outcomes: Assessments validate acquisition of learning outcomes
- Supervision of and feedback on performance: Monitoring, supporting, and mentoring the learner
- Preparation for and debrief following the WIL experience: Orientating to the workplace context prior to WIL, and providing opportunities for reflection and feedback following WIL
- Scaffolded skill development: Complexity builds progressively (Smith et al., 2014; Ferns, Russell, Kay & Smith, 2017).

![Figure 2.3: WIL curriculum framework. Reprinted from “Developing strategies to maximise industry contribution and engagement with the work integrated learning experiences”, by S. Ferns, L. Russell, J. Kay & J. Smith, (2017). p. 12. Office for Learning and Teaching.]

These quality dimensions evolved from a series of discrete but related studies. Ferns and Moore (2012) explored assessment approaches used to measure student performance in WIL programs. This foundational study analysed assessments for 30 subjects across several disciplines. The importance of industry engagement, authentic tasks, constructive feedback, and reflection in the assessment process were highlighted. Based on this study and an extensive literature review, Bosco and Ferns (2014) developed an Authentic Assessment Framework (AAF). To examine the effectiveness of the framework in evidencing curricula WIL, Bosco and Ferns piloted the AAF using five degree programs across different disciplines. Findings showed that the AAF provided a valuable framework for designing WIL curriculum as it provided the impetus for staff to engage in critical analysis of the curriculum with consideration given to the curriculum dimensions that promote the development of employability skills. The WIL curriculum framework was further refined in two studies, the first of which captured 1499 student responses across nine institutions (Smith et al., 2014) which validated the important curriculum elements. The second study which built on the recommendations from the Smith et al. investigation, gathered survey responses from
480 employers and ran workshop sessions with 150 teaching staff and academic supervisors (Ferns et al., 2017). The series of studies outlined below, collectively informed the WIL curriculum framework.

Figure 2.3 highlights how an effectively executed WIL curriculum allows for “progressive intellectual sophistication” (Ewan, 2016, p. 49), through gradually intensifying the learning experience. The incremental scaffolding of learning experiences enables measured development of autonomy, diversity, active reflection, consequence, responsibility, and contribution for students (Bosco & Ferns, 2014). The relevance and authenticity of the learning experience is integral to successful student outcomes and ultimately work-ready graduates. The “alignment of curriculum, reflection and experience is fundamental to effective curriculum design” (Harvey, Coulson, Mackaway, & Winchester-Seeto, 2010, p. 147). Students develop the ability to adapt practices beyond isolated tasks. Problem solving, critical thinking, reflective practice and lifelong learning are embedded into the learning experience with evidence of student achievement collated through authentic assessment strategies.

Michael (1998) believes the higher education sector should constantly renew curriculum to adequately reflect emerging discoveries and new knowledge. He views this as essential to ensuring instructional effectiveness and appropriate responses to dynamic influences. More recently, The International Bureau of Education (2017) described traditional curriculum as prescriptive and knowledge focussed. The authors believe this approach is inadequate for: preparing graduates for a working life characterised by complexity, catering to diverse learning styles, and promoting lifelong learning. Employability assumes holistic development of the student encompassing discipline knowledge with skills and attributes deemed appropriate for the workplace (Robertson & Scott, 2010). The blend of theoretical knowledge with practical application in a university education ultimately provides learning experiences and activities that maximise the acquisition of employability capabilities.

2.4.3 Assessment of Work-Integrated Learning

The following section focuses on assessment of WIL learning outcomes and the challenges faced by the higher education sector in implementing assessment approaches that enable students to showcase their employability capabilities. The dichotomy between traditional assessment strategies and assessing in a WIL context are outlined with reference to the importance of rigorous assessment for educational institutions. A description of the AAF is provided along with an overview of its application in designing assessment that has real-world connections.
While designing a WIL curriculum and enacting that curriculum presents challenges in a university context, it is evidencing student outcomes through quality assessment processes where the ultimate challenge resides. Assessment is pivotal to the credibility and culpability of a university, yet continues to attract criticism and dissatisfaction among all stakeholders. Ferns & Zegwaard (2014) describe assessment as the core of an educational institution’s responsibilities. Assessment drives student learning (Ramsden, 2003), is a dominant feature of the teaching workload (Race & Pickford, 2007), and is built into regulatory standards (Ewan, 2009). The assessment conundrum is more pronounced in a WIL context where student outcomes are unpredictable, context dependent and socially constructed (Garnett, 2012). Yorke (2011) refers to WIL assessments as “messy” (p. 121), as tasks are less confined than the typical academic assignment which is dominated by measurement and marks (Yorke, 2011; Hodges, 2011).

In traditional processes, assessment is conducted in a ‘controlled’ environment which does not accommodate the multidisciplinary, collaborative and developmental learning inherent in a WIL curriculum. A numerical grade as an indicator of proficiency within the social context of a WIL experience is losing credibility (Hagel et al, 2014) and is a questionable metric when evidencing a performance-based task with accuracy and credibility. ‘Failure’ is a powerful form of learning with determination of why the failure occurred and how behaviour might change to improve outcomes (Carmeli, Tishler & Edmondson, 2012). Failure is frequently the key driver for innovation. Despite the impact of failure as a learning process, it is not condoned at university due to traditional assessment practices. Typical assessment decisions are based on a ‘product’, whereas in a skill development scenario it is the ‘process’ of learning that matters. The alignment of assessment processes with WIL learning outcomes requires a more portfolio based model that allows showcasing of skills and evidence of learning and development. This type of assessment allows students to evidence their intellectual capacity through practice-based experiences such as problem-solving, team work and communication. There is general consensus that improved assessment practices are imperative for the higher education sector to truly embrace a WIL philosophy. The AAF, detailed below, was developed in Australia as a resource to support the development of authentic assessments.

The Authentic Assessment Framework (AAF)

The AAF (see Figure 2.4) is a tool that is useful for determining the “potential veracity, range and relevance of learning tasks applicable for that real-world setting” (Bosco & Ferns, 2014, p. 282). It provides a guide for assessing the authenticity of curriculum and making judgements about where and how curriculum should change to accommodate relevant and meaningful learning experiences.
for students. When designing curriculum and assessment, the AAF provides a visual metric of the authenticity of the curriculum design. Amendments to the AAF have been informed by contemporary research undertaken in recent years which has refined quality elements of a WIL curriculum and assessment model (Smith et al., 2014; Ferns, Russell, & Kay, 2016). The AAF provides a “visual synopsis” (Bosco & Ferns, 2014. p. 282) of the assessment profile across a learning program. The axes pertain to the proximity to the work place (virtual or real) versus the institutional setting, and the level of authenticity reflected in the assessment tasks and outcomes. The descriptors in each cell of the AAF echo a developmental approach where learning experiences are intentionally designed to enable incremental development with measured, increasing complexity and problem-solving.

The framework shown in Figure 2.4 reflects increasing levels of autonomy, responsibility, contribution, diversity and engagement practised by the student and evident in assessment tasks. As the level of authenticity and proximity to the work environment increases, students exhibit increasing levels of these attributes and produce artefacts that validate competency, and their growing ability to tackle uncertain and ambivalent situations in the workplace grows (Scott, 2016).

As evident in the AAF reflection, feedback and stakeholder engagement in the assessment process are essential components of authentic assessment. The sections below explain each of these elements in detail, highlighting how they contribute to ensuring relevance and real-world application for the learner.

Reflection

The development of employability capabilities and transition of skills is facilitated through reflection as it gives emphasis to the learning process, encouraging deep and sophisticated thinking (Moon, 2006; Harvey et al., 2016). Reflection plays a critical role in personalised learning afforded through WIL curricula. It enables the learner to interact with the experience and individualise outcomes (Hodges, 2011). Reflective practice transforms the learning experience through recognition of personal strengths and gaps in skills, enabling self-regulated learning and self-discovery, in contrast to learning directed by others (Boud, Keogh and Walker, 1985). Reflection connects learning experiences to previous and subsequent learning, and promotes a sense of ownership and responsibility for the learning (Helyer, 2015). The descriptors relating to reflection in Figure 2.4 echo the idea of linked learning experiences where the learner transitions through increasingly complex scenarios where reflection heightens self-perceptions and, through personal evaluation of performance, reinforces where the learner needs to concentrate their efforts. Furthermore, reflection enables recognition of both success and failure, allowing the learner to
reconcile the experience in relation to personal aspirations (Boud, 2002). It affords an enriching multi-disciplinary perspective where skills and knowledge are integrated in collaborative teams (Harvey et al., 2010). Creativity and innovation are nurtured though reflection as the learner is not restricted by rigid outcomes, thereby catering to the diverse needs of learners (Yorke, 2011).

Reflection is a central component of lifelong learning as it enhances self-reflection and self-appraisal (Hodges, 2011). “People not only gain understanding through reflection, they evaluate and alter their thinking” (Bandura, 1986, p.21). While the ability to critically reflect requires the learner to draw on abstract thinking and metacognitive skills, learners can be supported to “deepen their level and complexity of reflection” (Coulson & Harvey, 2013. p. 405). These authors developed a framework, comprising four learning phases, to guide teachers in embedding reflective practice in experiential curriculum enabling progressive development of reflective skills. The four phases within the framework are: “learning to reflect, reflection for action, reflection in action, and reflection on action” (p. 404). This model of reflection is endorsed by Coll et al. (2009) who describe reflection and review as “the principle means for fostering integration of on- and off-campus learning” (p. 32). Lucas (2017) developed ‘The transactional model of critical reflection’ which focusses on the interplay between experience, theory and practice, and assessments. This model emphasises the influence of key stakeholders (University, workplace, and student) on the quality and outcomes of student reflections. Both models accentuate the complexity, impact, and importance of critical reflection.
**Highly authentic tasks in educational setting**

1. Students actively engaged in work or community related scenarios
2. Students actively engaged with an authentic audience
3. Students demonstrate responsibility for professional practice in educational setting
4. Students make a positive contribution to project outcomes
5. Students reflect on and evaluate performance in simulated activities
6. Partner provides guidance on assessment design
7. Students practice professional autonomy in simulated setting
8. Students engage in diverse scenarios that reflect the workplace
9. Students demonstrate understanding of and alignment with their values

**Highly authentic tasks in work environment**

1. Students actively engaged in work or community-based settings
2. Students actively engaged with co-workers and clients in a work or community-based setting
3. Students demonstrate responsibility for professional practice in work or community-based setting
4. Students make a positive contribution to organisational outcomes
5. Students reflect on and evaluate performance in the workplace
6. Partner contributes to the assessment process
7. Students practice professional autonomy in a workplace or community-based setting
8. Students engage in diverse scenarios in the workplace
9. Students demonstrate understanding of and alignment with their values

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**Education setting**

PROXIMITY TO THE WORK ENVIRONMENT – increasing in complexity and intensity

- 1. Student not engaged in work or community activities
- 2. Students not engaged with an audience
- 3. Students not required to demonstrate responsibility for actions
- 4. Students do not contribute to project outcomes
- 5. Students do not reflect on or evaluate performance
- 6. Partners not involved in assessment design
- 7. Students do not have an opportunity to practise professional autonomy
- 8. Students do not engage in scenarios that reflect the workplace
- 9. Students not required to reflect on their own or others leadership

**Work environment**

- 1. Student not engaged in work or community activities
- 2. Students do not actively engage with co-workers and clients in the work setting
- 3. Students not required to demonstrate responsibility for actions in the workplace
- 4. Students do not contribute to organisational outcomes
- 5. Students do not reflect on or evaluate performance in the workplace
- 6. Partner does not contribute to the assessment process
- 7. Students do not have an opportunity to practise professional autonomy
- 8. Students not exposed to diverse scenarios in the workplace
- 9. Students not required to reflect on their own or others leadership

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Feedback

An assessment profile that incorporates developmentally sequential tasks that facilitate frequent and meaningful feedback on performance can produce positive outcomes for students. Robust feedback ensures students are aware of gaps in their performance and can devise personalised strategies for addressing them (Boud, 2000). A combination of feedback and self-reflection enables the learner to appraise their performance, an imperative for students to improve skills and prepare for transition to the workplace (Peach, Ruinard & Webb, 2014). Race and Pickford (2007) describe feedback as “the lubricant for the engine which drives student learning” (p. 110). These authors attest that assessment approaches and the frequency and quality of feedback impact on student engagement and commitment to their studies, and is strongly linked to retention.

In a WIL context, students benefit from receiving feedback from the academic mentor and workplace supervisor. Strong partnerships need to be established with host organisations (industry partners) supported by clearly defined channels of communication and the necessary resources to provide constructive feedback to students (Winchester-Seeto, Rowe & Mackaway, 2016).

Stakeholder Engagement in the Assessment Process

Employer expectations are heightened with a demand for work-ready graduates who have the intellectual capacity and workplace expertise to enter the workforce. Industry partners place less emphasis on the academic transcript and increasingly question the calibre and integrity of assessment models amidst claims that graduates are not work-ready (PhillipsKPA, 2014). Employers opine that universities need to rethink assessment protocols, processes and expectations and move away from a focus on knowledge acquisition to skill proficiency. With an increasing emphasis on the employability capabilities of graduates and how they evidence those capabilities, the need for assessments that reflect the world of work and provide artefacts for students, showcasing their capacity to perform in a work-based context, is more prominent. Ideally assessment should be integrated across the degree program with scaffolded development, and rich and constructive feedback which informs the students’ learning and builds capacity. As shown in Figure 2.4, the authenticity of assessment is enhanced when partners’ (e.g. employers) contribute to the design and implementation of assessment. In a survey administered by Ferns et al. (2017), 480 employer respondents identified clarification of their role in assessment (84%), co-designing industry-focussed assessment (82%), and providing feedback to students (86%) as key priorities. Employers indicated that their input to assessment design and implementation, and providing feedback to students on performance, is fundamental to ensuring the acquisition of work-readiness skills.
2.4.4 Quality Assurance and Standards in a Work Integrated Learning Context

WIL experiences conducted in workplace settings are context-dependent and uncontrolled learning environments with highly variable student outcomes. Quality assurance in such a dynamic setting is complex. In recent years, empirical evidence has been gathered which validates the impact of WIL on student work-readiness and provides an indication of quality standards in a WIL context (Smith et al., 2014). A large scale project involving five studies across 13 universities with survey responses from 4835 students, interviews with 10 graduates, and survey responses from 163 employers, confirmed that WIL positively impacts on students’ work-readiness. In addition, this study conducted by Smith et al., (2014) identified dimensions of employability, and the quality curriculum elements that ensure optimal student outcomes.

For the purposes of accountability and to inform practice, it is essential that the impact of the WIL experience is evaluated from the perspectives of all stakeholders. Enhanced employment readiness cannot be assumed simply by including WIL experiences in the student experience (Knight & Yorke, 2004; van Woerkman, 2004; Nixon & Murr, 2006; Yorke, 2006; Doel, 2009). A rigorous accountability process is required to monitor outcomes for stakeholders and ensure systematic review and improvement of WIL approaches.

Employability is about processes, not products. Employability outcomes are often measured with crude measures such as the number of graduates who secure jobs. Employment and employability are two different measures, one is about getting a job and the other is about acquiring the skills that enable you to be employable (Norton, 2016). According to Lee (2001), using “pragmatic measures” (p. 97) has two issues. The first issue is measuring employability by those who succeed in getting and retaining a job. The second issue is the perception that it is the remit of the university to get students a job.

Consideration should be given to the long term goals and strategic aims of WIL to apprise quantifiable metrics. Lee (2001) suggests a sequence of actions to realise valid measures for determining the assurance of standards in a WIL context:

1. Define the theoretical concept.
2. Break it down into dimensions that cover the meaning of the concept.
3. Identify a range of indicators for each dimension.
4. Select one or more indicators for each dimension.
5. Design instruments to collect information on each indicator.
6. Decide whether to have a multi-dimensional set of indicators, an array of indices or a single index and, if appropriate, combine indicators into an index. (p. 99)

This section highlights the complexities of designing and enacting a WIL curriculum and the conundrum of assessing student outcomes resulting from WIL experiences. Traditional university policy frameworks around assessment are restrictive, thereby limiting opportunities for students to evidence employability capabilities and showcase skills. The AAF which provides an approach to designing authentic assessment is presented, outlining the indicators of an authentic assessment. Reflection, feedback, and stakeholder engagement in the assessment process, essential features of assessing in a WIL context, are described. The section concludes with an overview of the challenges of assuring quality and standards in WIL.

2.5 Professional identity

The concept of a professional identity has taken on a new meaning with the contemporary labour market that future graduates will encounter. The intricacies of a professional identity are outlined below with specific reference to the elements of a professional identity and an insight into how a professional identity evolves.

2.5.1 Defining Professional Identity

Professional identity is defined as “the relatively stable and enduring constellation of attributes, beliefs, values, motives, and experiences in terms of which people define themselves in a professional role” (Ibarra, 1999. p. 765). This definition has been developed further by others as the notion of a professional life has morphed into a volatile and unpredictable paradigm where it has become more pressing to actively pursue feedback and input from others to broaden experiences and networks, thereby adapting how you see yourself as a professional (Dobrow & Higgins, 2005). These authors attest that the changing dynamics of economic drivers and the subsequent impact on career development and pathways mean it is important that educational experiences are designed to enhance the understanding of ‘self’ and ultimately a professional identity. The concept of a professional identity is multi-faceted, as there are numerous factors that influence one’s sense of professional identity. Professional identity shapes how an individual approaches their career (aspirations) and continues to develop over a lifetime, constantly re-imaging as successes and setbacks in professional settings impact on the sense of professional identity. Hall (2002) espouses that two characteristics are commensurate with a successful career outcomes: awareness of one’s own identity; and the flexibility to adapt and transfer skills and knowledge to new, unfamiliar contexts. Assistance, support, mentoring and role models have been shown to influence the
development of professional identity (Ibarra, 1999). Professional identity is not a stagnant notion, but rather may take the shape of multiple identities that can be drawn on depending on the situation and persona required for maximum impact and benefit. Diversity of mentors makes for enhanced flexibility and the ability to adapt to different situations from multiple perspectives.

Self-efficacy is concerned with perceived capability to effect and organise actions to accomplish tasks, and is a factor that impacts on many facets of a person’s life (Bandura, 2006). Bandura attests that self-efficacy plays a key role in human responses and impacts on how a person responds to anxiety, uncertainty and new situations. While self-efficacy relates to a personal belief in one’s competence to perform designated tasks, self-concept refers to the collective influence of knowledge, ideas, attitudes and beliefs we have about ourselves (Krause, Bochner, & Duchesne, 2003). Self-concept is multi-dimensional, varying according to the context in which one is functioning. Self-efficacy in the work place is dependent on self-concept associated with work based operations. According to Krause et al., self-concept and self-esteem are closely aligned, self-concept being concerned with what is valued, and self-esteem relating to how one feels about oneself.

Self-efficacy differs from self-esteem in that the latter is a perception of self-worth. Self-esteem has a dominant influence in people’s lives, with low self-esteem being linked to a range of social disorders (Krause et al., 2003). Individuals with a well-developed sense of self-efficacy typically perceive challenges as a skill to be mastered rather than a threat to be avoided, subsequently achieving greater success in the workplace. Persistence in difficult and challenging situations and a desire to persevere until the skill has been mastered, are typical attributes of a person with high self-efficacy, resulting in successful outcomes. Success breeds success and, according to Bandura (2006), builds a robust belief in one’s personal efficacy. Self-efficacy impacts on one’s resilience and resilience is a key skill required for the work place (Peach & Matthews, 2011). Given the impact of self-efficacy on work place behaviours, a valuable educative experience at a university level should include strategies that nurture a positive sense of self-efficacy. Self-efficacy is dynamic and changes as a result of experience (Raelin et al., 2012).

Yorke (2006) acknowledges that employability comprises a combination of personal qualities and convictions. Hodges (2011) argues that self-efficacy contributes to ultimate outcomes from a learning experience and should bring both informal and formal curriculum together. Self-confidence (a feeling of trust in one’s abilities) and self-identity (how one perceives personal skills and attributes within social settings) are entwined with other notions of self – none of which are mutually exclusive as the sense of self is formed through the interactions and influences of each.
Professional identity exceeds just workplace identity as it informs career goals and professional aspirations.

2.5.2 Professional Identity and Employability

A successful career and workplace satisfaction is key to the Australian way of life and addresses a basic human need. It is important for emotional and physical health as constructive contributions and measurable achievements, coupled with a sense of belonging, provide stability and meaning in one’s life (OECD, 2014; UNESCO, 2015).

Occupational choice and career development progress across the life-span. Self-perceptions and contextual perspectives impact on career pathways and reflect the complexity of vocational behaviour (Savickas, 1997). A contextual outlook considers a person from a holistic perspective and the position of the working life in context of other life roles and how that impacts on personal values. Savickas posits that the self should be central to career choices in consideration of the person they want to be. Aggregated perceptions of self underpin professional identity, which morph and reconfigure for different professional environments across the life-span.

The workplace connects workers with community and society more broadly and encompasses relationships (Hodges et al., 2014). The workplace is potentially a powerful forum for moulding self-identity, building self-esteem and enhancing self-efficacy. The social dynamics of workplace experiences augment perceptions of self and induce a sense of worthiness, resulting in personal transformations and reshaping of professional identity which is “built through a long and complex process” (Cohen-Scali, 2003, p. 238). On the other hand, negative work-based experiences can impede perceptions of self-worth.

2.6 Partnerships

Employer engagement is viewed by many as critical for the achievement of successful WIL outcomes culminating in work-ready graduates (Mason, 2010; Hamersley, 2017). Opportunities for students to experience the world of work and obtain feedback on performance from industry practitioners is realised through engagement with external stakeholders who have experience with contemporary industry practices. Establishing an arrangement whereby industry personnel contribute to designing assessment profiles and providing rich and meaningful feedback to students is premised on strong partnerships and clear channels of communication. Graduate employment in Australia is at its lowest since the 1980s (Kinash & Crane, 2015). The decline in graduate employment outcomes has been more evident in the last decade with 70% of 2015 graduates of undergraduate degrees finding full time employment, representing an 11% decline in employment.
outcomes compared with 2006 when 82% of graduates were successful in gaining full time employment (Quality Indicators for Learning and Teaching, 2017). Graduate employment outcomes have shown a slight rise in 2017 with 72% of graduates finding full time employment. In response, universities are endeavouring to forge relationships with industry in an effort to embed real world content and experiences into the curriculum (Popenici, 2015).

Integral to community and industry engagement that facilitates the provision of authentic learning experiences for students, culminating in work-ready graduates, is the establishment and maintenance of partnerships between educational organisations and industry/community bodies. Van Rooijen (2011) believes universities should be “a hybrid with society” (p. 6) and recognises that knowledge acquisition is not the exclusive domain of educational institutions. Permeable boundaries between universities and industry are essential for industry to have input into curriculum and assessment design, and ensure currency of content and validation of learning is relevant to the workplace context (Campbell, Russell & Higgs, 2014). With growing pressure for innovative and entrepreneurial graduates, universities are aspiring to be more responsive to national productivity needs and agendas.

Given that learning is perceived to be a lifelong commitment that extends well beyond the walls of a university, successful universities in the future will build strong partnerships with industry to ensure students’ learning experiences incorporate real world applicability (Glover, 2016; Van Rooijen, 2011). The full benefits of WIL are reliant on constructive and mutually beneficial relationships with industry bodies and the involvement of such organisations in the learning experiences for students. The allocation of resources for brokering and maintaining robust partnerships between industry, community and universities is important as a means of maintaining currency and providing industry-based learning experiences (Ernst & Young, 2012).

There is some scepticism about the ability and infrastructure of universities to build partnerships with industry with a perception from industry that partnerships rarely work (Popenici, 2015). “Mostly employers and academics still ‘talk past each other’ and there are endless debates about appropriate language” (Harvey, 2001. p.97). Employers rarely approach universities – typically universities seek out employers who will provide that connection (PhillipsKPA, 2014). Lack of time and limited resources are the main barriers cited by industry which prohibit their capacity to support students and engage with universities. In a survey administered in 2016 to Australian businesses, the 122 respondents cited the main barriers to engaging with universities as differing motivations, lack of awareness, university bureaucracy, lack of people with business knowledge within universities, and differing time horizons (Plewa, Davey, Meerman & Galan-Muros, 2017). In a
survey to university academics and managers which attracted 289 responses, insufficient work time allocation, lack of funding, bureaucracy related to establishing partnerships, lack of industry funding, and diverse motivations and values were reported as barriers (Davey, Plewa, Meeran & Galan-Muros, 2017). Enablers such as mutual commitment, shared goals, mutual trust, increased funding, improved support from universities, and good communication are essential for robust partnerships. The key motivations for industry partners to engage in WIL are accessing and trialling work-ready graduates, improving the organisation’s professional profile, and gaining marketing leverage (Tran, 2016). Increasingly, corporations are using internal graduate programs and university partnerships as a means of sourcing employees (Cooper, Orrell & Bowden, 2010).

There is a plethora of literature pertaining to what industry needs and questioning the value of a university education (Humburg, van der Velden & Verhagen, 2013; PhillipsKPA, 2014; Australian Industry Group, 2016). These opinions portray a deficit model of engagement which fails to acknowledge the fundamental need for reciprocity and negotiation in a partnership. The contemporary literature does not outline how partnerships are framed, what makes them sustainable, and how to establish relationships for mutual benefits. They are modelled on the singular aspect of what industry wants.

2.7 Contribution to Gaps in the Research

2.7.1 Gaps in the Research

Hodges et al., (2014) argue convincingly that more rigorous research is required to explore pedagogy and curriculum design that maximises the benefits of experiential learning and validates student outcomes. These authors posit that such research must be undertaken through a process of recognition and acknowledgement of both long-standing and more contemporary theories. Experiential learning is at the heart of the development of employability capabilities. While there is an abundance of research and discourse around desirable ‘graduate attributes’, much of it relates to a job market that is characterised by stability and constancy. In an era of exponential change, increasing emphasis is given to skills such as agility, flexibility, creativity and innovation. Aptitude in these areas inspire entrepreneurship, enabling transferability to different contexts, a feature deemed essential for successful careers in the 21st Century (Lauder, 2013). The concept of work readiness is still in its infancy (Cabellero, Walker, & Fuller-Tyszkiewicz, 2011) although the multidimensional nature of it is acknowledged and well documented (Knight & Yorke, 2004). Investigation into the design and enactment of curriculum that prepares graduates for an unknown workplace is required.
The plurality of ‘self’ has been the focus of enquiry for many decades, usually emanating from studies within the psychology discipline (Trede, 2012). More recently the notion of how self-perceptions shape professional identity, which is integral to a successful career and life, has attracted interest. With the rapid transformation of the workplace and the expectation that people will experience several professions across their working life, there is uncertainty around the construct of professional identity. Given the push for universities to more actively engage with professional accrediting bodies, industry and community organisations, investigation into partnership models that facilitate employability and professional identity is warranted. Furthermore, there is no known research that explores the role and impact of professional accreditation bodies on the university experience. Investigation into how and if partners should or could contribute to a curriculum that provides an inclusive educative experience is required. The role and interactions of all stakeholders – staff, students, industry/community partners and professional bodies - warrants investigation. In addition, strategies for developing students’ professional identity that is both relevant to the discipline area but sufficiently flexible to be transferrable into other professional contexts, remains unexplored.

Furthermore, the National WIL Strategy (see 1.4.3) outlines imperatives for the higher education sector and industry/community partners for a competitive and sustainable Australian economy. “Research on learning and working is a new and emerging field and only recently have attempts been made to pull the two fields together” (Jassal & Clark, 2016). The current research addresses several priorities and strategies fundamental to the National WIL Strategy. The research outcomes will connect the constructs of ‘working’ and ‘learning’ and exemplify where and how the two paradigms interact and converge.

2.7.2 How this Research Addresses the Gaps

An innovative pedagogical approach that engages, motivates and inspires students is paramount to successful graduate outcomes. This research outlines a collaborative partnership framework which informs curriculum design and assessment profiles to equip students with the employability capabilities and intellectual capacity for success in an uncertain and constantly evolving labour market. While partnerships are advocated consistently in contemporary literature (Business-Higher Education Forum [BHEF], 2013; Plewa et al., 2017), they are often arbitrary and superficial. The current research provides an inaugural perspective with the inclusion of professional accreditation body representatives’ viewpoints. A partnerships framework is proposed that encompasses relevant stakeholders working collaboratively to optimise outcomes through sharing expertise and resources.
The characteristics of robust partnerships are determined, stakeholders in the partnership identified, and roles and responsibilities of partners defined.

Despite the abundance of student and graduate satisfaction instruments, they focus on ‘satisfaction’ rather than the important components of a university education that specifically enhance the development of employability capabilities. Feedback from employers tends to emphasise specific skills employers are seeking. In this research, input from all stakeholders is sought to capture collective perceptions of what a university education should entail. Skills critical for a contemporary labour market are identified through stakeholder consultation. Embedding WIL and authentic assessment across the curriculum and how it enhances graduate employability is also explored. Furthermore, strategies are identified to support the development of a professional identity appropriate in a dynamic global environment where professional contexts are variable and will continue to alter dramatically in the future.

Figure 2.5 presents the conceptual framework for the study. The central feature of the framework is a quality WIL curriculum which encompasses authentic assessment, quality teaching and constructive feedback on performance. These aspects are reliant on two-way communication with, and input from, industry and community partners; professional bodies; mentors, supervisors and teachers; and students and graduates. This dynamic culminates in transferrable employability capabilities for graduates and ultimately a professional identity that equips graduates with skills to navigate the unpredictable employment landscape of the future.
2.8 Conclusion

Globally, enterprises are facing unprecedented change predicated on the knowledge economy, disruptive technologies, global economic competition, demand for creative and innovative skills, and a volatile political and social landscape. The nature of the workplace is undergoing transformational change with technology, globalisation and automation having a profound influence on models of employment. Australia has a dynamic economic environment where opportunities are abundant. Businesses are constantly moving in and out of the marketplace, and large numbers of workers are increasingly transient, regularly shifting professions, and seeking diverse job opportunities. To produce graduates with the resilience and proficiencies that equip them with portable employability capabilities to secure a rewarding and challenging career, universities need to reconceptualise the student experience. Chapter Three provides a detailed explanation of the research methodology deployed to answer the research questions.
Chapter 3: METHODOLOGY

3.1 Introduction

To provide a comprehensive description of the multi-faceted nature of WIL, this research was based on a pragmatist research paradigm, mixed methods methodology and a multiple case study research design. Data was collected from multiple stakeholders using a wide range of quantitative and qualitative data collection methods. An overview of the methodology for this research is presented in Table 3.1. Each of these components is described in turn in this chapter.

Table 3.1
Overview of the Methodology of the Study

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
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<tbody>
<tr>
<td>Paradigm</td>
<td>Pragmatist</td>
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<tr>
<td>Research design</td>
<td>Mixed methods, multiple case study</td>
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<tr>
<td>Participants</td>
<td>Students, graduates, staff, employers, representatives from professional accreditation bodies</td>
</tr>
<tr>
<td>Research methods</td>
<td>Questionnaires, individual interviews, focus group interviews, documents</td>
</tr>
<tr>
<td>Analysis techniques</td>
<td>Descriptive statistics, inferential statistics, thematic analysis, content analysis</td>
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<tr>
<td>Quality criteria</td>
<td>Reliability, replication and validity</td>
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<tr>
<td>Ethics</td>
<td>Informed consent, voluntary, confidentiality, anonymity</td>
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</table>

Three separate case studies, Chemical Engineering (CE), Occupational Therapy (OT) and Primary Education (PE), formed the basis for the data collection. For each of the case studies, a series of prudently sequenced, cohesive data were collected and analysed to ascertain characteristics within each of the case studies. Methods of data collection within each case study included two surveys containing quantitative and qualitative components, individual and small group interviews with relevant stakeholders, and content analysis of documents relevant to the study. This approach encompassed both vertical and horizontal integration of the data to validate findings and substantiate theories. The incremental approach to data collection and analysis across three phases enabled the progressive compilation of information and appropriate recalibration of data and findings throughout the investigation.


3.2 Pragmatist Research Paradigm

The paradigm or worldview of research echoes the set of assumptions about society inherent in the particular inquiry and thereby informs the philosophical conventions, investigative techniques and overall design of the research (Punch, 2005). A research paradigm is the charter that guides the research process and informs the design of the methodology. In essence, it provides a broad framework for researchers to organise their thoughts and shape the investigative process (Wolfer, 2007). Research criteria, conventions and methodological techniques are moulded through the worldview lens. A paradigm comprises four dimensions which collectively guide research approaches: axiology, ontology, epistemology, and methodology (Denzin & Lincoln, 2011). Axiology refers to expectations around ethical behaviour, ontology considers the nature of reality and human beings, epistemology asserts the nature of knowledge and how it is acquired and justified, while methodology identifies the most appropriate means for improving knowledge in the world (Creswell & Plano Clark, 2011).

According to O’Donoghue (2007), the notion of research paradigms has been the topic of robust debate as the nature of what constitutes research has broadened, and subsequently enabled increased latitude with specifying how and where the research fits. This polemic is more prominent among philosophically oriented scholars who question the validity of mixed methods research methodologies as the integration of diverse worldviews is perceived as inappropriate and challenges traditional research approaches (Creswell, 2011). However, Creswell argues that the boundaries between varying worldviews are permeable allowing paradigms to morph over time into new entities. Lincoln, Lynham and Guba (2011) refer to this topic with some passion and liken it to the “blurring of genres” (p. 116), while Crotty (2003) uses the term “fuzzy logic” (p. 15) when challenging the traditional divide between quantitative and qualitative methods. These authors regard the dynamic nature of research practices and the fluidity of paradigms as critical to the intellectual legitimacy of research outcomes. The research landscape has seen considerable changes over recent years and, as society enters arguably one of the most dynamic phases of humanity, diverse perspectives on research methodologies and approaches are becoming the norm.

This fits with the pragmatist’s world view as the beliefs emanating from this philosophical viewpoint support the application of multiple paradigms to address a research study. Mixed methods research reflects the assumptions and philosophies fundamental to the pragmatist and is the principal philosophical framework adopted by researchers using combined methodologies of quantitative and qualitative data (Creswell & Plano-Clark, 2011). “Mixed methods research is,
generally speaking, an approach to knowledge (theory and practice) that attempts to consider multiple viewpoints, perspectives, positions, and standpoints” (Johnson, Onwuegbuzie & Turner, 2007, p. 113). Pragmatism is typically characterised by multiple data methods reflecting the pluralistic approach distinctive of this research design. Furthermore, the focus on the research outcomes and the central theme of problem solving embedded in the study is also prominent to a pragmatist’s world view. As Creswell (2009) concludes, “For the mixed method researcher, pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis” (p. 11).

Within the pragmatist paradigm, divergent philosophical schemas are considered in a research context enabling researchers guided by this paradigm to be creative in selecting a research design and data collection techniques. According to Crotty (2003), there are “many pragmatisms” (p. 72) but common themes are evident in studies conducted under the auspices of this worldview. Tashakkori and Teddlie (2003) describe pragmatism as a “kaleidoscope of views” (p. 85), a term that captures the malleable nuances of this philosophical world view and reflects the flexibility it affords the researcher. When working within a pragmatic framework, it is accepted that social constructs are diverse phenomena, impacting on reality in multiple ways. In essence, pragmatism attempts to understand human behaviour in a societal context, with a focus on ‘what works’ as the source of truth for the investigation (Tashakkori & Teddlie, 2003). Existing truth, reality, laws and rules are not factored into the research design. The research aims are what drives the approach with the research questions being the central element (Creswell & Plano-Clark, 2011).

According to O’Donoghue (2007), historical, social and ethnic perspectives shape educational research and the many facets that it entails. Indeed, considering aspects of educational contexts in isolation potentially compromises the value and applicability of research findings. Aspects of education such as leadership, policy development, curriculum, assessment and real-world learning are inherently interdependent with the rigour and impact of each factor influencing the others. Given the multi-dimensional nature of the research questions, and the context-dependent characteristics of WIL, the theoretical underpinnings of pragmatism aptly fit the mixed methods approach to data collection used in this study.

The dimensions of the pragmatist’s worldview axiology, epistemology, ontology, and methodology, in combination with the rhetoric (language used) are helpful in identifying the features of the paradigm evident in this research, and provide clarity about the underlying assumptions. Biased and unbiased perspectives are factored into the research, reflecting a values-based approach. The methodology incorporates a real-world approach, is pluralistic in its design, and considers multiple
realities, which aptly fits with the real-world issues inherent in the research problem. These dimensions form the basis of the pragmatist’s perspectives and are intrinsic in this research.

3.3 Research Questions

This research explored the impact of educational approaches on the student experience and the preparation of graduates for the world of work. Practices for establishing a professional identity for life-long career-development is a core component of the enquiry. The disciplines of CE, OT and PE, all of which undergo professional accreditation, were the focus of the study. The impact of authentic educational experiences in preparing graduates with appropriate skills to acceptable standards thereby equipping them with skills essential for the future workplace was investigated. The research aimed to answer the following overarching research question:

How can stakeholders work collaboratively to prepare graduates for the future workplace?

This overarching research enquiry was assayed through the following guiding questions:

1. What are the important components of a university education that support the development of employability capabilities? (RQ1)

2. What are stakeholders’ perceptions of the gaps in the skills and knowledge of graduates in workplace preparedness? (RQ2)

3. How does embedding work-integrated learning experiences in curriculum support the development of graduate employability? (RQ3)

4. What are the partnership characteristics that facilitate successful outcomes in preparing work-ready graduates? (RQ4)

Table 3.2 provides a summary of the methodology including the purpose, phase, data source, sample size, quantitative and qualitative data collection instruments, and analysis for each research question. Data collected by a secondary source and the data collected by the researcher (primary data) is also indicated in the table. Table 3.2 also outlines the phases that address each research question.
Table 3.2
Research Questions aligned with Data Collection Methods and Analysis

<table>
<thead>
<tr>
<th>Research question</th>
<th>Purpose</th>
<th>Phase</th>
<th>Data Source</th>
<th>Sample Size</th>
<th>Phase</th>
<th>Data Source</th>
<th>Sample Size</th>
<th>Analysis</th>
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<td>Setting the scene. Student perspectives. Graduate perspectives. Employer</td>
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<td>GEI comments Primary data</td>
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<td></td>
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<td>THREE</td>
<td>Interviews with representatives from Professional</td>
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<td></td>
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</tr>
</tbody>
</table>
2. Continued

2. Graduate Destination Survey (GDS) Continued

Secondary data

| TWO | Graduate Destination Survey (GDS) | CE: 116 | OT: 118 | PE: 78 | accrediting bodies |

Primary data

3. How does embedding WIL experiences in curriculum support the development of graduate employability?


| THREE | Curriculum documents | CE: 2 | OT: 1 | PE: 3 | Transcribing, coding and categorising qualitative data, descriptive statistical analysis: frequency of assessment types and WIL categories. Content analysis. |

Primary data

| THREE | Interviews with representatives from professional accreditation bodies | CE: 1 | OT: 1 | PE: 1 |

Primary data

| THREE | Employer interviews | CE: 3 |

Primary data

| THREE | Teaching staff interviews | OT: 2 | PE: 3 |

Primary data

4. What are the partnerships characteristics that facilitate successful outcomes in preparing work-ready graduates?

Identify different models and determine strengths, weaknesses and challenges. Characteristics of partnerships.

| THREE | Curriculum documents | CE:9 | OT: 7 | PE: 13 | Content analysis |

Primary data

| TWO | Individual and small group student interviews | CE: 1 | OT: 1 | PE: 1 |

Primary data

| THREE | Employer interviews | CE: 2 |

Primary data

| THREE | Interviews with Professional accrediting bodies | CE: 3 |

Primary data

| THREE | Teaching staff interviews | OT: 2 | PE: 3 | Transcribing, coding and categorising qualitative data |
3.4 Multiple Case Study Research Design

A multiple case-study research design using a mixed methods approach was used to answer the research questions in this study. The case studies provided a contextualised portrayal of each discipline, highlighting common themes across programs while also identifying distinctive aspects of each.

Case study research enables “an intensive analysis of an individual unit (as person or community) stressing developmental factors in relation to environment” (Denzin & Lincoln, 2011, p. 301). Merriam (2009) defines a case study as “an in-depth description and analysis of a bounded system” (p. 40), comprising clearly defined parameters which “fence in” (p. 40) what is to be studied with finite data collection. The case study is an empirical inquiry with unique characteristics determined by the form of research question (who, what, how, why and where), the scope of control over participant behaviours, and a focus on current as opposed to past events (Yin, 2009). According to Yin “case study research comprises an all-encompassing method” (p. 18) as it draws on many data methods to enable thorough scrutiny of the particular case. Merriam (2009) describes case studies as “particularistic, descriptive, and heuristic” (p. 43). Particularistic refers to the specific event or program which is the focus of the case study. The descriptive feature of a case study is realised by the “complete, literal description of the entity being investigated” (p. 43), and the heuristic aspect relates to the impact on the reader’s knowledge and understanding of the research phenomenon.

The strength of the case study is its usefulness for investigating complex social microcosms where multiple variables are at play (Patton, 1990). This augers well for probing university programs where several key stakeholders and numerous elements influence the student experience. According to Merriam (2009, p. 51), “Case study has proven particularly useful for studying educational innovations, evaluating programs, and informing policy”. Similarly, Patton (1990) posits that case studies are ideal for identifying variations or similarities across learning programs.

Examining isolated case studies is perceived to have limited potential for transferability to broader populations (Denzin & Lincoln, 2011), whereas multiple case studies in a research design enables cross-case analysis, thereby delivering “more compelling and robust” evidence to validate findings (Yin, 2009, p. 53). Yin posits that multiple case studies strengthen research methodology with more conclusive results supported by data triangulation and multiple data methods. For this reason, multiple case studies provide an ideal platform for collating and bundling the data pertaining to each discipline in this study, thereby permitting a scaffolded strategy for comparison across disciplines.
Each case study in this research had distinctive boundaries defined by the multiple stakeholders engaged with the particular degree program comprising current students, teaching staff, heads of school, professional body representatives, employers as recipients of graduates, and graduates who seek relevant employment post-study. The in-depth scrutiny of each case study (each discipline) using a selection of data methods, enabled comparison equitably across the three case studies (Merriam, 2009). The diversity of discipline areas maximised the credibility of research outcomes and justified potential for broader transferability of the findings to other disciplines.

A cross-case analysis of the case studies was completed to “facilitate the comparison of commonalities and differences in the events, activities, and processes” (Kahn & VanWynsberghe, 2008, p. 2). Kahn and VanWynsberghe describe cross-case analysis as a way of “mobilising case study knowledge” (p. 3.) through prompting dialogue, and widening dissemination of the findings to a broader audience. Eisenhardt (1989) suggests that cross-case analyses encourage in-depth investigation extending beyond explicit outcomes, and scrutinises findings from multiple perspectives. Cross-case analysis also diminishes the likelihood of preliminary judgements based on false assumptions (Eisenhardt, 1989). The cross-case analysis for this research compared and contrasted the data and findings from each case study question by question. The cross-case analysis enabled the development of an overall schema through data consolidation, with acknowledgement of the nuances of each case study. The collective findings from the three case studies augmented and substantiated the recommendations and framework. Figure 3.1 provides an overview of the research methods for each case study, highlighting the range of data sources and combination of quantitative and qualitative data collection methods.
3.5 Data Collection Using Mixed Methods

Data collection and analysis was undertaken across three phases using a mixed method approach. A mixed methods approach is defined as the type of research in which the “investigator collects and analyses data, integrates the findings, and draws inferences using both quantitative and qualitative approaches in a single study or program of inquiry” (Tashakkori & Creswell, 2007, p. 4). As research problems increase in complexity in the face of a more dynamic and volatile society, where ever-evolving technological innovations are impacting on human behaviour and patterns of social evolution, the use of numbers or words in isolation to tell a story is insufficient (Greene, 2012). The amalgamation of both quantitative and qualitative methods provides a more comprehensive analysis and rigorous process for making justifiable judgements on research outcomes. Johnson et al. (2007) consider mixed methods research an approach to knowledge acquisition and exploration as “methodological pluralism” (p.116), an apt term for denoting the multiple data methods and combination of quantitative and qualitative methods.

Quantitative research is a more rigid and systematic methodology as it is not totally reliant on personal perspectives and interpretations. Quantitative approaches may potentially gather large data sets, but are considered “overly simplistic, decontextualized, reductionist, and fail to capture the meaning that actors attach to their lives and circumstances” (Brannen, 2010, p. 7). By contrast, qualitative data is exploratory in its approach, enabling in-depth probing through direct contact with
participants. “Qualitative research involves an interpretive, naturalistic approach to the world” (Denzin & Lincoln, 2011, p. 3) whereby the researcher is situated within the research context. Bryman (2006) posits that the mixed method design facilitates a balance of the point of orientation from the participants’ viewpoint and the researchers. This blended approach avoids generalisations and biases and allows multiple perspectives to be explored.

Due to the complexity of the relationship between educational approaches and the development of employability capabilities, a diverse toolbox of approaches was required (Creswell, 2012). The conceptual framework, described as “the scaffolding or frame of the study” by Merriam (2009, p. 66), underpinning this research design was highly structured. However, the execution of the research allowed for approaches to unfold based on information which emerged from the data collection and analysis (Punch, 2006). The essence of the approach considered quantitative and qualitative data as varying “points on a continuum rather than two ends of a dichotomy” (Creswell, 2012, p. 19). The ultimate purpose was to use both quantitative and qualitative methods in tandem to validate research outcomes culminating in a more “powerful result” (Creswell, 2012, p. 535).

Quantitative and qualitative data were collected concurrently with quantitative data analysed first in each phase followed by the qualitative data which was used to verify and extend the findings from the quantitative data. Integration between phases resembles that of building blocks – a gradual consolidation and extension of the findings with each phase validating earlier findings and establishing additional findings to further augment the framework (Coll & Chapman, 2000). Equal priority was given to quantitative and qualitative data with datasets integrated at the interpretation phase of the research process.

### 3.6 Phases of Data Collection

Due to the multi-dimensional nature of this study, data collection and analysis was accomplished across three phases. The distinctive phases enabled the merging of analysis and findings within each phase. Importantly, the phased approach facilitated emerging outcomes to inform subsequent phases in the study and the design of instruments such as individual and small group interview questions. Both quantitative and qualitative data collection was built into the design of all three phases. Table 3.3 provides a summary of the phases of data collection including the purpose, research method and dates that data were collected. Data collection occurred between March 2012 and April 2016.
### Table 3.3
**Summary of Phases of Data Collection**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Purpose</th>
<th>Research method</th>
<th>Dates of data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One</strong></td>
<td>Important Components and Gaps in a University Education</td>
<td>Stakeholder perspectives</td>
<td><strong>Chemical Engineering CE</strong>&lt;br&gt;CEQ Survey&lt;br&gt;Secondary data</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Occupational Therapy OT</strong>&lt;br&gt;GEI Survey&lt;br&gt;Primary data</td>
</tr>
<tr>
<td><strong>Two</strong></td>
<td>Graduate Outcomes and Student Perspectives</td>
<td>Graduate outcomes</td>
<td><strong>Chemical Engineering CE</strong>&lt;br&gt;Graduate Destination Survey&lt;br&gt;Secondary data</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Occupational Therapy OT</strong>&lt;br&gt;Employers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Primary data</strong>&lt;br&gt;Professional bodies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Chemical Engineering CE</strong>&lt;br&gt;Models of WIL in curriculum</td>
</tr>
</tbody>
</table>

### 3.6.1 Overview of Phases

There were three phases of data collection: Phase One (Important Components and Gaps in a University Education), Phase Two (Graduate Outcomes and Student Perspectives), and Phase Three (Stakeholder Perspectives and Assessment Profiles). Phase One of the data collection involved sourcing quantitative and qualitative data from a range of external stakeholders through two
comprehensive surveys. This approach is consistent with Creswell’s (2009) advice to begin with a “broad survey in order to generalize results to a population and then, in a second phase, focus on qualitative, open-ended interviews to collect detailed views from participants” (p. 18). The findings from the surveys in Phase One informed the second phase of the study which primarily entailed the collection of open-ended responses from students using individual and small group interviews. Perakyla and Ruusuvuori (2011) attest that interviewing is an efficient and rigorous means of enabling the researcher to “reach areas of reality that would otherwise remain inaccessible such as people’s subjective experiences and attitudes” (p. 529). The quantitative component of Phase Two focussed on the employment outcomes of graduates. Phase Three incorporated further interviews with stakeholders including employers, representatives from professional bodies and teaching staff, for which the questions were formulated based on feedback obtained in Phases One and Two. The quantitative component of Phase Three comprised content analysis where attributes of documents were quantified. The cross-case analysis was undertaken following the completion of the three phases for each case study.

Figure 3.2 shows a visual representation of the research design highlighting the mixed methods approach and multiple data sources used for each of the disciplines. The disciplines of CE, OT and PE from a single Australian university were each treated as a discrete case study (See Section 3.7 for details on each discipline). Data was collected, analysed and interpreted in a consistent way for each of the disciplines to enable comparison of the data and identification of the impact of practices equitably for each discipline.
3.7 Research Context

The setting for this research was a large Australian University with the main campus located in a state capital city. The university has multiple campus locations which include both regional and international sites. Across these locations, the University boasts a student cohort of approximately 60,000 students (head count) of which 40% are international. The University offers a range of professional degrees which include engineering, health, business and humanities disciplines. This research focussed on three specific degree undergraduate programs which were purposefully...
selected. Purposeful sampling refers to the deliberate selection of a sample population which increases the likelihood of information rich cases (Creswell & Plano Clark, 2011). According to Patton (1990), this approach to purposeful sampling “allows confident generalization from the sample to a larger population” (p. 169). The degree programs were purposefully selected on the basis that they:

- undergo professional accreditation;
- attract sustainable numbers of students over a continuous (5 year) period; and
- have a defined professional pathway

The degree programs were:

1. Bachelor of Engineering (Chemical Engineering)
2. Bachelor of Science (Occupational Therapy)
3. Bachelor of Education (Primary Education)

The degrees are diverse in content incorporating a science, health and humanities focus. The workplace settings for which students are preparing are diverse in culture, and employers’ focus and key outcomes. In addition, while all degrees are subject to professional accreditation, the process, protocols and standards for each professional body are different. Each of the discipline areas practice a different model of engaging with industry partners and the selection of students for entry into the degree is based on disparate criteria. Furthermore, the three programs included in this study had robust enrolment numbers (See Appendices A, B and C) thus providing large samples from which to draw data. While there are some broad similarities across these three degree programs, they differ in many fundamental aspects. Each of these degree programs is described in turn.

**3.7.1 Bachelor of Engineering (Chemical Engineering)**

The Bachelor of Engineering (Chemical Engineering) (CE) is a four year full time or equivalent part time program. It covers the development, design and operation of chemical processes and plants for the extraction, conversion and recovery of materials that is based on both chemical and biological systems. Students enter this course via a Bachelor of Engineering pre-major which is a first year program intended to orientate students to the generic field of engineering and provide exposure to all engineering disciplines prior to selecting their major area of study in the second year. The course undergoes professional accreditation with two professional bodies: Engineers Australia (EA) and the Institution of Chemical Engineers (IChemE). The course learning outcomes that students are expected to achieve are:
1. Apply scientific and engineering principles to process engineering design and
development, including sound risk management, environmental and Occupational Health
and Safety (OHS) practice.
2. Think critically and creatively to generate innovative and optimum solutions.
3. Identify, evaluate and synthesise information from a range of sources to optimise process
engineering design and development.
4. Communicate effectively in ways appropriate to the discipline, audience and purpose.
5. Use appropriate information and process technologies (recognising their advantages and
limitations) in the design and development of sustainable process systems.
6. Engage in continuous education, training and research, and take control of their own
learning and development.
7. Recognise and apply international standards and best practice in process engineering.
8. Demonstrate respect for cultural diversity.
9. Be ‘career ready’ for the process engineering profession, demonstrate leadership qualities,
and work ethically and professionally both within a team and independently.

The CE degree attracts a high percentage of males and international students. Appendix A provides
an overview of the demographics of enrolled students from 2012 to 2015 inclusive.

The number of enrolled students has shown steady growth each year since 2012, with the cohort
more than doubling between 2012 and 2015. The number of female students has increased from 14
in 2012 to 50 in 2015, with the highest enrolment figures for females (54 students) occurring in
2014. This is a positive outcome given the drive to improve gender balance in engineering
disciplines. Indigenous students are underrepresented with only one student being among the cohort
in each year. The majority of students are domestic students (Australian or New Zealand citizens
eligible for Commonwealth funding). However, international students are strongly represented with
41.5% of the student population being international in 2012. The percentage of international
students has seen a gradual decline with 25% representing this cohort in 2015. Students are
predominately aged between 15 to 19 years, although this varies across years. In 2015, the 20 to 29
age group showed substantial growth representing 60% of the total students.

Traditionally, teaching in the CE degree has incorporated weekly didactic lectures and tutorial
sessions with student outcomes determined by exams. In recent years, there has been a move to
incorporate WIL pedagogy with the inclusion of problem-solving and active learning where
students work, both individually and in groups, on case studies typical of the workplace.
Furthermore, to be eligible for graduation, all CE students are required to complete 480 hours of
exposure to professional engineering practice at any time during their four year course. A combination of activities which are listed below are considered suitable experiences for meeting this requirement:

- Industry-based projects;
- Attending technical sessions conducted by Engineers Australia (EA);
- Engineering work or assisting trades persons in a production or maintenance environment;
- Industry-based site visits;
- Normal part time work in a non-engineering company.

EA stipulate that the professional engineering practice component of student learning should be monitored and assessed to ensure students develop and reflect on the graduate capabilities required of a novice engineer.

**3.7.2 Bachelor of Science (Occupational Therapy)**

The health course selected for this study was the Bachelor of Science (Occupational Therapy) (OT). The four year full time or part time equivalent program aims to prepare students with the skills and knowledge for the occupational therapy profession, a vocation concerned with promoting health and well-being through occupation. Given this is an area of allied health, a focus of this degree is to equip students with broad skills and knowledge to work collaboratively with individuals or groups of people and communities. Graduates are required to register with the Occupational Therapy Board of Australia (OTB) upon completion of the degree and the course is recognised by the World Federation of Occupation Therapists (WFOT). This international recognition enables graduates to work around the world. The course learning outcomes students are expected to achieve are:

1. Apply occupational therapy knowledge, principles and practice to achieve client-centred and evidence-based outcomes.
2. Demonstrate critical and professional reasoning to generate innovative and effective solutions for occupational therapy practice.
3. Locate, evaluate and synthesise information and contextualise it to contemporary occupational therapy.
4. Communicate effectively and appropriately to ensure active client participation; relevant documentation and reporting; and responsible sharing of professional information.
5. Evaluate and incorporate appropriate technologies to enable participation in meaningful occupation.
6. Aspire to participate in life-long and professional development activities to maintain, enhance and promote occupational therapy.

7. Demonstrate practice that reflects an understanding and appreciation of the influences and relationships between local and global occupational therapy professional standards and practice.

8. Practice occupational therapy in a culturally appropriate and respectful manner incorporating perspectives of multiple stake-holders.

9. Work in a professional and collaborative manner to meet ethical and legal responsibilities.

Appendix B provides the enrolment statistics for the OT degree from 2012 to 2015. The OT degree showed a significant increase in student numbers with 9.8% growth from 2012 to 2015. Indigenous students represent a very small percentage of the cohort averaging about 0.55% of the student group. A marginal majority of the students are aged between 15 and 19 years with an average of 43% belonging to the 20 to 29 year age group. International students comprise between 5.2% (2014) to 8.7% (2012). Females are the dominant gender with males representing 9% of the student population in 2012 to a high of 11.5% in 2015. The data suggests a typical OT student is an Australian, non-Indigenous female aged between 15 and 30 years. The final year of the OT degree comprises almost entirely clinical placement activities where students’ learning is undertaken in a workplace environment.

3.7.3 Bachelor of Education (Primary Education)

The Bachelor of Education (Primary Education) (PE) is four years full time or equivalent part time in duration. The degree prepares students with the broad and coherent knowledge and skills required of the primary school teaching profession. Upon completion, graduates are equipped to teach children ranging from 5-12 years of age. Students are provided opportunities to participate in urban, regional and international internships enabling them to apply theoretical knowledge in a range of appropriate contexts. The program is recognised both nationally and internationally for entry into the primary teaching profession. The course is professionally recognised by the Australian Institute for Teaching and School Leadership (AITSL). The Teachers Registration Board of Western Australia (TRBWA) administers the accreditation process. The Course Learning Outcomes that students are expected to obtain by the end of the degree are:

1. Make informed decisions regarding teaching and learning based on a comprehensive understanding of the learner and application of the curriculum.

2. Be reflective, creative and critical in the approach to teaching and learning and assessment.
3. Decide what information is needed and where it might be found using appropriate technologies; make valid judgements and synthesise information from a range of sources.
4. Communicate effectively and work collaboratively in educational contexts.
5. Use technologies appropriately in educational contexts.
7. Think globally and consider issues from a variety of perspectives; apply international standards and practices within a discipline or professional area.
8. Respect and respond to the diverse needs of students and communities.
9. Demonstrate leadership in education by analysing and applying appropriate practices based on a sound knowledge of the principles of learning, teaching and assessment.

The PE degree has been offered at the University since 1996. The qualification consistently attracts a viable cohort comprising of students from diverse backgrounds. Appendix C demonstrates the diversity of the PE student cohort in terms of age, gender, liability category and cultural heritage from 2012 to 2015.

Enrolment figures in the PE degree remained stable from 2012 to 2014 but showed a slight decline in student numbers in 2015 with approximately 3% fewer students compared with 2012. However, with 499 students enrolled in 2015 across the four years, the course continued to attract a large cohort. The Equivalent Fulltime Student Load (EFTSL) count for 2015 was 361.9 which suggests a proportion of the students study part time. Indigenous students represent a small percentage of the student population with the highest number being in 2013 when four (0.78%) enrolled students identified as Indigenous. The majority of Indigenous students are from the 20 to 29 age bracket and all, except for one student enrolled in 2015, are female. The students are predominantly female with between 16.5% and 23.2% of the total enrolment being male. A slightly higher percentage of students fall into the 20 to 29 age bracket (50% in 2015) than the 15 to 19 age group (40% in 2015). In 2015, 10% of the student cohort were aged over 30 years. This distribution trend across the age groups is consistent in all years. International students comprise between 11 students (2012) to 4 students (2015). The data suggests a typical PE student is an Australian, non-Indigenous female aged between 15 and 30 years.

The PE degree provides several opportunities for students to integrate the theories of teaching within a real-world setting through a series of WIL placements. Placements progressively increase in duration and intensity throughout the degree. The placements begin with observational sessions in a primary school in years one and two. Students attend a two week placement in semester one
year two, followed by a three week placement in semester two. Third year students undertake a four week placement in semester two. The degree culminates with a ten week full time work placement in the second semester of fourth year.

3.8 Data Sources, Data Collection Methods and Data Analysis

Data was collected from five different stakeholders: Current students, graduates, employers, teaching staff, and representatives from the professional bodies responsible for accrediting the qualifications involved in the study. This group of stakeholders are direct beneficiaries of graduates and have a substantial investment in their university experience. The Course Experience Questionnaire (CEQ), Graduate Employability Indicator (GEI) Surveys, Graduate Destination Survey (GDS), and content analysis generated quantitative and qualitative data. Additional qualitative components of this research included individual and small group interviews, and responses to open ended questions in the CEQ and the GEI surveys.

The inherent complexities of the research questions and the involvement of multiple stakeholders required a stratified approach to sequence data collection where quantitative and qualitative data were combined to strengthen research outcomes. A description of each data source, the data collection methods and analysis techniques are presented below for each of the three phases.

3.8.1 Phase One: Important Components and Gaps in a University Education

Data collection in Phase One included the perspectives of employers, graduates and teaching staff on the quality of the learning experience and skill development embedded in the degree. Data collection methods included the CEQ and GEI Surveys. Data collected from these instruments addressed both Research Question One (What are the important components of a university education that support the development of employability capabilities?) and Research Question Two (What are stakeholders’ perceptions of the gaps in the skills and knowledge of graduates in workplace preparedness?)

Course Experience Questionnaire (CEQ)

The Australian Graduate Survey (AGS) is a national survey of which the CEQ forms a part. Graduate Careers Australia (GCA) administers the CEQ annually to graduates from the preceding year and discloses the data on a public website (https://www.qilt.edu.au/) with the intention of assisting prospective students in making decisions on which university would best suit their aspirations. See Appendix D for a copy of the AGS. The CEQ, which has been administered to graduates of Australian universities since 1972, has helped shape the Australian higher education
system through providing a consistent metric for determining graduate outcomes across Australia (Graduate Careers Australia, 2016). The CEQ is a validated instrument and has been the subject of extensive research across Australia (Oliver, Whelan, Hunt & Hammer, 2011). The Australian Government Department of Education and Training provides the funds for oversight of the CEQ. It should be noted that the 2015 AGS (2014 graduates) was the final survey round after being in operation for 43 years.

The CEQ investigates graduates’ perceptions of the quality of the learning and their levels of satisfaction with their university experience through the collection of both quantitative and qualitative data. The survey takes approximately 10 to 15 minutes to complete and names are removed once questionnaires are submitted, ensuring individual responses are not identifiable. The questionnaire specifically targets undergraduate coursework students. The CEQ consists of 23 quantitative items which asks graduates' opinions of their course using a five-point Likert scale from Strongly Disagree to Strongly Agree. The qualitative section of the questionnaire incorporates two open ended questions about the best aspects and areas needing improvement relating to the course.

The quantitative component of the CEQ encompasses a total of 11 categories (termed scales) that each probe a different component of the course experience. A copy of the CEQ can be found in Appendix D. Five of the eleven scales were deemed relevant for the purposes of this research. These five scales and corresponding items are shown in Table 3.4. As indicated in Table 3.4, some items are mandatory (core) for universities to include in the CEQ while others are optional.
Table 3.4  
Scales and Items from the Course Experience Questionnaire used in this Research

<table>
<thead>
<tr>
<th>Scale</th>
<th>Label</th>
<th>Numerical Allocation</th>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Goals and Standards</td>
<td>CGS28</td>
<td>4</td>
<td>I usually had a clear idea of where I was going and what was expected of me in this course</td>
<td>Optional</td>
</tr>
<tr>
<td></td>
<td>CGS08</td>
<td>5</td>
<td>It was always easy to know the standard of work expected</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CGS39</td>
<td>6</td>
<td>It was often hard to know what was expected of me in this course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CGS46</td>
<td>18</td>
<td>The staff made it clear right from the start what they expected from students</td>
<td></td>
</tr>
<tr>
<td>Generic Skills</td>
<td>GSS42</td>
<td>1</td>
<td>As a result of my course, I feel confident about tackling unfamiliar problems</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>GSS43</td>
<td>7</td>
<td>My course helped me to develop the ability to plan my own work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSS23</td>
<td>12</td>
<td>The course developed my problem-solving skills.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSS06</td>
<td>13</td>
<td>The course helped me to develop my ability to work as a team member.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSS32</td>
<td>14</td>
<td>The course improved my skills in written communication.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSS14</td>
<td>16</td>
<td>The course sharpened my analytic skills.</td>
<td></td>
</tr>
<tr>
<td>Good Teaching</td>
<td>GTS01</td>
<td>8</td>
<td>My lecturers were extremely good at explaining things</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>GTS03</td>
<td>17</td>
<td>The staff made a real effort to understand difficulties I might be having with my work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GTS10</td>
<td>19</td>
<td>The staff put a lot of time into commenting on my work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GTS15</td>
<td>20</td>
<td>The teaching staff normally gave me helpful feedback on how I was going</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GTS16</td>
<td>21</td>
<td>The teaching staff motivated me to do my best work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GTS27</td>
<td>22</td>
<td>The staff worked hard to make their subjects interesting</td>
<td></td>
</tr>
<tr>
<td>Graduate Qualities</td>
<td>GQS40</td>
<td>2</td>
<td>I consider what I learned valuable for my future.</td>
<td>Optional</td>
</tr>
<tr>
<td></td>
<td>GQS36</td>
<td>3</td>
<td>I learned to apply principles from this course to new situations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GQS48</td>
<td>9</td>
<td>My university experience encouraged me to value perspectives other than my own.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GQS17</td>
<td>11</td>
<td>The course developed my confidence to investigate new ideas.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GQS11</td>
<td>15</td>
<td>The course provided me with a broad overview of my field of knowledge.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GQS30</td>
<td>23</td>
<td>University stimulated my enthusiasm for further learning.</td>
<td></td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>OSI49</td>
<td>10</td>
<td>Overall, I was satisfied with the quality of this course.</td>
<td>Core</td>
</tr>
</tbody>
</table>

These particular scales were selected as the items explored graduates’ perceptions of the value of the course in relation to the development of professional capacity. The Generic Skills scale includes items on the development of teamwork, problem solving, communication and time-management skills throughout the degree. The Graduate Qualities scale incorporates items that inform lifelong learning skills and the ability to transfer knowledge and skills to different contexts, both of which are considered essential employability competencies to compete in a globally-mobile workforce.
The Overall Satisfaction was valuable for providing an inclusive perception of the value of the entire degree and compare responses with other scales.

The qualitative section of the questionnaire invites respondents to answer two questions:

- What were the best aspects of your course?
- What aspects of your course were most in need of improvement?

CEQ quantitative and qualitative data was collected from 2012 graduates (collected 2013), 2013 graduates (collected 2014) and 2014 graduates (collected 2015) graduates of the three programs. This time period was deemed relevant to the study as it preceded the majority of individual and small group student interviews and provided the foundational evidence on which to initiate analysis of qualitative data. This enabled factoring emerging findings from the CEQ into the interviews. Incorporating three CEQ events into the data sources allowed determination of consistent trends across different graduating cohorts, thereby strengthening claims.

**Data Collection**

GCA was ultimately responsible for the rigour of the AGS but each university administers it to their own graduands, albeit with very strict guidelines and code of behaviour monitored and enforced by GCA. CEQ responses may be collected via email, or in paper-based format via the post. The university may also choose to undertake telephone interviews (adherence to specified telephone protocols is required) although this is a resource intensive method and not the preferred approach. The University in this study uses the telephone approach to increase participation by telephoning non-responders. CEQ data may also be collected in person (face to face).

With institutional ethics approval, the CEQ data was extracted from the data warehouse tool which the University has built to assist in gathering analytics and facilitate accurate reporting. The tool is a data warehousing repository which houses an abundance of information used to inform how the University is performing and how it might improve operations. CEQ data was collected for each degree program across three years: graduates from 2012, 2013 and 2014. A total of 179 CE graduates responded to the three surveys and 321 comments were collected. One hundred and eighty OT graduates responded across the three survey events and provided 336 comments. Respondents in PE numbered 117 with 518 comments.

**Data Analysis**

The quantitative CEQ data was downloaded via Excel and analysed using Statistical Package for the Social Sciences (SPSS). A descriptive analysis of the data determining measures of central tendency
and the variation to accurately interpret the mean was undertaken (Punch, 2005). A numeric value was assigned to each of the response categories in the survey with Strongly Disagree given 1 to Strongly Agree allocated 5. A codebook was created itemising the response code, item number, and an ID for each respondent. The frequency distribution showing graduates’ responses with each item was produced. This analysis was completed for the CEQ data in each of the three case studies. A one-way Analysis of Variance (ANOVA) enabled a comparison of responses between the three discipline groups. The variance between the groups was compared to the variance within each of the groups to determine if responses from each of the three discipline areas differed.

Following analysis of the quantitative data, the qualitative data was analysed using NVivo. The NVivo platform enabled an in-depth analysis of the textual, unstructured data gathered in the CEQ survey. NVivo enabled the researcher to import, organise, classify and code the qualitative responses. Nodes in NVivo were created based on trends evident in the quantitative data (deductive) and emerging trends from the qualitative data (inductive). Once data was uploaded into NVivo, it was sorted according to the nodes which enabled subtle connections to be uncovered. The analyses of qualitative data after the quantitative analysis was considered a way of expanding on the overarching feedback and relaying comments to specific items.

**Graduate Employability Indicator (GEI) Surveys**

The GEI Surveys are a suite of three online surveys intended to gather the perceptions of graduates (of up to five years), employers and teaching staff on the most highly regarded employability capabilities of the profession and the gaps in graduates’ generic skills, highlighting deficits in the course experience. See Appendix E for a copy of the GEI surveys. The GEI surveys were developed as an outcome of an Australian Learning and Teaching Council (ALTC) Competitive Grant, Building course team capacity to enhance graduate employability led by Oliver (Oliver & Whelan, 2011). Oliver and Whelan established that “respondents were consistent and logical in their response choice” (p. 7), confirming the validity and reliability of the GEI Surveys. The results from the GEI Surveys provided information about the effectiveness of a course in developing employability capabilities from the perspectives of each of the stakeholders. Perceptions of graduates, employers and staff informed the value of the degree in incorporating opportunities for students to practice and develop generic skills deemed important for work-ready graduates. Furthermore, each category of respondent considered the importance of a range of skill sets deemed essential for graduates of the relevant profession. The Surveys gathered both quantitative and qualitative data which provided evidence to answer the following questions in relation to graduates of a degree program:
1. How important are the capabilities for early professional success?
2. To what extent do graduates generally demonstrate the capabilities (according to employers and teaching staff), or do courses contribute to their development (according to graduates)?
3. To what extent are graduates work-ready?
4. How confident are teaching staff in teaching and assessing the capabilities?
5. Which are the capabilities that are most important yet demonstrated or developed to a lesser extent? (Oliver & Whelan, 2011, p. 16)

The GEI Surveys comprise 14 employability capabilities and overall work-readiness:

1. Work-related knowledge and skills
2. Writing clearly and effectively
3. Speaking clearly and effectively
4. Thinking critically and analytically
5. Analysing quantitative problems
6. Using computers and information technology
7. Working effectively with others
8. Learning effectively on your own
9. Understanding people of other racial and ethnic backgrounds
10. Solving complex, real-world problems
11. Developing a personal code of values and ethics
12. Contributing to the welfare of your community
13. Developing general industry awareness
14. Understanding different social contexts
15. Overall work-readiness (Oliver & Whelan, 2011, p. 14)

The items are based on attributes, skills and personal qualities (Oliver & Whelan, 2011). The Surveys (See Appendix E) used a 4-point Likert scale ranging from Very little to Very much for the extent to which new graduates demonstrated particular skills. When responding to how important they perceived each skill to be, respondents selected from Very little importance to Very important. Teaching staff were also asked to rate their level of confidence with teaching and assessing skills using Very little confidence to Very confident. All respondents were invited to comment on qualitative items which are outlined below. The GEI surveys also collected demographic information about each of the stakeholders. Appendices F, G and H provide details of sample demographics and number of responses for each discipline.
For each of the employability capabilities listed above, graduates were required to assign a rating for each item as shown below:

- To what extent did your experience during this degree contribute to your development in the following areas?
- How important do you think each of the skills are to the employment success of new graduates of this degree?

Graduate respondents were also invited to provide comment on the following questions:

- What were the best aspects of this degree in developing your skills for employment?
- How could the degree be changed to improve your skills for employment?

For each of the employability capabilities listed above employers were asked:

- To what extent do new graduates generally demonstrate each of the following?
- How important do you think each of the following is to the employment success of new graduates of this degree?

In addition, employer respondents were invited to provide comment on the following questions:

- What skills, attributes and personal qualities do you consider to be the most useful for new graduates in this field?
- Which (if any) skills, attributes and personal qualities of new graduates would you prioritise for improvement?

For each of the employability capabilities listed above teaching staff were asked:

- To what extent do new graduates generally demonstrate each of the following?
- How important do you think each of the following is to the employment success of new graduates of this degree?
- How confident are you in teaching each of the following?
- How confident are you in assessing each of the following?

Teaching staff respondents were also invited to provide comment on the following questions:

- What do you see as the main incentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
- What do you see as the main disincentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
• What do you see as your role in assisting students to develop these attributes, skills and personal qualities?
• What sort of staff development opportunities would increase your confidence to teach and assess work-related skills, attributes and personal qualities?

Collectively, the answers to these questions informed the impact of the degree in producing work-ready graduates.

**Data Collection**

Snowball sampling was used to extend the reach of the GEI Survey to respondents. Snowball sampling is a process whereby research participants are invited to identify individuals who may provide valuable input to the data collection process. This approach enables the initial sample size to “snowball” into a larger sample (Wolfer, 2007). The use of snowball sampling boosts the number of respondents but negates the possibility of determining response rates and ensuring the sample population is representative (Creswell, 2012). The GEI Surveys were customised for each of the three case studies by adapting language suitable for the discipline. GEI Surveys were emailed to graduates through the University’s Alumni Office which distributed the survey to graduates from the preceding five years. The Head of School for each of the discipline areas sent the GEI Survey link to teaching staff on behalf of the researcher. The Head of School was also the conduit for connecting with relevant employers and emailed the GEI Survey link to employer contacts and representatives from industry advocacy groups known as peak industry bodies. Respondents to the GEI Surveys were invited to forward the survey to other employers as a way of capturing more data. Thirty two graduates, four employers, and six staff provided responses to the GEI Surveys for CE. For OT, 26 graduates, 37 employers and 19 staff responded. The Surveys for PE attracted responses from 30 graduates, 10 employers, and nine staff.

**Data Analysis**

The quantitative GEI data was exported to Excel spreadsheets and analysed using Excel functions. Frequency distribution tables showing respondents’ perceptions were created and the data from graduates, employers and teaching staff triangulated to compare stakeholder perceptions for each degree program. This process enabled gaps between the skills respondents perceived as important and how effectively they were addressed in the degree program to be determined. A radar chart was used to represent the gaps visually. A radar chart is a two dimensional diagram useful for presenting multivariate data graphically (Nowicki & Merenstein, 2016). The variation in the gaps between each of the case studies was compared.
As with the qualitative data collected via the CEQ instrument, qualitative responses in the GEI were sorted into broad themes apparent in quantitative data and building on those used in the CEQ analysis. Using a deductive approach, existing themes provided the basis for organising and summarising data in preparation for more detailed inductive analysis (Punch, 2005). This approach informed the nodes created in NVivo for analysis and connections. The qualitative data were analysed following the quantitative data, to build on and supplement findings evident in the numerical responses.

3.8.2 Phase Two: Graduate Outcomes and Student Perspectives

While Phase One data collection and analysis established stakeholder perceptions about the quality of the learning experience and the employability of graduates, Phase Two data explored the impact of Phase One findings on employment outcomes and student perceptions of their course. Phase Two of the data collection and analysis addressed RQ1 and RQ2 pertaining to students’ perspectives on the value of the degree for developing industry networks and how this impacted on future career aspirations and awareness of the professional context for which they were studying.

The GDS collects data from recent graduates about their employment and study after completion of their undergraduate degree. Individual and small group interviews provided the means for collecting qualitative data pertaining to students’ perceptions. Findings from Phase One informed the development of questions posed to students during individual and small group interviews. The data was interrogated to ascertain a link between graduate employment outcomes and the perceptions of students in relation to their preparation for professional life.

Graduate Destination Surveys (GDS)

The GDS is administered as part of the AGS together with the CEQ as outlined in Section 3.8.1. The GDS survey provided information about employment outcomes of graduates including employment history, ongoing study, work-seeking activities, past education and demographic characteristics such as recent qualifications and residency status. The GDS comprises a mixture of questions to which an answer is selected from a list of options, and written responses (See Appendix D). The survey is divided into categories which each contain a series of questions. Data from the following three categories were used to inform this study:

- current paid work status (22 items);
- importance of qualifications to employment (six items);
- job search strategies (two items).

Ten to 15 minutes is required to complete the survey.
Data Collection

The GDS data was collected at the same time and in the same way as the CEQ outlined in Section 3.8.1. The University houses this data in the data warehousing tool. The GDS data was scrutinised concurrently with the CEQ data. The data collected through the GDS comprised quantitative and qualitative information. Table 3.5 provides a description of the quantitative and qualitative data collected in each category.

The frequency of responses was calculated for each program. Employment outcomes and sources for securing employment were compared across the programs. This information was collated to ascertain whether graduates were working in the discipline area for which they studied and in what capacity they were employed. The GDS data also provided an insight into the relevance of their degree studies in preparing them for the workplace.

Table 3.5
Quantitative and Qualitative Data Collected in Each Category of the GDS

<table>
<thead>
<tr>
<th>Category</th>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your job search strategies</td>
<td>1. Frequency of job search strategy options selected (11 options)</td>
<td>Nil</td>
</tr>
<tr>
<td>About you</td>
<td>1. Frequency of international and domestic students</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>2. Frequency of level of previous qualification (six options)</td>
<td></td>
</tr>
<tr>
<td>Current paid work status</td>
<td>1. Frequency of employment type (three options)</td>
<td>1. Name and business of employers</td>
</tr>
<tr>
<td></td>
<td>2. Frequency of those seeking employment</td>
<td>2. Occupation title</td>
</tr>
<tr>
<td></td>
<td>3. Frequency of those working in Australia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Frequency of employment sector (three options)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Frequency of those self-employed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Frequency of important factors to current employment (three options)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Frequency of source for securing position (12 options)</td>
<td></td>
</tr>
</tbody>
</table>

Data Analysis

Individual and Small Group Student Interviews

Individual and small group interviews with current students from the three programs were undertaken in Phase Two to further investigate graduates’ perceptions emerging from the survey data in Phase One. Interviews provide a mechanism to explore participants’ personal experiences and perceptions, and probe ideas to prompt more detailed evidence (Merriam, 2009). Additionally,
interviews are a valuable technique for confirming or contesting research outcomes (Fraenkel & Wallen, 2003), and are a “very adaptable and powerful method” (Dunne, Pryor & Yates, 2005, p. 27) for data collection. While targeted questions can be asked, interviews can be sufficiently flexible to explore ideas as they arise. However, interviews are time-consuming, and the interviewer’s approach may potentially influence responses (Johnson & Turner, 2003). In small group interviews (3-4 participants), participants meet to discuss specific issues with in a fixed timeframe (Ogunbameru, 2003). A small group is designed to be a nonthreatening environment where participants freely express ideas and opinions. While the interviewer’s approach may still impact on how a small group interview functions, the “social context” of a small group interview reduces the influence of the interviewer (Ogunbameru, 2003).

While the intrinsic differences between a small group interview and an individual interview format are acknowledged, a combination of both approaches was adopted to maximise personalised, qualitative data captured from current students. The guiding questions were the same in both formats (See Appendix I), though Ogunbameru (2003) sees small group participants as potentially being influenced by the responses of other attendees. In an interview scenario, the interviewer may inadvertently “engineer the direction of the interview” (p. 4), thereby unintentionally directing the conversation. The complementary data from individual and small group interviews may also have captured input from stakeholders who are less likely to complete a survey.

Data Collection

A variety of approaches were employed to recruit students. These included brief presentations to students immediately following lectures to explain the purpose of the project and invite them to contact the researcher should they wish to participate. Students were also invited to contact the researcher via unit Learning Management System sites (Blackboard). Students with whom the researcher came into direct contact with from each discipline were also invited to participate. Due to student availability, the size of groups varied. The same questions were used in both interview formats but the dynamics differed in that during the small group interviews there was increased discussion. At the start of the interviews all participants were reminded about the purpose and voluntary nature of the research and provided with an information sheet and a consent form to sign (See Section 3.10 on ethical considerations). Table 3.6 provides an overview of the number of small group and individual interviews conducted for each discipline. A total of 29 students across the three cases were interviewed. Nine were CE students, seven from OT and 13 were studying PE. There were nine questions in total with probing questions relevant to the conversation during the interviews. All individual and small group interviews were audio recorded (with the permission of
participants) and transcribed. Demographic information such as previous and current work experience, previous study and credit-bearing work placements were obtained before formal questioning. All individual and small group interviews were conducted in a face to face mode and were of 60 to 90 minutes in duration.

Table 3.6
**Number of Students per Discipline to Attend Individual or Small Group Interviews**

<table>
<thead>
<tr>
<th></th>
<th>Chemical Engineering</th>
<th>Occupational Therapy</th>
<th>Primary Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Interviews</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Focus Group Interviews</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small group A(CE)</td>
<td>4 participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small group B(CE)</td>
<td>3 participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small group A(OT)</td>
<td>3 participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small group B(OT)</td>
<td>4 participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small group A(PE)</td>
<td>5 participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small group B(PE)</td>
<td>6 participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL STUDENTS</td>
<td>9</td>
<td>7</td>
<td>13</td>
</tr>
</tbody>
</table>

**Data Analysis**

Individual and small group interview data were transcribed, coded and categorised according to textual patterns pertinent to the research questions using inductive analysis. An a priori analysis, where coding schemes were developed prior to analysis with pre-determined themes from the GEI and CEQ, was undertaken in combination with an inductive approach which allowed for new themes to be identified. This process of analytical coding enabled the illumination of emerging themes. Each transcript was read, and preliminary coding undertaken, which Merriam (2009) refers to as “open coding” (p. 178). Concepts and key themes or patterns (Braun & Clarke, 2006) relating to the research questions were noted for each record. Through this iterative process, a series of categories were identified which were then consolidated into broad taxonomies, each of which incorporated a list of relevant sub-themes devised as a result of the repetitious and cumulative nature of the analysis. As endorsed by Braun and Clarke (2006), a mind-map was created to provide a visual representation of the themes thereby facilitating a “concrete” mechanism for determining the analysis of the qualitative data. The collection of the qualitative data and the analysis of that data were undertaken simultaneously. According to Merriam (2009), this approach is both “parsimonious and illuminating” (p. 171) as it enables findings to inform refinement of the research design thereby strengthening research outcomes. This enabled a comparative study culminating in
3.8.3 Phase Three: Stakeholder Perspectives and Assessment Profiles

The final phase of data collection and analysis informed RQs 2, 3 and 4. This phase involved interviews with an employer, teaching staff, heads of school, and representatives from professional accrediting bodies who elaborated on the quality of the learning experiences and the nature of industry – university partnerships which informed the curriculum. This phase also involved perusal of curriculum documentation in order to connect student and graduate perceptions gathered in the previous phases to the focus, content and experiences the particular curriculum afforded.

Interviews with Employers and Professional Body Representatives

Interviews were conducted with representatives from professional bodies and employers to complement quantitative data and delve further into findings that emerged from data sources in Phases One and Two. The purpose of this phase of data collection was to ascertain the employers’ and professional body representatives’ perceptions of gaps in the skills and knowledge of graduates in workplace preparedness (RQ2), impact of embedding WIL experiences in curricula on the employability capabilities of graduates (RQ3), and how partnerships between higher education institutions and industry facilitate successful outcomes in preparing work-ready graduates (RQ4).

Data Collection

Employers of graduates from each of the three disciplines included in this research were invited to attend an interview. The intended outcomes of the interviews were to probe further into the perceived gaps in the skills and knowledge of graduates in workplace preparedness identified through GEI data in Phase One of the research (See Section 3.8.1). The interviews also incorporated a discussion on the impact of embedding WIL in curricula on the development of employability capabilities and professional identity from the employer’s viewpoint. Through presenting carefully constructed open ended questions (See Appendix J), the important components of a university curriculum through the eyes of the employer were gleaned. The notion of partnerships between industry and higher education institutions and their strategic relevance in nurturing work-ready graduates also featured in the conversation.

The interview was semi-structured in format with the same questions asked of each interviewee for a consistent approach and systematic data collection (Patton, 1990). While this approach is perceived to “reduce flexibility and spontaneity” (p. 281), interviewees were invited to elaborate on
particular aspects and the relaxed nature of the interviews allowed the interviewee to guide the discussion.

To explore the concept of professional identity indicative of each of the three disciplines and connect the concept with employability, interviews were conducted with a representative from the professional bodies relevant to each discipline. Table 3.7 provides a list of professional accreditation bodies for each of the three disciplines from which employers were interviewed. The interviewees in this phase had a mixture of experience which incorporated being an industry-based employer, previous experience in university-based teaching, and a member of the Professional Accreditation Board. This provided rich, multi-perspective information which was useful for drawing the data together. The interviews were designed to gather feedback about the impact of embedding WIL in the curriculum, the importance of WIL experiences in quality assurance and professional accreditation, the role of WIL in building students’ sense of professional identity, and workable partnership models between industry and higher education institutions.

Table 3.7
Professional Accreditation Body Representatives Interviewed for Each Case Study

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Professional Accrediting Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering</td>
<td>Engineers Australia (EA)</td>
</tr>
<tr>
<td></td>
<td>Institute of Chemical Engineering (IChemE)</td>
</tr>
<tr>
<td>Primary Education</td>
<td>Australian Institute for Teaching and School Leadership (AITSL)</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>Occupational Therapy Board of Australia</td>
</tr>
</tbody>
</table>

Contact with an appropriate representative from the accrediting body was made through the School responsible for delivering the course and designing a curriculum that adequately addressed the professional competencies. Once the connection was in place, the representative was emailed with details of the project and invited to be interviewed. Upon agreement to be interviewed the interview questions were forwarded and a suitable time negotiated. Interviews ranged from 45 to 90 minutes duration. The interviews were audio-recorded and transcribed for analysis purposes.

Data Analysis

Interview audio files were transcribed and interrogated for the reoccurrence of themes that had appeared in Phases One and Two of the data collection. Ideas that had not been present in previous sources of data were recorded and identified as new themes. Frequency of themes were counted and compared across disciplines and previous results.
Interviews with University Staff

Nine staff involved in course design, supervision of WIL activities or/and course accreditation were invited to be interviewed. Staff had previously been alerted to this research in the development phase of the proposal so were aware of the impending interview. Three staff, including the Head of School, from each discipline were interviewed. Table 3.8 provides a summary of university staff interviews for each discipline area.

Table 3.8
Summary of University Staff Interviews

<table>
<thead>
<tr>
<th>Chemical Engineering (CE)</th>
<th>Occupational Therapy (OT)</th>
<th>Primary Education (PE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of School</td>
<td>Head of School</td>
<td>Head of School</td>
</tr>
<tr>
<td>Staff One (Teaching, course accreditation and curriculum design)</td>
<td>Staff One (Teaching, course accreditation and curriculum design)</td>
<td>Staff One (Teaching, course accreditation and curriculum design)</td>
</tr>
<tr>
<td>Staff Two (Course accreditation)</td>
<td>Staff Two (WIL Coordinator and course accreditation)</td>
<td>Staff Two (WIL Coordinator and course accreditation)</td>
</tr>
</tbody>
</table>

Data collection

Staff were invited to participate via email and upon agreement to the interview, a mutually agreeable time was negotiated. A participant consent form was signed and collected, and interviews were audio-recorded and transcribed. Interviews of approximately one hour duration were conducted at the University. Questions for university staff interviews are provided in Appendix K.

Data analysis

Interview audio files were transcribed and interrogated for the reoccurrence of themes that had appeared in phase one of the data collection. Ideas that had not been present in previous sources of data were recorded and identified as new themes. Frequency of themes were counted and compared across disciplines and to previous data analysis.

Content Analysis of Curriculum Documents

The prescribed curriculum documents of the three degrees were examined to determine the relevance and authenticity of the learning experiences and assessment tasks to the workplace. This documentation included the following components for each unit (subject) for each of the three disciplines:
• Syllabus (unit description);
• Learning outcomes;
• Level of thinking aligned to learning outcomes (Bloom’s Taxonomy);
• Formative and summative assessment tasks;
• Nature of feedback to students; and
• Involvement of industry partners in the teaching.

Analysis of these documents provided evidence of the learning experiences students encountered during their studies which enabled the following to be identified:

• Components of a university education considered important by stakeholders (RQ1);
• Evidence of gaps in the student experience as identified by stakeholders (RQ2);
• The occurrence and intensity of WIL in the curriculum (RQ3); and
• The involvement of industry partners in the student experience (RQ4).

Content analysis of curriculum documents enabled content to be quantified using predetermined categories in a systematic manner (Bryman, 2004). Based on previous contemporary research, descriptors pertaining to the type of WIL were developed and a template created to measure specific curriculum attributes (See Section 2.4). The descriptors provided the “analytical constructs or rules of inference” (White & Marsh, 2006, p. 27). This structured approach provided a “means of systemising and quantifying data” (Fraenkel & Wallen, 2003, p. 482). Fraenkel and Wallen cite curriculum patterns as an ideal data source for using content analysis. Table 3.9 shows the five descriptors used to determine the authenticity of WIL evident in a unit of study which collectively provides an indication of the applicability of students’ learning experiences for each discipline. These data were useful for showing a connection between the perspectives of students, graduates, employers and teaching staff, and the learning experiences evident in the curriculum.

Table 3.9
Descriptors for Categorising the Authenticity of WIL in Curriculum Documents

<table>
<thead>
<tr>
<th>Category</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>Theoretical based unit</td>
</tr>
<tr>
<td>Not Evident</td>
<td>There is no evidence of WIL in the unit</td>
</tr>
<tr>
<td>Emerging</td>
<td>WIL is evident in some unit learning outcomes and aligned to authentic assessment tasks</td>
</tr>
<tr>
<td>Developing</td>
<td>WIL is evident and the assessment profile shows authenticity and a focus on employability skills</td>
</tr>
<tr>
<td>Highly Developed</td>
<td>WIL is evident in all unit learning outcomes and the assessment profile shows authenticity, a focus on employability skills and takes place in the work or community-setting.</td>
</tr>
</tbody>
</table>
Consistency in applying the descriptors to curriculum text was essential for ensuring a rigorous content analysis exercise. The colleagues with curriculum design also assigned the WIL descriptors to the curriculum documents for intercoder reliability, which is critical in content analysis (Neuendorf, 2002) for validating findings. The analytical constructs used for this content analysis were based on previous research which was revisited and refined for the purposes of this research by reviewing and rewriting the descriptors that define the categories of WIL (See Section 2.4.2).

**Authentic Assessment Framework (AAF)**

The Authentic Assessment Framework (AAF) (See Section 2.4.3) is used to inform curriculum design through scaffolding authentic and developmental learning outcomes and assessment tasks across a degree program, ultimately providing real-world relevant learning experiences for students (Bosco & Ferns, 2014). The AAF provides “direction for developmentally appropriate, student-focused, and actively engaging assessment (learning) strategies” (p. 282). This directly relates to the research questions which explored the effectiveness of curriculum in preparing students for employment and developing a professional identity. The value of the AAF was that it enhanced the likelihood of the replication of descriptor allocations to subjects, a crucial element of robust research and a useful technique for collecting evidence to validate “slippery, abstract phenomena” (Schamber, 2000, p. 734).

The two elements of content analysis of curriculum documents included linguistic interpretations and translation into what it meant in terms of curriculum and the student experience. Hence, converting the complexity of the AAF into broad brush descriptors increases validity of the measurement of the concept. The approach was qualitative in that it involved the interpretation of text/language and quantitative in the way the data was collected, analysed and interpreted. The a priori design adopted in this data-gathering exercise addressed the objectivity and inter-subjectivity requirement, as variables (WIL descriptors) were selected prior to data collection so the same rules applied to all curriculum documentation (Neuendorf, 2002).

**Data Collection**

Typically, each four year course comprises 32 semester long units (subjects). In order to interrogate the curriculum for each course, the curriculum information for each subject included in the case study degrees was examined for evidence of WIL (See Section 3.8.3). Using the descriptors outlined in Table 3.9 and the AAF, each unit was allocated a category of WIL according to the authenticity of the learning outcomes and assessments. To avoid making subjective decisions based on the textual representation of the learning experience only, allocating the WIL category was
undertaken in conjunction with a colleague involved in the design of the curriculum. A meeting at which the WIL descriptors were assigned was arranged with the relevant staff. This was undertaken to ensure the intent of the curriculum design was captured. However, it was also noted if intent of the learning experience was not accurately reflected in the wording of the curriculum information whereby enactment of the curriculum differed from what was written.

**Data analysis**

A count of each WIL category across the course and a visual representation of the different WIL categories was created to graphically present the level of authentic activity evident in the student experience for each program (Bosco & Ferns, 2014). This was compared across each of the degree programs and linked to data collected in Phases One, Two and Three.

The content analysis of curriculum documents incorporated both quantitative and qualitative components. The qualitative component of the content analysis centred on the overall meaning, communication strategies and nuances evident in the document. Recurring themes and divergent aspects were captured enabling a comparative study. A benefit of content analysis is its flexibility (White & Marsh, 2006) and the appropriateness of it for divergent research paradigms. A blended approach was adopted for the purposes of this study where the interpretation and categorisation of textual data was presented in a numerical summary showing the frequency of themes. A deductive approach was used as data was coded using descriptors established through previous research. The coding scheme was determined a priori (before coding begins) which Neuendorff (2002) deems essential when undertaking content analysis as he attests that an inductive approach “violates the guidelines for scientific endeavour” (p. 11). The analytical constructs used to code the data had evolved over time through previous research (Bosco & Ferns, 2014). Text was aligned to one of five descriptors to code data (See Table 3.9). The coding scheme encompassed clear definitions for each descriptor, and a framework known as the AAF (see Section 2.4.3) to ensure consistency of categorisation across degree programs (White & Marsh, 2006) but sufficiently generic to allow for discipline uniqueness and terminology specific to the area of study. The descriptors were then quantified using frequency graphs. The systematic and rigorous process used gave sometimes amorphous text a structural context.

Content analysis is suited particularly well to mixed methods studies as it applies and integrates both quantitative and qualitative approaches skilfully to provide a ‘measure’ for the implications of text. A deductive method of content analysis was selected for the purposes of this study as it tests hypotheses, it does not develop them (White & Marsh, 2006). The purpose of quantifying the textual implications of the curriculum for each of the case study degree programs was to judge the
level of authenticity in the students’ learning experiences and assessments and link this to feedback from students, graduates, and employers.

3.9 Quality of the Research Design

The quality of the research design is verified by the rigour of identifying, collecting and analysing data and adherence to the assumptions implicit in the research strategies (Coll & Kalnins, 2009). Justification of data appropriateness, analytical methods, and the basis on which findings are premised is essential for credibility of the research (Tashakkori & Teddlie, 2003). Creswell (2009) recommends the use of validity procedures for both quantitative and qualitative data when using a mixed methods research design. Creswell and Plano Clark (2011) promote that a quality mixed methods study has the following attributes (p. 268):

- Collects both quantitative and qualitative data;
- Employs persuasive and rigorous procedures in the methods of data collection and analysis;
- Integrates or mixes the two sources of data so that that their combined use provides a better understanding of the research problem than one source or the other;
- Includes the use of a mixed methods research design and integrates all features of the study consistent with the design;
- Frames the study with philosophical assumptions; and
- Conveys the research using terms that are consistent with those being used in the mixed methods field today.

The rationale provided in this chapter addresses each of these criteria demonstrating the quality of the research design. Furthermore, the multi-faceted research questions warranted a sophisticated and inclusive research design, thus meeting the need for appropriateness of the design to the research questions (Bryman, 2004).

This research employed a multi-dimensional and multi-layered design with coherently connected and integrated data where preceding phases of the research informed subsequent phases. The outcomes of this multiple case study research design are strengthened by the complementary manner in which the data collection and analysis has been conducted and the use of naturalistic (qualitative) data to probe and strengthen rationalistic (quantitative) data (Morse, Barrett, Mayan, Olson & Spiers, 2002). The phased approach enabled the analysis of data to be shaped and adjusted as the study progressed.
According to Creswell and Plano Clark (2011), a quality research project needs to be “generalisable, valid, reliable and replicable” (p. 266). The diversity of disciplines, the large number of respondents to the various instruments, and the merging of quantitative and qualitative data to consolidate outcomes is indicative of the generalizability of this research. The two survey instruments used (CEQ and GEI) have existed for some years (CEQ since 1973 and GEI since 2011) and were designed to collect feedback from stakeholders on questions that reflect the research questions in this study. Validity refers to whether an instrument actually measures what it was designed to measure (Field, 2009). Both the CEQ and GEI were used in this research to seek answers based on the original purpose of the instruments. Validity was further enhanced as the phased design consolidated earlier findings and built on them, therefore corroborating findings. In addition, the use of individual and small group interviews to harness the student voice had high face validity as this method is easily understood by participants and is non-threatening as people are in natural situations (Ogunbameru, 2003). The sequencing of numerous data sources also enabled triangulation of the data which reinforced the research findings.

Lincoln and Guba (1985) describe four criteria to assess the “truth value” of content analysis: credibility, transferability, dependability, confirmability. To check these criteria were adhered to in the content analysis phase, a colleague with similar experience in curriculum design and development undertook the exercise with the AAF tool and assigned WIL descriptors to the curriculum documents. In addition, the AAF supports both validity and reliability as it enhances the likelihood of similar interpretation and instils confidence that the researcher is measuring what is intended to be measured.

Examining isolated case studies is considered to have limited potential for generalisability to broader populations. Given that this study examined three disparate university degrees, the limitation of a narrow perspective was minimised. The diversity of each case study and data sources reduced the impact of bias and enhanced the integrity of the research.

3.10 Ethical Considerations

This research was approved by The University of Western Australia Human Research Ethics Committee, Approval Number RA/4/1/7288. The recruitment and data collection processes undertaken throughout this study adhered to the ethical aspects of informed consent, voluntary participation, confidentiality, and anonymity.

Information sheets (See Appendix L) were made available to each participant outlining the purpose, procedures and intended outcomes of the research. Participants were invited to sign consent forms prior to data collection (See Appendix M). Participation in the research was voluntary with
contributors free to withdraw at any time. Feedback was provided to participants throughout the research if requested and information, data and ideas contributed by other personnel are appropriately acknowledged. At the conclusion of the research, faculty staff and interviewees from professional accrediting bodies were provided with a report outlining the findings from the research. Anonymity was maintained for all participants and no identifiable information is included in this thesis. Each interviewee was allocated a code relating to the discipline area (CE, OT or PE) and role (S for student, St for staff, E for employer and PB for professional body). A numerical descriptor was also assigned to each participant. The researcher used generic descriptions and de-identified reference to any persons that may potentially identify the university. The researcher adhered to the principles of confidentiality throughout the investigation and enacted the study with integrity, transparency, and respect for persons involved in the research. Data are stored in a locked cupboard in the researcher’s office and electronic data saved on a password protected computer. Audio-recordings have been removed from devices and placed onto a hard drive. All research data will be stored for a period of seven years from completion of the research.

3.11 Conclusion

This chapter outlines the methodology of the research. The combination of the qualitative and quantitative approaches consolidated the data and enabled comparison across the three case studies. The research questions were addressed by examining the issues at multiple levels: student surveys and focus groups, graduate surveys, staff surveys and interviews, employer surveys and interviews, and professional body interviews, thereby ensuring the voice of all stakeholders was heard.

The following three chapters provide a detailed account of the findings for each discrete case study (CE, OT, and PE). Chapter 7 then presents the cross-case analysis to highlight the similarities and variance across the three disciplines, informing the development of a framework for partnerships.
Chapter 4 : RESULTS CASE STUDY ONE: CHEMICAL ENGINEERING (CE)

4.1 Introduction

Case Study One gathered and analysed data pertaining to the Bachelor of Engineering (Chemical Engineering) (CE), a four year full time or equivalent part time program. The degree covers the stages and outcomes of chemical processes and how they apply to chemical plants. In the first year of the degree, students study a Bachelor of Engineering pre-major which exposes them to the broad fields of engineering, thereby providing an insight to all engineering disciplines. This approach assumes students are familiar with the various areas of engineering and able to make an informed decision when selecting their major area of study at the end of first year. The course is professionally accredited by two professional bodies: Engineers Australia (EA) and the Institution of Chemical Engineers (IChemE). (See Section 3.7.1 for further details on the CE degree).

This Chapter provides an overview of the findings for the CE Case Study. Results are presented for the three phases of the research design, showing the cumulative effect of the mixed methods research design whereby findings from each phase built on and corroborated with findings from previous phases. While each phase focused on different aspects of the research questions, collectively the findings informed the overarching research question: How can stakeholders work collaboratively to prepare graduates for the future workplace?

4.2 Phase One: Important Components and Gaps in a University Education for CE Stakeholders

In Phase One the Course Experience Questionnaire (CEQ) and the Graduate Employability Indicator Surveys (GEI) (See Section 3.8.1) were administered. These surveys gleaned graduates’ levels of satisfaction with their course experience and their perceptions of important components of their university education. Graduate, employer, and teaching staff perspectives on the acquisition of graduate outcomes in relation to skill development as a result of their studies were also gathered. Phase One addressed RQ1 and RQ2.

4.2.1 Course Experience Questionnaire (CEQ) for CE Graduates

The CEQ was administered to the CE graduates of 2012, 2013 and 2014 three months post-graduation. For the purposes of this research, each CEQ survey will be referred to by the year of the graduating cohort. In the quantitative section of the survey, graduates responded to 23
items (See Table 3.4) expressing their level of agreement with each statement. The qualitative section of the survey invited respondents to answer two questions:

- What were the best aspects of your course?
- What aspects of your course were most in need of improvement?

Table 4.1 shows the number of respondents and percentage response rates for each CEQ event, while Table 4.2 provides the percentages of respondents by gender and residency.

### Table 4.1
**Number of CE Respondents and Percentage Response Rate for CEQ per Year**

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Number of Respondents</th>
<th>Possible Respondents</th>
<th>Percentage Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>62</td>
<td>108</td>
<td>57%</td>
</tr>
<tr>
<td>2013</td>
<td>69</td>
<td>93</td>
<td>74%</td>
</tr>
<tr>
<td>2014</td>
<td>48</td>
<td>84</td>
<td>57%</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>285</td>
<td>62%</td>
</tr>
</tbody>
</table>

### Table 4.2
**CE Respondents for CEQ by Gender and Residency**

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Gender (%)</th>
<th>Residency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>2012 (n=62)</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>2013 (n=69)</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td>2014 (n=48)</td>
<td>25</td>
<td>75</td>
</tr>
</tbody>
</table>

The number of respondents for the quantitative section of the CEQ ranged from 48 (2014) to 69 (2013) while the percentage response rates varied between 57% (2012 and 2014) to 74% (2013). Participants’ demographics highlights the dominance of male respondents which aligned closely to the proportion of male enrolments compared to female enrolments.
Table 4.3 shows the number of comments in each survey year for Best Aspects (BA) and Needs Improvement (NI) in the course, with a breakdown of domestic and international onshore respondents. Overall, domestic graduates were more likely to provide a qualitative response (86 graduates) in comparison to international onshore graduates (76 graduates). All survey respondents had studied the degree on a full time basis.

Table 4.3

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Number of Comments for Best Aspects (BA)</th>
<th>Number of Comments for Needs Improvement (NI)</th>
<th>International Onshore Headcount</th>
<th>Domestic Headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>57</td>
<td>54</td>
<td>31</td>
<td>26</td>
</tr>
<tr>
<td>2013</td>
<td>64</td>
<td>66</td>
<td>25</td>
<td>42</td>
</tr>
<tr>
<td>2014</td>
<td>40</td>
<td>40</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>161</td>
<td>160</td>
<td>76</td>
<td>86</td>
</tr>
</tbody>
</table>

Findings from CEQ Quantitative Items for CE Graduates

The quantitative data was analysed by item to determine areas with which graduates strongly agreed and those areas with low levels of agreement. The findings informed the important components of a university education (RQ1) and the design of Phases Two and Three.

CEQ quantitative data was downloaded via Excel and analysed using Statistical Package for the Social Sciences (SPSS). A descriptive analysis of the data determining frequency of responses and measures of central tendency was undertaken. The frequency distribution showing the level of respondents’ agreement (Agree plus Strongly Agree) with each item is provided in Figure 4.1.

Trends were consistent across the three years with 2014 graduates showing the lowest level of agreement with all items except item 17. Note that item 17 is written from a negative perspective in contrast to all other items in the CEQ. Items 3, 7 and 11 showed the highest levels of agreement. The lowest levels of agreement were recorded in items 8, 9, 12, 17, and 21.
Figure 4.1: CEQ responses for 2012, 2013 and 2014 CE graduates: Agree + Strongly Agree
To determine overarching themes, the weighted average for Agree plus Strongly Agree were calculated across the three years (see Table 4.4). Item responses were categorised based on the average percentage responses:

1. Items with 80% or higher agreement;
2. Items with 60% to 80% agreement; and
3. Items with less than 60% agreement.

These categories reflect the standards used by the University to determine areas of excellent performance (80% or higher), areas where there is possible room for improvement on performance (60% to 80%), and teaching areas where there is poor performance which require more in-depth investigation (Tucker et al., 2015). These categories of agreement are used for internal benchmarking across the institution and external benchmarking with other institutions. Table 4.5 shows a breakdown of where each item fits within the three categories. The highlighted cells are those items that relate to workplace preparedness.
## Table 4.4
*Percentage Agree Plus Strongly Agree for 2012, 2013 and 2014 CE Graduates and Weighted Average*

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>2012 grads (n=62) %</th>
<th>2013 grads (n=69) %</th>
<th>2014 grads (n=48) %</th>
<th>Weighted Average Across Three Years %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The staff put a lot of time into commenting on my work</td>
<td>51.00</td>
<td>51.00</td>
<td>31.00</td>
<td>45.64</td>
</tr>
<tr>
<td>2. The teaching staff normally gave me helpful feedback on how I was going</td>
<td>61.00</td>
<td>56.00</td>
<td>44.00</td>
<td>54.51</td>
</tr>
<tr>
<td>3. The course helped me develop my ability to work as a team member</td>
<td>90.00</td>
<td>85.00</td>
<td>69.00</td>
<td>82.44</td>
</tr>
<tr>
<td>4. It was always easy to know the standard of work expected</td>
<td>66.00</td>
<td>53.00</td>
<td>44.00</td>
<td>55.09</td>
</tr>
<tr>
<td>5. The teaching staff of this course motivated me to do my best work</td>
<td>47.00</td>
<td>53.00</td>
<td>31.00</td>
<td>45.02</td>
</tr>
<tr>
<td>6. The course provided me with a broad overview of my field of knowledge</td>
<td>78.00</td>
<td>73.00</td>
<td>69.00</td>
<td>73.66</td>
</tr>
<tr>
<td>7. The course sharpened my analytic skills</td>
<td>81.00</td>
<td>91.00</td>
<td>81.00</td>
<td>84.85</td>
</tr>
<tr>
<td>8. My lecturers were extremely good at explaining things</td>
<td>32.00</td>
<td>29.00</td>
<td>6.30</td>
<td>23.95</td>
</tr>
<tr>
<td>9. The teaching staff worked hard to make their subjects interesting</td>
<td>38.00</td>
<td>44.00</td>
<td>13.00</td>
<td>33.61</td>
</tr>
<tr>
<td>10. The course developed my confidence to investigate new ideas</td>
<td>68.00</td>
<td>69.00</td>
<td>56.00</td>
<td>65.17</td>
</tr>
<tr>
<td>11. The course developed my problem-solving skills</td>
<td>92.00</td>
<td>87.00</td>
<td>88.00</td>
<td>89.00</td>
</tr>
<tr>
<td>12. The staff made a real effort to understand difficulties I might be having with my work</td>
<td>29.00</td>
<td>44.00</td>
<td>13.00</td>
<td>30.49</td>
</tr>
<tr>
<td>13. I usually had a clear idea of where I was going and what was expected of me in this course</td>
<td>66.00</td>
<td>69.00</td>
<td>44.00</td>
<td>61.26</td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td>Mean</td>
<td>Median</td>
<td>Mode</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>14</td>
<td>University stimulated my enthusiasm for further learning</td>
<td>58.00</td>
<td>62.00</td>
<td>44.00</td>
</tr>
<tr>
<td>15</td>
<td>The course improved my skills in written communication</td>
<td>80.00</td>
<td>78.00</td>
<td>75.00</td>
</tr>
<tr>
<td>16</td>
<td>I learned to apply principles from this course to new situations</td>
<td>81.00</td>
<td>84.00</td>
<td>69.00</td>
</tr>
<tr>
<td>17</td>
<td>It was often hard to discover what was expected of me in this course</td>
<td>39.00</td>
<td>44.00</td>
<td>50.00</td>
</tr>
<tr>
<td>18</td>
<td>I consider what I learned valuable for my future</td>
<td>83.00</td>
<td>82.00</td>
<td>69.00</td>
</tr>
<tr>
<td>19</td>
<td>As a result of my course, I feel confident about tackling unfamiliar problems</td>
<td>69.00</td>
<td>76.00</td>
<td>69.00</td>
</tr>
<tr>
<td>20</td>
<td>My course helped me to develop the ability to plan my own work</td>
<td>73.00</td>
<td>82.00</td>
<td>69.00</td>
</tr>
<tr>
<td>21</td>
<td>The staff made it clear right from the start what they expected from students</td>
<td>46.00</td>
<td>49.00</td>
<td>13.00</td>
</tr>
<tr>
<td>22</td>
<td>My university experience encouraged me to value perspectives other than my own</td>
<td>80.00</td>
<td>75.00</td>
<td>75.00</td>
</tr>
<tr>
<td>23</td>
<td>Overall, I was satisfied with the quality of this course</td>
<td>69.00</td>
<td>69.00</td>
<td>56.00</td>
</tr>
<tr>
<td>CEQ Items</td>
<td>80% and over Agreement</td>
<td>Between 60% and 80% Agreement</td>
<td>60% and below Agreement</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>-------------------------------</td>
<td>-------------------------</td>
<td></td>
</tr>
<tr>
<td>3. The course helped me develop my ability to work as a team member</td>
<td></td>
<td></td>
<td>1. The staff put a lot of time into commenting on my work</td>
<td></td>
</tr>
<tr>
<td>7. The course sharpened my analytic skills</td>
<td></td>
<td></td>
<td>2. The teaching staff normally gave me helpful feedback on how I was going</td>
<td></td>
</tr>
<tr>
<td>11. The course developed my problem-solving skills</td>
<td></td>
<td></td>
<td>4. It was always easy to know the standard of work expected</td>
<td></td>
</tr>
<tr>
<td>6. The course provided me with a broad overview of my field of knowledge</td>
<td></td>
<td></td>
<td>5. The teaching staff of this course motivated me to do my best work</td>
<td></td>
</tr>
<tr>
<td>10. The course developed my confidence to investigate new ideas</td>
<td></td>
<td></td>
<td>8. My lecturers were extremely good at explaining things</td>
<td></td>
</tr>
<tr>
<td>13. I usually had a clear idea of where I was going and what was expected of me in this course</td>
<td></td>
<td></td>
<td>9. The teaching staff worked hard to make their subjects interesting</td>
<td></td>
</tr>
<tr>
<td>15. The course improved my skills in written communication</td>
<td></td>
<td></td>
<td>12. The staff made a real effort to understand difficulties I might be having with my work</td>
<td></td>
</tr>
<tr>
<td>16. I learned to apply principles from this course to new situations</td>
<td></td>
<td></td>
<td>14. University stimulated my enthusiasm for further learning</td>
<td></td>
</tr>
<tr>
<td>18. I consider what I learned valuable for my future</td>
<td></td>
<td></td>
<td>17. It was often hard to find what was expected of me in this course</td>
<td></td>
</tr>
<tr>
<td>19. As a result of my course, I feel confident about tackling unfamiliar problems</td>
<td></td>
<td></td>
<td>21. The staff made it clear right from the start what they expected from students</td>
<td></td>
</tr>
<tr>
<td>20. My course helped me to develop the ability to plan my own work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. My university experience encouraged me to value perspectives other than my own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Overall, I was satisfied with the quality of this course</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Shaded cells highlight survey items that directly relate to work-readiness.
Summary of CEQ Quantitative Data: CE Graduates

The CEQ quantitative data shows that graduates were dissatisfied with the efforts and capacity of staff to communicate expectations and provide engaging learning experiences. Graduates appeared satisfied with the development of generic skills including ability to work as part of a team, and the development of analytic and problem-solving skills. Themes with agreement levels in the 60% to 80% band, suggesting there is room for improvement, were explicitly connected to workplace preparedness as they focused on attributes considered essential for a successful and rewarding career. These items included discipline knowledge, confidence, skill development (written communication, planning own work, tackling unfamiliar problems), application to new situations, relevance for future, and valuing others’ perspectives (diversity). Graduate responses confirmed that improvement in how these items were addressed in the course was required. Items that recorded 60% or lower satisfaction, thus categorised as ‘cause for concern’, pertained mainly to staff quality. The items in this category that related to workplace preparedness were student motivation, and stimulation for further learning.

Overall, CE graduates expressed dissatisfaction with the course experience with low levels of agreement against items that specifically prepare students for transition from student to novice professional. Following analysis of the CEQ quantitative data, the qualitative data was examined.

Findings from CEQ Qualitative Data: CE Graduates

The CEQ collected qualitative data via two questions:

1. What were the Best Aspects of your course (BA)?
2. What aspects of your course were most in Need of Improvement (NI)?

A manual deductive analysis was undertaken using the outcomes of the quantitative data as foundational themes, followed by inductive analysis where themes not apparent in the CEQ quantitative data were identified. The qualitative data was uploaded to NVivo to organise and classify data and determine the occurrence of common themes. Themes for each of the graduate groups (2012, 2013 and 2014) were initially analysed separately to ascertain similarities and differences across the year groups. An overarching thematic schema for CE graduates in 2012, 2013 and 2014 was then developed by consolidating comments from the three survey events. Table 4.6 shows the dominant themes for each survey event and the total number of comments pertaining to each theme.
<table>
<thead>
<tr>
<th>Themes</th>
<th>2012 Graduates (n=57)</th>
<th>2013 Graduates (n=64)</th>
<th>2014 Graduates (n=40)</th>
<th>Total Best Aspects</th>
<th>2012 Graduates (n=54)</th>
<th>2013 Graduates (n=66)</th>
<th>2014 Graduates (n=40)</th>
<th>Total Needs Improvement</th>
<th>Total overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Quality and Expertise</td>
<td>11</td>
<td>6</td>
<td>10</td>
<td>27</td>
<td>25</td>
<td>24</td>
<td>14</td>
<td>63</td>
<td>90</td>
</tr>
<tr>
<td>Course Content and Structure</td>
<td>12</td>
<td>14</td>
<td>16</td>
<td>42</td>
<td>13</td>
<td>18</td>
<td>10</td>
<td>42</td>
<td>84</td>
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<tr>
<td>WIL and Workplace Relevance</td>
<td>12</td>
<td>18</td>
<td>14</td>
<td>44</td>
<td>9</td>
<td>16</td>
<td>8</td>
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<tr>
<td>Assessment</td>
<td>6</td>
<td>19</td>
<td>7</td>
<td>32</td>
<td>13</td>
<td>9</td>
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<tr>
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<td>8</td>
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<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
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</tr>
<tr>
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<td>9</td>
<td>14</td>
<td>11</td>
<td>34</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>Motivation/Stimulation</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>13</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>Professionalism</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Mentor/Support</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>
Analysis of the qualitative data resonated with graduate perceptions in the quantitative data. The most frequently occurring themes emerged as both best aspects and areas needing improvement. One interpretation of this phenomenon is that graduates benefited from the experience when these elements were incorporated in their learning, but were unhappy with the paucity of their inclusion. The key themes evident in the qualitative data that graduates perceived as important components of a university education included:

1. Staff quality and expertise
2. Course content and structure
3. WIL and Workplace relevance
4. Assessment
5. Skill development
6. Social connections
7. Motivation/stimulation
8. Professionalism
9. Mentor/support

The collection of the qualitative data enabled the themes to be explored in greater depth providing detail of the context and parameters of the theme. An explanation of the themes is detailed below.

1. **Staff Quality and Expertise**

   This theme attracted the highest number of comments with the majority in the Needs Improvement (NI) category. Comments related to “long, dry and dull lectures” (Graduate 16, 2012. NI) and staff with “no actual experience in industry” (Graduate 6, 2013. NI) which failed to motivate students. Lack of clarity of expectations and “enthusiasm in teaching” (Graduate 17, 2013. NI) were repetitive criticisms. Teaching staff were described as “sub-par and lacking in teaching and communication skills” (Graduate 4, 2013. NI). The emphasis on research over teaching commitments, and staff who showed no “passion towards teaching” (Graduate 13, 2013. NI) were negatively perceived by students.

2. **Course Content and Structure**

   Comments addressed the importance of the design of the course, availability of resources relevant to the learning experience, transition between years, and the connectedness of subject content and approaches. “The First year engineering program was very good” (Graduate 10, 2012. BA) as “it eased the transition into university and the course well with group based units” (Graduate 12, 2012. BA). In contrast, later years in the degree were considered to be poorly structured with irrelevant
information and “a lot of overlap in content between units, even in the same semester” (Graduate 16, 2013. NI).

3. **WIL and Workplace Relevance**

Comments pertaining to this theme were almost evenly spread across BA and NI, highlighting the value students placed on opportunities to engage with industry and the desire for it to be more explicitly embedded in their learning. Graduates wanted “more direct contact with the industries” (Graduate 05, 2014. NI) as there was “very little reference to real life engineering” (Graduate 02, 2014. NI) throughout the degree. Comments related to irrelevant learning experiences and the inability of staff to provide industry-focussed learning activities.

4. **Assessment**

Comments pertaining to assessment approaches incorporated workload, plagiarism, feedback and relevance to the workplace. Comments highlighted a deficit in assessment processes with a high proportion relating to the inadequate feedback students received from staff. According to Graduate 02 (2014. NI), assessment encompassed “Endemic plagiarism, cheating & favouritism with very little reference to real life engineering”. Group assessments that “got people to solve it together” (Graduate 06, 2012. BA) and the “challenges of the final year design project” (Graduate 10, 2013. BA) were considered useful assessments for application to the real world.

5. **Skill Development**

Comments focussed on the benefits of skill development and relevance to employability. Attributes such as problem-solving skills, communication skills and creative thinking featured strongly in this theme. Graduates made reference to the need for development in “concise writing and skills more applicable to an engineering workplace” (Graduate 05, 2012. NI). Creative problem-solving skills were considered a strength of the degree as exemplified by, “in engineering the emphasis was on thinking out of the box…I was able to tackle situations that I was not familiar with” (Graduate 09, 2013. BA).

6. **Social Connections**

Comments highlighted the importance of a sense of belonging and the social connectedness resulting from communities of practice. The social networks and “friends” (Graduate 12, 2012. BA) established were cited as pivotal to success and commitment during their university studies. The engineering foundation year “helped [students] get through the degree” (Graduate 12, 2014. BA) due to positive social dynamics. Working in groups was considered “highly beneficial as future
engineers or as human beings as it indirectly taught us to tackle cultural differences …” (Graduate 04, 2012. BA) and built capacity to be inclusive and culturally competent in preparation for a global workforce.

7. Motivation/stimulation

Comments pertaining to stimulating experiences which motivated engagement and encouraged self-directed learning reflected a combination of factors which impacted on learner motivation. Positive comments relayed the learning experiences as promoting “a self-learner and how to learn efficiently” (Graduate 04, 2012. BA). Learning activities which incorporated real world and relevant experiences were deemed to be “challenging and mentally stimulating” (Graduate 01, 2014. BA). Comments highlighted the motivational benefits of authentic learning experiences because of their relevance to future employability and career connections.

8. Professionalism

This category attracted a small number of comments but, as an emerging theme, was deemed relevant. Graduates ascertained that the course “built confidence to face unfamiliar problems in my future career” (Graduate 24, 2013. BA) and “developed interpersonal skills” (Graduate 6, 2014. BA).

9. Mentor/support

Graduates expressed the value of peer, industry and staff mentors to provide support for industry relevance, shared learning, and consolidating course requirements. “Having industry mentors for design projects” (Graduate 22, 2012. BA) was considered a bonus that enhanced learning outcomes. Some graduates felt “lecturers needed to be more proactive in student mentoring” (Graduate 35 (2013. NI).

Summary of CEQ Qualitative Data: CE Graduates

Analysis and interpretation of the qualitative data consolidated graduate perceptions evident in the quantitative data and provided a more in depth analysis of the important components of a university education that supports the development of employability capabilities. The qualitative data emphasised the value of practical and relevant learning experiences realised through industry engagement and career connection, and authentic assessment tasks that reflect industry requirements. The importance of skill development and learning experiences that engaged and motivated students and promoted self-directed learning were highlighted. The data exposed three
new themes relevant to employability:

A. Social connections
B. Professionalism which related to building confidence and resilience, and
C. The importance of mentors for supporting students.

Summary of CEQ Data: CE Graduates

The CEQ data showed that graduates perceived the important components of a university education to be direct engagement with industry partners that facilitates a connection with future careers and builds employability capabilities. Staff expertise in contemporary industry practices was deemed integral to workplace preparation. The authenticity of assessments and learning through failure, were considered to reflect real-world application. Graduates identified a range of skills that were essential for effective professional practice and stressed the impact of social connections with all stakeholders as fundamental to skill development. Motivation, stimulation and learner engagement that encouraged self-directed, lifelong learning approaches and enhanced confidence were highlighted, as were learning experiences that built professional skills. Graduates commented on the value of both university-based and industry-based mentors to support them through their studies and in the transition to the workplace.

4.2.2 Graduate Employability Indicator (GEI) Surveys for CE Stakeholders

The GEI Surveys gathered perceptions of graduates (of up to five years), employers and teaching staff on the most highly regarded employability capabilities of the profession and the gaps in graduates’ skills and knowledge (See Section 3.8.1). A total of 42 stakeholders (32 graduates, four employers and six teaching staff) responded to the survey (See Appendix F). While the small number of employers and teaching staff is acknowledged and is a limitation in data collection, additional data was collected from these sources in Phase Three with the intention of supporting and validating findings.

GEI Quantitative Data: CE Graduate Perceptions

Twenty two (69%) of the 32 graduate respondents were male. Seventeen (53%) were 25 years or younger, with the remainder of respondents from the 26 – 35 age bracket. Sixteen (50%) were domestic students, with the remaining half being international onshore.

Graduates ranked the extent to which their degree contributed to their development of 14 employability capabilities using a 4-point Likert Scale ranging from Very little to Very much (See Appendix E). Graduates were also asked how important they perceived each capability for
employment success. Respondents selected from Very little importance to Very important for this question. Figure 4.2 shows a comparison of the extent graduates perceived the degree experience contributed to capability development, with their perceptions of the importance of the capability for employment success.

More than 80% of graduates identified the majority of skills as important capabilities for success in employment. Using information and communication technologies (ICT) (78%), discipline knowledge (72%), and intercultural understanding (72%) were considered less important but still measured a level of agreement with their importance that showed graduates considered these skills useful for workplace preparedness. The Social contexts item was considered the least important with 66% of respondents deeming it to be either very important or quite important. Interestingly, social connections emerged as an important component of the university experience by graduates in the CEQ qualitative data, suggesting relationships are not identified as important for workplace skill development, but valued when they occur.

Graduates perceived many skills to be under-developed with industry awareness, values and ethics, speaking, solving complex real-world problems, social contexts and writing recording the largest gaps. Community engagement, knowledge, intercultural understanding, teamwork, using ICT and independent learning showed smaller gaps in perceived development. The capabilities graduates perceived as adequately addressed in their university experience were thinking, quantitative analysis of problems and independent learning.
Fifty one percent of graduates believed they were very little (13%) or to some extent (38%) work ready compared with 49% who felt they were quite a bit (34%) or very much (15%) work ready.

**GEI Quantitative Data: CE Employer Perceptions**

Four employers responded to the survey, all of whom were middle managers. Two respondents worked for the public sector and two for large private enterprises. The four organisations were based in Australia or New Zealand. Three employers were from the Electricity, Gas and Water supply industry and one from the mining sector. Three respondents were male. While the data represents a very small sample with an emphasis on a particular employment sector, the individual perspectives of these employers is still worthy of consideration as data obtained in subsequent phases substantiated the employers’ views. Given the small sample, numerical figures were considered rather than percentages. See Appendix N for raw data.

The capabilities employers felt graduates demonstrated in the workplace setting included using ICT and, to a lesser extent, team work, quantitative analysis of problems, and effective writing. Capabilities perceived as not being demonstrated were social contexts, industry awareness, problem-solving, thinking and speaking. A gap existed between many capabilities deemed to be important for the success of graduates in the workplace, and the extent to which these had been developed in the course. Most noticeable was the ability to think critically and analytically.

**GEI Quantitative Data: CE Teaching Staff Perceptions**

Of the six university teaching staff respondents, two were full time continuing staff members, three were on full time fixed term contracts and one was on a part time contract. Two of the respondents had been teaching at university for more than seven years, one had taught at a university for between four and seven years and three had been employed for less than three years. Four respondents had extensive industry experience (more than five years) and two had moderately extensive experience in industry (between one and five years). Three had recent industry experience (in the past year), two moderately recently (two to five years) and one less recently (six to 10 years). Five were male and one female. See Appendix N for raw data.

Staff perceived thinking, intercultural understanding, problem-solving, social contexts, discipline knowledge, and writing as important to success but believed graduates did not demonstrate these capabilities. Speaking and community engagement were not perceived as important as other skills but there was a divide between their importance and the development of these capabilities. Interestingly, in contrast to graduates and employers, staff perceived that industry awareness capacity met expectations as did team work, using ICT, independent learning and quantitative analysis of problems.
While the staff felt equally confident teaching and assessing some capabilities, such as writing, speaking, thinking, values and ethics, and problem-solving, there were several capabilities with which they felt more confident teaching than assessing. Notable examples were knowledge, quantitative analysis of problems, using ICT and team work. Teaching staff reported low levels of confidence with teaching and assessing important employability capabilities such as intercultural understanding, community engagement, industry awareness and social contexts, most of which have emerged as dominant themes in data collected thus far.

**Summary of Stakeholder Perceptions of CE Graduates’ Employability Capabilities**

Findings from the quantitative data in the GEI suggests there are variations in stakeholder perceptions of the gaps in the skills and knowledge of graduates in workplace preparedness. All stakeholders agreed on the importance of writing, speaking, thinking, teamwork, and values and ethics. Perceptions differed in the areas of independent learning, intercultural understanding, problem-solving, community engagement, industry awareness (although staff and students agreed), social contexts and knowledge. Graduates, employers and teaching staff expressed divergent perceptions of the capabilities demonstrated by graduates. Notable variation was evident in speaking, thinking, independent learning, problem solving, industry awareness, and social contexts. Graduates perceived thinking and independent learning to be well-developed attributes whereas employers and teaching staff believed these to be poorly developed in graduates. Employers perceived problem-solving to be less developed than did staff and graduates. Staff responses indicated that they perceived industry awareness to be well-developed, while graduates and employers rated this as poorly developed. The small number of teaching staff and employer respondents limits the findings, but further investigation in Phase Three will provide greater insight.

**GEI Qualitative Data for CE Stakeholders**

GEI qualitative responses were sorted into broad themes apparent in the GEI quantitative data which built on those used in the CEQ analysis. This identified key themes where frequency of themes enabled data to be organised and summarised in preparation for more detailed analysis. This approach informed the nodes created in NVivo for analysis and connections.

**GEI Qualitative Data: CE Graduates**

Graduates were invited to respond to two open questions:

- What were the best aspects of this degree in developing your skills for employment (BA)?
- How could the degree be changed to improve your skills for employment (NI)?
Twenty-five comments relating to the BA and twenty-six pertaining to the NI were received from graduates. The qualitative data in the GEI attracted much richer comments around employability and industry engagement as many of the respondents had been in employment for several years in contrast to the CEQ data where respondents had completed their studies three months prior and had less experience (or no experience) with workplace requirements and demands.

Incorporating real world learning into the university experience (39 comments) was highlighted as pivotal to preparation for the demands of the workplace, as exemplified by Graduate 17:

> There needs to be a stronger connection with industry. I think it would be a good idea to run an intern unit where a company takes students for a few hours a week and shows them what it is like to work as a chemical engineer on a plant. Even if it is just shadowing and assisting one of the full time engineers on the plant. This provides a practical learning experience but also helps with industry connections for the students’ further employment (2014. NI).

Many respondents’ comments (32) focussed on employer expectations, real world demands, excessive focus on academia, getting a job, building a career and promoting oneself to be competitive, and collaborating and networking with employers. Learning how to “showcase [oneself] for interviews and to communicate with clients” (Graduate 04, 2014. NI) and to “stand out among other candidates” (Graduate 03, 2014. BA) was deemed critical for success. Graduates wanted “more practical examples on the application of knowledge in real life operations and involvement in more practical projects instead of focusing on theoretical stuff” (Graduate 11, 2014. NI).

The development of skills and practical application of theoretical concepts was a recurring theme in graduate comments with “Thinking critically and having ability to analyse and solve complex problems” (Graduate 01, 2014. BA) considered a strength of the degree. Several references were made to career relevance of course content and experiences and the value of discipline knowledge and theoretical concepts in the degree. Graduate 25 (2014. BA) cited “learning the core foundation of what I do for an everyday living” as a best aspect of their university education.

Assessment was a dominant theme for graduates attracting 14 comments, many of which related to the irrelevance of assessment tasks to workplace preparedness. “Industry supervised design projects and industry sponsored research projects” (Graduate 07, 2014. NI) were preferred modes of assessment. Graduates highlighted the importance of assessments relevant to real world contexts.
and development of resilience to “accept that a mistake was made, and to learn from that” (Graduate 02, 2014. NI).

Graduates cited the benefits of social connections (8 comments) when studying in a diverse student cohort, as it reflected the real world, prepared them for the global workplace, and “opened up opportunities to work in nations other than home” (Graduate 03, 2014. BA). The theme of professionalism with a focus on “personal ethics and self-awareness” (Graduate 01, 2014. BA) was perceived as a desirable component of the degree.

In summary, graduates commented positively on the discipline knowledge, writing, speaking, problem solving and analytical skills they acquired through studying the CE degree. Graduates conveyed the value of the design project which connected closely with work related activities. Areas needing improvement included more opportunities to network with industry, increased activities that build connections for potential career prospects, and improved and more authentic assessment design. While respondents valued the practical aspects of the course, the majority of comments on areas perceived as needing improvement related to a greater emphasis on real world application and preparation for the competitive job market.

**GEI Qualitative Data: Employers of CE Graduates**

Employers were invited to answer two open questions:

- What skills, attributes and personal qualities do you consider to be the most useful for new graduates in this field (MU)?
- Which (if any) skills, attributes and personal qualities of new graduates would you prioritise for improvement (NI)?

Seven comments were collected from the four employers: four MU and three NI. Communication, team work, time management, public speaking, technical skills and confidence were cited as being important. One employer questioned the degree as evidence of workplace competency stating that “technical skills are not at the level employers would expect them to be” (Employer 01, 2014. NI). Employer comments reaffirmed the importance of “communication skills and persuasiveness” (Employer 03, 2014. NI) and working in diverse settings. The ability to be “creative, think critically and collaborate with confidence” (Employer 02, 2014. MU) was also mentioned.

While the number of comments collected from employers was small, they agreed on the important skill areas of technical skills, communication, confidence, creativity and ability to work with diversity. There was a perception that these skill areas needed greater emphasis in the degree.
GEI Qualitative Data: CE Teaching Staff

Teaching staff made 21 comments in response to the following questions:

- What do you see as the main incentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
- What do you see as the main disincentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
- What do you see as your role in assisting students to develop these attributes, skills and personal qualities?
- What sort of staff development (SD) opportunities would increase your confidence to teach and assess work-related skills, attributes and personal qualities?

Staff agreed that their main incentive was “to prepare students to handle real-life tasks by giving them a work perspective which is very different to what they are exposed to in a university environment” (Staff 02, 2014. Incentives). Teaching staff commented on their commitment to preparing students for the workforce, but highlighted inadequacies in their own capacity to “demonstrate these skills and qualities in order to best teach them” (Staff 01, 2014. Incentives). Teaching staff felt that they needed “more industry awareness” (Staff 06, 2015. SD) in order to prepare students with workplace skills. Staff suggested they needed “ongoing mentoring to make [professional learning] more effective” (Staff 05, 2015. SD) and “time in industry to help maintain currency, and boost awareness and technical skills” (Staff 06, 2015. SD). “Lack of support and lack of personal incentive or motivation” (Staff 04, 2014. Disincentives) were identified as barriers. This staff member also cited “lack of time” and “lack of recognition that current students are the future of the industry” as disincentives for developing students’ work related skills.

4.2.3 Overview of Phase One findings for CE Case Study

The purpose of Phase One of the research was to explore the important components of a university education that supports the development of employability capabilities and determine stakeholders’ perceptions of the gaps in the skills and knowledge of graduates in workplace preparedness. Quantitative and qualitative data was drawn from two surveys: the CEQ and GEI. Findings from the quantitative items in the CEQ survey informed deductive analysis of the qualitative data. Analysis of GEI data revealed both recurring and new themes which were then merged with the CEQ findings to ascertain an overall vision of what stakeholders perceived to be important components of a university education and the gaps in the skills and knowledge of graduates in preparedness for the future workplace. From this process, nine holistic themes, labelled ‘Domains’, were identified as important for the employability of graduates: Staff quality and expertise, Course content and
structure, WIL and Workplace relevance, Assessment, Skill development, Social connections, Motivation/stimulation, Professionalism, and Mentoring. Each Domain encompassed multiple sub-themes, all of which occurred with a frequency to warrant explicit representation. These sub-themes are referred to as “Dimensions” of the Domains.

Table 4.7 provides a synopsis of the Domains and Dimensions evident from Phase One of the CE Case Study.
Table 4.7
CE Case Study: Phase One Domains and Dimensions

<table>
<thead>
<tr>
<th>Domains</th>
<th>Staff quality and expertise</th>
<th>Course content and structure</th>
<th>WIL and Workplace relevance</th>
<th>Assessment</th>
<th>Skill development</th>
<th>Social connection</th>
<th>Motivation/stimulation</th>
<th>Professionalism</th>
<th>Mentoring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clarity of expectations and standards</td>
<td>Less academia</td>
<td>Employability</td>
<td>Real world tasks</td>
<td>Writing, speaking (communication)</td>
<td>Diversity</td>
<td>Learner engagement</td>
<td>Confidence</td>
<td>Industry-based mentors</td>
</tr>
<tr>
<td></td>
<td>Professional learning for staff</td>
<td>Course design</td>
<td>Networking with employers</td>
<td>Feedback on performance</td>
<td>Creativity (new situations)</td>
<td>Inter-cultural/global</td>
<td>Students take responsibility</td>
<td>Resilience</td>
<td>University-based mentors</td>
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<td></td>
<td>Reward and recognition for staff</td>
<td>Cohesion and transition</td>
<td>Industry awareness</td>
<td>Learning through failure</td>
<td>Thinking</td>
<td>Value others’ perspectives</td>
<td>Self-directed learning</td>
<td>Values and ethics</td>
<td>Peer mentors</td>
</tr>
<tr>
<td></td>
<td>Currency of industry expertise</td>
<td>Resources</td>
<td>Industry placements</td>
<td>Problem-solving (quantitative and analysis)</td>
<td>Sense of belonging, connected</td>
<td>Independent learning</td>
<td>Self-management</td>
<td>Mentors for staff</td>
<td></td>
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<td></td>
<td>Staff as mentors</td>
<td>Irrelevant content</td>
<td>Employer expectations</td>
<td>Teamwork</td>
<td></td>
<td></td>
<td></td>
<td>Interpersonal skills</td>
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<td></td>
<td>Mentors for staff</td>
<td>Foundational year</td>
<td>Staff currency and capacity</td>
<td>Technical skills/discipline knowledge</td>
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<td></td>
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<td>Self-awareness</td>
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<td>Real world application</td>
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<td>Intercultural</td>
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<td>Using ICT</td>
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</table>
4.3 Phase Two: Graduate Outcomes and Student Perspectives for CE

Phase Two of the research design built on the findings of Phase One to further probe RQ1 and RQ2 and gather data from current students pertaining to RQ3. Employment destinations of CE graduates were compiled and analysed to determine a link between stakeholder perceptions of the gaps in skills and knowledge of graduates in workplace preparedness and their transition into the workplace. Individual and small group interviews with students were then conducted to explore the Domains and Dimensions in greater depth and to incorporate the current student (an important stakeholder) voice in the research.

This phase of the research addressed RQ1, RQ2 and RQ3 (See Section 3.3).

Data on employment outcomes of graduates were collected via the Graduate Destination Survey (GDS) which is administered annually as part of the AGS to graduates of Australian institutions in the year following course completion. The GDS survey aligned to the CEQ surveys for 2012 and 2013 graduates, so some respondents for the GDS and CEQ surveys may be the same. As explained in the methodology chapter, student interview questions (see Appendix I) were designed based on Domains emerging from Phase One (see Table 4.7).

4.3.1 Graduate Destination Survey (GDS): CE Graduates

GDS respondents in 2013 (2012 graduates) comprised 61 graduates, 31% of whom were female. Eighty percent were in the 20 to 24 years age bracket, 16% were 25 to 29 with the remainder being in the 30 to 34 years age bracket. The majority of respondents were international onshore students (77%). GDS respondents in 2014 (2013 graduates) comprised 55 graduates, 76% of whom were male. Eighty four percent were in the 20 to 24 years age group, 11% in the 25 to 29, and 5% were aged 30 to 34 years. Australian residents accounted for 66% of the responses with the remaining respondents being international onshore students (34%).

Employment outcomes were higher for 2013 graduates with almost 35% employed on a full time basis. However, 54% of these jobs were casual or temporary roles highlighting the insecurity of employment for new graduates, and the need to perform well in the workplace to remain competitive for advertised positions. Of those working part time, 90% (2012 graduates) and 86% (2013 graduates) were not working in an engineering field. Thirty eight percent of 2012 graduates and 27% of 2013 graduates were still seeking work.

Figure 4.3 shows the sources that graduates used to secure jobs. The majority of graduates sourced employment through family or friends (37% in 2012 and 33% in 2013). Ten percent of 2012
graduates and 12% of 2013 graduates directly approached an employer requesting employment. Figure 4.3 highlights the minimal support by the university (7% and 3%) and the low impact of existing networks and contacts (7% and 6%) on sourcing employment. While there are many variables that impact on employment outcomes of graduates, the GDS data suggests there is scope for stakeholders to work collaboratively to support students’ transition to professional.

Figure 4.3: Sourcing employment 2012 and 2013 CE graduates

4.3.2 Individual and Small Group CE Student Interviews

During 2014 and 2015, individual and small group interviews were conducted with students studying the CE degree. A total of nine students were interviewed. Table 4.8 outlines the type and duration of each interview with relevant demographic details of participants.

Table 4.8
Summary of individual and small group interviews for CE

<table>
<thead>
<tr>
<th>Participant Code</th>
<th>Date</th>
<th>Duration</th>
<th>International Onshore or Domestic</th>
<th>Age Bracket</th>
<th>Gender</th>
<th>Year of Studies</th>
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<tr>
<td>Sm(CE)1</td>
<td>5th Oct 2014</td>
<td>1.5 hours</td>
<td>All international onshore</td>
<td>20-25</td>
<td>3 female, 1 male</td>
<td>3rd and 4th year</td>
</tr>
<tr>
<td>4 participants</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>S(CE)1</td>
<td>3 Nov 2014</td>
<td>1 hour</td>
<td>International onshore</td>
<td>25-30</td>
<td>male</td>
<td>4th year</td>
</tr>
<tr>
<td>Sm(CE)2</td>
<td>4th Feb 2015</td>
<td>1.5 hours</td>
<td>2 international onshore</td>
<td>20-25</td>
<td>2 female, 1 male</td>
<td>4th year</td>
</tr>
<tr>
<td>(3 participants)</td>
<td></td>
<td></td>
<td>1 domestic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S(CE)2</td>
<td>18th April 2015</td>
<td>1 hour</td>
<td>Domestic</td>
<td>20-25</td>
<td>male</td>
<td>3rd year</td>
</tr>
</tbody>
</table>

Sm = Small group, S = Individual student, CE = Chemical Engineering
Interview questions were specifically designed to further explore the notion of employability and the gaps in students’ university educational experience in preparation for the workplace. The outcomes of the student interviews provided a broadened context to the existing schema with more explicit and in-depth data pertaining to the Phase One Domains and Dimensions. Discussion permeating across the interviews are collated in the order of most dominant to least dominant Domains derived from Phase One.

All students agreed that they attended university to increase the likelihood of “getting a good job” (Sm[CE]2, 2015) and the “opportunity to change the quality of life and the quality of my family…” (S[CE]1, 2014). Several comments pertained to the “qualification” that made them more employable rather than “the stuff that you learn at university which is all the theoretical things whereas when you go out into industry you learn practical things” S(CE)2 (2015). Students perceived university to be about passing assessments which ultimately provided the “ticket” to enter the workforce where the real learning occurs. Students agreed that “what you learn as an engineer isn’t at Uni, it is when you actually get a job” (Sm[CE]2, 2015). The value of investment in university education was questioned with reference to “people who don’t have jobs and owe $40,000 to university” (Sm[CE]1, 2014).

1. **Staff Quality and Expertise**

Many comments related to staff proficiency and dedication to the role as teacher and mentor, and the teaching and learning approaches adopted by staff. The students in Sm[CE]1 (2014) relayed that “it is just theory all the time …teach teach teach…”. This was supported by S[CE]2 (2015) who thought “that for the most part, I can’t remember most of what I have learned”. While there were many negative comments about staff, students were appreciative of passionate and supportive staff who took time to “sit and listen, give feedback, both positive and constructive, that is great for self-efficacy and self-identify” (Sm[CE]1, 2014).

2. **Course Content and Structure**

There were many concerns with the coherence and relevance of the structure of the course with a perception that more “integration between first, second, third and fourth years” (Sm[CE]2, 2015) was required. A major concern was the compulsory practical component (internship or vac work) of their course (10 weeks at any time over the final three years of the degree) which was not embedded as an integral learning experience. It was viewed as an add-on and portrayed as a “waste of time in fourth year” (Sm[CE]2, 2015) by many. The lack of rigour, support and connection of the internship
to course content was an area of concern as “engineering [students get] a piece of paper and a tick in a box and we are good to go” (Sm[CE]2, 2015).

3. **WIL and Workplace Relevance**

Students acknowledged the benefits of industry engagement, but felt it was not incorporated in their university education. In response to the question on how the course prepares them for employment and future career development, S[CE]2, (2015) replied “you don’t learn these things at university”. Sm[CE]2, (2015) agreed that “they can’t teach you how to work at Woodside, or Rio Tinto”. However, students felt that opportunities to engage and network with industry were “really, really valuable” (Sm[CE]2, 2015). They enjoyed connecting with “the head of the plant, process unit, and engineers” (Sm[CE]1 (2015) as it enhanced their career prospects. Students felt unprepared and uninformed when seeking employment during the latter part of their degree, claiming that “no one told me about the hours filling out graduate applications and you might not even get the job” (Sm[CE]2, 2015).

4. **Assessment**

Assessment prompted opinions on a range of factors. “The easiness of final exams” (Sm[CE]2, 2015) was perceived as less stressful but essentially recall. Students viewed “the marks” as important, rather than evidence of capabilities. There was criticism of assessments that had no workplace relevance and the value of project work highlighted where “you are given some kind of problem which does not necessarily have a definite solution. It is up to you to find the best solution and justify it. I think that is a far better way and it is far more reflective of what you do in the workforce” (S[CE]2, 2015). There was a perception that assessment failed to provide evidence of workplace capabilities. Students alluded to the importance of being able to showcase skills and experience that provided the competitive edge in the employment stakes. There was agreement that “the fundamentals” (S[CE]2, 2015) were well covered, but “those things that help improve your scope or focus. That is lacking” (S[CE]2, 2015).

Feedback, authenticity of assessments, rigour of judgements in student proficiency, and the concept of “not enough failure” (S(CE)1, 2014) were among some of the assessment variables included. Students expressed scepticism about assessment processes with a perception that some staff “cared about getting great evaluates” (online student feedback system) so wanted everyone to get good marks. “The rubric isn’t even right, it was excruciating” (Sm[CE]2 (2015). The lack of quality control meant students had “an unrealistic perception of their competency when they passed and shouldn’t. I think that is an accountability issue” (Sm[CE]2, 2015). Students complained that they
“don’t get enough feedback, and don’t get rubrics. They use the same tests for years and then wonder why there is a significant problem with plagiarism” (Sm[CE]2, 2015). Students expressed the view that staff “teach to the final exam” (Sm[CE]1, 2014). S[CE]1 (2014) questioned the value of assessment in the learning cycle, believing students simply “studied to pass exams”. Students were sceptical of the long-term value of assessment as “there isn’t a focus on getting us employed, most of our course is very technical” S[CE]2, 2015).

5. **Skill Development**

Interview questions did not explore the development of specific skills but did inquire about the development of employability capabilities encompassed in the course experience. Students recognised the importance of problem-solving, creative thinking and “knowing how to work in groups” (Sm[CE]2, 2015). Reference was frequently made to skill development within the context of other questions.

6. **Social Connections**

Both social and professional connections were cited as important elements of university that facilitated student engagement, collaborative learning, a sense of belonging and intellectual and emotional support. Sm[CE]2 (2015) relayed the benefit of a “home group” because “you always had the same 20 people in each class for that first year” which ensured an established support network. In contrast, Sm[CE]2 (2015) “didn’t go to class because [they] didn’t have any friends. I hated coming to uni”. Professional networks were cited as important for “meeting different people which may lead to work in the future” (Sm[CE]1, 2014) and gaining awareness of “professional behaviour and how to network” (Sm[CE]2, 2015). The importance of social connections for promoting student engagement was evident.

7. **Motivation/stimulation**

Personal drive and enthusiasm were considered integral to employability with students perceiving that a university degree should be the catalyst for lifelong learning and motivation. They recognised that “skills beyond who you are as a person and your drive is what gets you a job” (Sm[CE]2, 2015). Sm[CE]2, (2015) expressed the value of personal motivation and “spirit” as important. Both intrinsic and extrinsic motivation and the engagement and interest inspired by teaching staff were deemed important:

> I have had friends who have rocked up to industry events and wondered why no one is talking to them. They think they will get a job handed on a silver
platter but they don’t have any drive or motivation. They don’t understand what it means to be a professional (Sm[CE]2, 2015).

8. **Professional Identity**

When queried on the importance of self-efficacy, self-identity and how they impact on professional identity, students acknowledged the importance of a healthy self-concept and emotional intelligence with consensus that “who you are as a person and how you build rapport determines your employability” (Sm[CE]2, 2015). Students were appreciative of passionate and supportive staff who took time to “sit and listen, give feedback, both positive and constructive, that is great for self-efficacy and self-identify” (Sm[CE]1, 2014).

9. **Mentoring for Students**

Students commented on the value of mentoring as a way of engaging with industry and managing their university studies. Potential mentors included students, friends, employers, and teaching staff. International students needed “help from Australians and other students but it is difficult to get” (Sm[CE]1, 2014). Sm[CE]2 (2015) suggested “mentoring where first years talk to second years” would assist first year students settling into university life. Both positive and negative comments were made regarding staff proficiency and dedication to the role of teacher and mentor.

“Approachable and knowledgeable staff” (S[CE]1, 2014) were described as valuable mentors whereas staff with “poor communication skills” (Sm[CE]2, 2015) and those that did not “value their role as teacher” (Sm[CE]1, 2014) were described as ineffective mentors.

10. **Partnerships**

Partnerships appeared as a new theme through the student interviews. Students expressed a broad notion of partnerships incorporating all stakeholders and the advantages of brokering such partnerships. “Relationship between government, universities, industry and students” (S[CE]2, 2015) were cited as integral to employability of graduates.

Interviews with current students reaffirmed the Domains identified in Phase One of the Case Study. Several new Dimensions emerged, all of which fell under the auspices of existing Domains. The Dimensions (with corresponding Domains in brackets) were:

- Transition to professional (WIL and Workplace Relevance)
- Quality of work placement (WIL and Workplace Relevance)
- Partnerships (WIL and Workplace Relevance)
- Rigour of assessment process (Assessment)
• Assessment design (Assessment)
• Intellectual, emotional support (Social Connections)
• Friendships (Social Connections)
• Self-efficacy and self-identity (Professionalism)
• Staff capacity and approaches (Mentoring)

4.3.3 Overview of Phase One and Phase Two Findings for CE Case Study

The findings of Phase Two strengthened and consolidated the need for industry engagement and practical application in the course experience for workplace preparedness. It should be noted that students’ perceptions differed somewhat from those of graduates who had competed in the workforce and were more aware of the limitations and strengths of their skill set. Students stressed the importance of problem-solving, creative thinking and teamwork relevant to workplace settings. They reaffirmed that technical skills were important, but not in isolation. The importance of social connections from both a professional and personal perspective were heightened and given greater context in relation to success and confidence for employability. While staff quality does not relate directly to workplace preparedness, comments portrayed that approaches used by staff to instigate motivation and confidence in students contributed to the development of skills relevant to employability. Despite there not being a specific question on motivation, it still emerged as a driver in student learning through being intrinsically motivated and stimulated by the learning experience. Some students perceived assessment as a ‘means to an end’ and were acclimatised to performing to the assessment task. However, they could see the benefits of assessment that validated capabilities with relevance to future employment when WIL pedagogy was embedded. Several students were critical of the way the course was structured and delivered – some saw university as “just ripping people off” (Sm[CE]2, 2015) and questioned the value of investment in a university education.

With the inclusion of Phase Two findings, Table 4.9 shows several new Dimensions nested in the existing Domains. These Dimensions are differentiated in blue text in Table 4.9.
### Table 4.9

**CE Case Study: Phase One and Phase Two Domains and Dimensions**

<table>
<thead>
<tr>
<th>Domains</th>
<th>Course content and structure</th>
<th>WIL and workplace relevance</th>
<th>Assessment</th>
<th>Skill development</th>
<th>Social connection</th>
<th>Motivation/stimulation</th>
<th>Professionalism</th>
<th>Mentoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity of expectations and standards</td>
<td>Less academia</td>
<td>Employability</td>
<td>Real world tasks, relevance and meaning</td>
<td>Writing, speaking (communication)</td>
<td>Diversity</td>
<td>Learner engagement</td>
<td>Confidence</td>
<td>Industry-based mentors</td>
</tr>
<tr>
<td>Professional learning for staff</td>
<td>Course design</td>
<td>Networking with employers</td>
<td>Feedback on performance</td>
<td>Creativity (new situations)</td>
<td>Inter-cultural/global</td>
<td>Students take responsibility</td>
<td>Resilience</td>
<td>University-based mentors</td>
</tr>
<tr>
<td>Reward and recognition for staff</td>
<td>Cohesion and transition</td>
<td>Industry awareness</td>
<td>Learning through failure</td>
<td>Thinking</td>
<td>Value others’ perspectives</td>
<td>Self-directed learning</td>
<td>Values and ethics</td>
<td>Peer mentors</td>
</tr>
<tr>
<td>Currency of industry expertise</td>
<td>Resources</td>
<td>Industry placements</td>
<td>Rigour of assessment process</td>
<td>Problem-solving (quantitative and analysis)</td>
<td>Sense of belonging, connected</td>
<td>Independent learning</td>
<td>Self-management</td>
<td>Mentors for staff</td>
</tr>
<tr>
<td>Staff as mentors</td>
<td>Irrelevant content</td>
<td>Employer expectations</td>
<td>Assessment design</td>
<td>Teamwork</td>
<td>Intellectual and emotional support</td>
<td>Interpersonal skills</td>
<td>Staff capacity and approaches</td>
<td></td>
</tr>
<tr>
<td>Mentors for staff</td>
<td>Foundational year</td>
<td>Staff currency and capacity</td>
<td>Technical skills/discipline knowledge</td>
<td>Friendships</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currency of content</td>
<td>Real world application</td>
<td>Intercultural</td>
<td>Self-efficacy and self-identity</td>
<td>Professional identity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-disciplinary</td>
<td>Transition to professional</td>
<td>Using ICT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of work placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partnerships</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.4 Phase Three: Partnerships and Curriculum Design to Enhance Employability of CE Graduates

In Phase Three, stakeholders’ views on partnership models to support the development of workplace proficiency were investigated. Interviews were conducted with an employer of CE graduates, a representative from each of the professional bodies responsible for accreditation of the CE degree, and three teaching staff including the Head of school. A content analysis of curriculum documents was also conducted to ascertain how embedding WIL in curriculum develops employability capabilities. The curriculum documentation interrogated was that experienced by the graduates and students involved in the study. Phase Three of the study addressed RQ3 and RQ4.

Interview questions were specifically designed to elaborate on the themes emerging from Phases One and Two, with the intention of further developing the Domains and Dimensions. Interview questions related to the quality of the learning experience, the roles and responsibilities of stakeholders, the impact and potential of embedding WIL in curriculum, industry’s role in ensuring employable graduates, the importance of professional identity, the role of the professional accreditation body, and the nature of partnerships.

4.4.1 Representatives of Professional Accreditation Bodies and Employer Interviews: CE

Interviews with a representative of each of the professional accrediting bodies and an employer were conducted late 2015 and early 2016. A representative from IChemE was interviewed on 16th November 2015 for a one hour period, and the EA representative on 1st December 2015 for one hour and 45 minutes. The employer was interviewed for 45 minutes on 11th April 2016. The experience of the professional accreditation body representatives differed in that the career of the IChemE interviewee had focussed primarily on academia, in contrast to the EA interviewee who had over 25 years of industry-based experience. While the employer’s responses were brief and succinct, her five years of experience working with graduates transitioning into the workplace provided a valuable perspective.

Interviews with Representatives of Professional Accrediting Bodies: CE

Questions for accrediting body representatives were similar to the employer questions but focussed on the role of professional accreditation bodies and their relationship with universities (See Appendix J). While the professional accreditation bodies specify competencies to be evidenced by graduates, consideration is given to the culture of the learning environment, the learning outcomes and assessments evident in curriculum, availability of resources to support the learning experience, the relevant expertise of staff, the quality and industry-readiness of graduates, and the quality of
teaching. To gather this information, professional accreditation bodies conduct discussions with both staff and students in their deliberations.

The iChemE interviewee stressed the importance of “global recognition for CE graduates” while EA focused on accreditation “in line with industry protocols”, both of which are required for graduates to be competitive in a global job market. The EA interviewee considered the university to be instrumental in enabling students to engage with industry-based mentors. Engaging with “experienced engineers talking about their work and networking” was considered to be of immense benefit for students in gaining awareness of workplace functionality.

While partnerships varied considerably across universities, both representatives agreed it was a worthwhile pursuit. The EA interviewee saw it as a four-way partnership – “students, university, industry and EA as a representative of industry”. Partnership arrangements, however, were perceived as problematic given the differing foci of stakeholders. The EA interviewee acknowledged the critical role EA plays in bringing industry and universities together. This was considered challenging given that in the past EA “have not had very good value proposition for academics” (EA, 2015).

The EA interviewee conveyed challenges of negotiating meaningful and mutually beneficial partnerships due to disconnected motives for academia and the workplace. The difficulty with establishing partnerships was perceived as a result of “silos” where “academics network with other academics, practicing engineers network with other practicing engineers, and there is a barbed wire fence between the two where we can see each other but we don’t talk very much” (EA, 2015).

Interviewees perceived “partnerships as dysfunctional, superficial and not reciprocal” (IChemE, 2015), with conversations restricted to “the university telling us what they are doing and industry asking the occasional question, and then everyone breaks up and disappears” (EA, 2015). Industry needs to “come on board more enthusiastically so that we can get more training places” (IChemE, 2015). Both relayed the lack of industry currency of teaching staff as a challenge in equipping students with work ready skills, believing that partnerships “keep the teaching staff current with what is happening in industry, it lets them build and maintain a network within industry. And it continually reminds industry of the value academia can bring into their work” (EA, 2015).

Both reaffirmed technical skills and an analytical mind for problem-solving as important attributes for chemical engineering graduates. “Basic fundamental engineering knowledge and lifelong learning” (IChemE, 2015) were also considered essential traits for a chemical engineer. Enabling students a more exploratory approach to learning which encompassed failure and reflection was
considered a priority with the opinion that “universities struggle to develop students’ ability to work with ambiguity. The way it is taught and examined in universities is that there is a right answer. In industry, there is never a right answer. “When they are first out of university and they turn up with that new graduate smell and that little ribbon, you know they have been tied up and packaged by the university” (EA, 2015).

Both EA and IChemE agreed that graduates have little support in identifying graduate opportunities and emphasised the rapidly changing industry dynamics and the “evolving entrepreneurial industry” (IChemE, 2015). Professional identity was perceived as instrumental to success in a rapidly changing market place with graduates needing “multiple mental images of what the job will look like in the workforce” (EA, 2015). Universities are “educating engineers for an industry that no longer exists. What is learnt in first year is obsolete at graduation” (EA, 2015). IChemE (2015) contended that graduates need a broader world view and success “depends on the individual and their motivations and drive”.

Overall, the professional accreditation body representatives agreed that collaborative partnerships were instrumental to providing students with the authentic learning experiences for entry into the professional world of a chemical engineer. Scepticism surrounding course content and the learning experiences was conveyed.

**Employer Interview: CE**

The employer believed motivation and “willingness to continue learning and accept challenges is key to a successful career”. The importance of proactive individuals with initiative and well-developed interpersonal skills was emphasised with specific reference made to “problem-solving, technical competence, communication and motivation” as essential attributes for entering the workforce. The employer felt that graduates’ “minimal industry experience means they have unrealistic expectations of how industry functions”. The value of providing industry networking opportunities for students to source mentors and make connections relevant to their future career was emphasised. This was referred to as “harnessing expertise” through workplace engagement. “An emphasis on soft skills” was evident with the belief that “students need support to build their skills, and direction for where to [source jobs]”. This was perceived to be the responsibility of the university, while a key role of the professional setting was to provide real-world projects.

The employer saw value in partnerships between university and industry “to provide industry-based learning experiences that are embedded in curriculum and assessed”. However, establishing partnerships was considered “difficult due to poor communication” and the different needs of industry, driven by economic imperatives.
When probed about professional identity and the important elements for a chemical engineer, the employer highlighted “team dynamics, personal development, communication, diverse experiences, workplace engagement, confidence, and a positive attitude”. With “graduate positions declining” in the current economic climate, an increasingly competitive environment exists for graduates seeking employment. “Solid academic standing” was an imperative for graduate applicants, but given equal weighting with personal attributes.

In summary, the employer believed that partnerships between universities and industry were imperative to providing holistic and relevant learning experiences culminating in work ready graduates. Motivation, confidence, professional identity and the willingness to pursue challenges were perceived as pivotal to success as a chemical engineer.

4.4.2 Teaching Staff Interviews: CE

Three teaching staff were interviewed to glean their commitment to ensuring work ready graduates and how they perceived the roles of stakeholders. Table 4.10 shows the dates and duration of each interview along with the relevant experience of each staff member. The interview questions were similar to those asked of employers and representatives from professional accrediting bodies, with focus on the impact of curriculum on the student experience (See Appendix K).

Table 4.10

<table>
<thead>
<tr>
<th>Participant</th>
<th>Date</th>
<th>Duration</th>
<th>Position</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS[CE]1</td>
<td>12th Oct 2015</td>
<td>1 hour</td>
<td>Senior Lecturer (Teaching role)</td>
<td>1.5 years industry-based and 8 years working at a university</td>
</tr>
<tr>
<td>TS[CE]2</td>
<td>16th Nov 2015</td>
<td>1 hour</td>
<td>Senior Lecturer (Teaching role)</td>
<td>6 years industry-based and 12 years working at a university</td>
</tr>
<tr>
<td>TS[CE]3</td>
<td>27th Jan 2016</td>
<td>0.75 hours</td>
<td>Head of School (Teaching role)</td>
<td>Short period based in industry (less than one year). Worked at university for 20 years</td>
</tr>
</tbody>
</table>

All staff held a leadership position, one in industry engagement and curriculum design, one in practicum arrangements for students, and the Head of School had responsibility for governance of the CE Department. Interviewees had limited experience in industry with careers predominantly in the university sector, but agreed that the purpose of attending university was to acquire skills and knowledge that equipped students with employability capabilities required by industry.
Existing Domains formed the basis of the initial analysis using deductive methodology which was followed by an inductive approach to further develop Domains and Dimensions.

1. **Staff Quality and Expertise**

Teaching staff reiterated the need to build staff capacity to enact a curriculum that encompasses real world learning experiences through WIL pedagogy. Concern was raised about the tension between teaching and research responsibilities as “staff see teaching as less important than research to keep their job” (TS[CE]1, 2015). The necessity for university staff to broker partnerships with industry was acknowledged by interviewees, “but [staff] might not know how” (TS[CE]1, 2015) to approach this requirement.

2. **Course Content and Structure**

Despite staff acknowledgement that industry engagement and authentic learning experiences were pivotal to the development of employability capabilities, when queried on gaps in the curriculum, staff focussed on “technical competence, which means you have knowledge to pass an exam, that is number one” (US[CE]1, 2015).

3. **WIL and Workplace Relevance**

Staff agreed that a university education should “deliver graduates that meet industry requirements” (TS[CE]3, 2016). TS[CE]1 (2015) espoused the value of students “networking with professional bodies, and working in an engineering company” as an integral part of their degree. Working with industry to enhance “professional skills and ensure credibility” (TS[CE]2, 2015) was deemed essential. Partnerships between the university and industry were considered important for affording students opportunities to engage with industry. Working “as an academic in isolation from industry” (TS[CE]2, 2015), compromised currency and relevance of the curriculum.

4. **Assessment**

Designing and implementing authentic assessment was perceived as “the greatest challenge for staff” (TS[CE]1, 2015). Staff relayed the need to adhere to “assessment guidelines provided by the accrediting body” (TS[CE]3, 2016), and “standard assessment” (TS[CE]1, 2015) policies and processes mandated by the university. The strict guidelines of the university and professional accrediting bodies were considered barriers to innovative assessment, co-designed with industry partners.
5. **Skill Development**

Teaching staff reiterated that a quality education comprised development of “communication, creativity, problem-solving and the capacity to work in multi-cultural settings” (TS[CE]3, 2016). Staff stressed the importance of “ethical behaviour” (TS[CE]2, 2015) and “not going beyond ethical boundaries” (TS[CE]3, 2016) for work readiness. In addition, skills such as “inquiring, intellectual stimulation and creativity” (TS[CE]3, 2016) were mentioned. Teaching staff regarded the consolidation and integration of these skills as key to graduate employability to ensure “students have problem solving skills” (TS[CE]3, 2016). Staff also stressed the importance of “technical skills, professional skills, critical thinking, and systems thinking as important for employers [of graduates]” (TS[CE]3, 2016). While the development of workplace skills was considered vital, “The core essence of knowledge” (TS[CE]1, 2015) was claimed to be pivotal to a successful and industry-ready graduate.

Reflective practice was suggested as a strategy for gaining “confidence” and developing awareness that “you've achieved something or failed and learnt something” (TS[CE]2, 2015). However, “reflective practice is something that the engineering student would never come across, but industry says we need to be reflective” (TS[CE]1, 2015). This comment highlights the disconnect between what industry perceives to be important and the curriculum to which students are exposed.

6. **Social Connections**

“Communities of practice which improved student engagement, resulting in better outcomes” (TS[CE]2, 2015) were perceived by teaching staff as excellent sources of support and social interaction for students. Communities of practice were primarily realised through the various co-curricular engineering clubs and societies on campus which “play a fantastic role in industry engagement” (TS[CE]2, 2015). However, staff acknowledged that not all students benefitted as small numbers of students participated.

7. **Motivation/stimulation**

While staff agreed that motivation was important, they felt that students needed to take some active responsibility to engage and “be motivated to do something well and get the most out of the opportunities”. (TS[CE]1, 2015). Staff contested that both teaching staff and students lacked motivation for different reasons. The university policy environment and conflicting priorities pertaining to staff roles and responsibilities were considered to be demotivating for teaching staff. Students relayed the lack of industry connections and traditional teaching approaches as factors that impacted on their level of motivation.
8. Professionalism

Teaching staff appreciated the importance of professionalism and the development of a professional identity, but felt that the course lacked “a good plan for embedding professional skills” (TS[CE]1, 2015). There was a shared perception that students needed opportunities to explore professional identity across the degree but are “bombarded with professional skills and identity development in their final year” (TS[CE]2, 2015), which was considered too late. Professional identity was believed “crucial” (TS[CE]2, 2015) to success in all aspects of life and “definitely” as a requisite for workplace readiness and success. “If you're not happy with yourself and don't have fulfilment when you graduate” (TS[CE]2, 2015), career success is limited.

9. Partnerships

Staff agreed that partnerships with industry were fundamental to quality curriculum implementation and stated that “industry has a role in helping to educate engineers by providing project work” (TS[CE]1, 2015). Staff acknowledged the many challenges of partnering with industry which included “the willingness of industry to engage when they're under considerable pressure with the economic situation" (TS[CE]1, 2015).

Following a consultative session TS[CE]2 conducted with students, industry and staff, priorities were identified as “authentic experiences in curriculum, projects that [include] project management, leadership, finance and viability, and mentorship” (TS[CE]2, 2015). This staff member lamented that “The industry engagement was phenomenal, but academic involvement wasn't” (TS[CE]2, 2015). Accreditation bodies were perceived as “regulators” (TS[CE]1, 2015) rather than partners. Brokering partnerships with industry to inform curriculum and provide authentic learning experiences was considered problematic because staff “don’t know how” (TS[CE]1, 2015) to initiate and maintain these relationships. Staff required “coaching to help make those links” (TS[CE]2, 2015). Another constraint for “why teaching staff don’t engage with industry is fear. They have never been in industry as engineers” (TS[CE]3, 2016). “Sabbatical leave spent working in industry” (TS[CE]2, 2016) was suggested as a way to address this limitation. However, “at the end of the day it has to be valued at the university for people to invest the time” (TS[CE]3, 2016).

During interviews, staff elaborated on the Domains and Dimensions from previous phases with greater emphasis on partnerships, ethical behaviour, student resilience, shared responsibility with students, and professional identity. Student resilience (managing failure), importance of reflection, and the challenges of working within the confines of university protocols, attracted increased prominence.
10. Students Taking Responsibility

“The student has to take some responsibility” (TS[CE]2, 2015) was echoed by staff, but they agreed students needed clarity in expectations in order for this to happen. Students need to keep “updating themselves through professional development, or just learning something themselves. They’ve got to become familiar with the area through their own devices and work” (TS[CE]1, 2015).

11. Resilience

Teaching staff spoke of resilience and coping with failure with accounts of “some top graduates who are very good academically but had trouble getting a job because they focus just on their studies. Employers report that they fall to pieces if somebody looks at them or says a cross word” (TS[CE]1, 2015).

12. University protocols

University processes, policies and protocols were perceived as prohibitive to innovation and change. Even small changes were “rejected for the most trivial reason. It makes staff feel like it's a bit of a joke and they become less inclined to make any changes to improve the course” (TS[CE]1, 2015). Staff collectively agreed that approval processes for curriculum changes were time-consuming and subject to scrutiny from a compliance perspective, thereby dissuading staff from reviewing and revising the curriculum.

13. Professional Accreditation Bodies

When discussing the role of professional bodies, staff focussed on the process of accreditation and the need to comply rather than the potential for partnering to facilitate graduate work readiness. “The 480 hours of exposure to professional practice [mandated by EA] is a big constraint and relates to the students ability to graduate” (TS[CE]1, 2015).

4.4.3 Curriculum Document Content Analysis: CE Curriculum

The content of twenty six unit outlines for the CE degree were analysed to determine the relevance and authenticity of learning outcomes and assessment tasks (See Table 3.9). The unit outline contains detailed information for students on the learning outcomes and assessments required to successfully complete the unit. The content analysis of these documents provided data which substantiated stakeholder perceptions about the student experience. The content analysis data informed:
RQ3: How does embedding work-integrated learning experiences in curriculum enhance graduate employability?

The Authentic Assessment Framework (AAF) provided the criteria for judging the authenticity of learning outcomes assessments and attributing the appropriate WIL descriptor: Not evident, Emerging, Developing or Highly Developed. WIL was not evident in 68% of assessments, suggesting the most common assessment types involved the students evidencing the knowledge they had acquired rather than how they might apply that knowledge in real world scenarios. WIL was categorised as Emerging in 28% of assessments and a further 2.5% allocated the Developing descriptor. Those deemed to be Highly Developed comprised 1.2% of the overall assessment profile. The majority of assessments lacked relevance to workplace requirements and the development of employability capabilities.

To further explore the assessment profile in the CE degree, the list of assessment tasks was compiled and categorised. Table 4.11 provides a list of the assessment tasks, the number of occurrences of the assessment type and the overall weighting of the assessment type across the course.

Table 4.11 shows that out of a possible 84 assessments, 50 were tests or exams which examined recall of knowledge with no real-world application. A further seven assessments were quizzes which were multiple choice questions with a right or wrong answer, an approach that does not facilitate collaborative decision-making or problem-solving deemed essential for workplace proficiency. The more authentic assessments (presentations, reflective journals, projects and workshops) made up 22 of the possible 84 assessments, representing a 16.2% total weighting.
<table>
<thead>
<tr>
<th>Assessment types</th>
<th>Number of occurrences</th>
<th>Weighting per total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>26</td>
<td>17.4</td>
</tr>
<tr>
<td>Exam</td>
<td>24</td>
<td>33.6</td>
</tr>
<tr>
<td>Exercise/Assignment</td>
<td>21</td>
<td>9.7</td>
</tr>
<tr>
<td>Laboratory Report</td>
<td>10</td>
<td>4.3</td>
</tr>
<tr>
<td>Project</td>
<td>8</td>
<td>7.2</td>
</tr>
<tr>
<td>Research Report</td>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>Quiz</td>
<td>7</td>
<td>4.0</td>
</tr>
<tr>
<td>Presentation</td>
<td>6</td>
<td>3.5</td>
</tr>
<tr>
<td>Group exercise</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td>Reflective Journal</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Workshop</td>
<td>4</td>
<td>2.1</td>
</tr>
<tr>
<td>Memos</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Research Proposal</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>84</td>
<td>100</td>
</tr>
</tbody>
</table>

In the interrogation of assessment types by the weighting afforded each type, the prominence of exams and tests is more pronounced, with 55% of the total possible weighting for assessments allocated to these assessment types. The 10 week internship that CE students are required to do is not factored into this assessment profile as it is a non-credit bearing activity (not embedded in curriculum) and is not formally assessed. The internship is disconnected from the students’ overall learning experience as it is an ‘add-on’ component and not integrated across the course.

Analysis of learning outcomes and assessment tasks has verified that the CE degree lacks the rigour of workplace preparation. This was corroborated by all stakeholders and suggests a collaborative effort is required to address this shortfall.

4.5 Overview of Phase Three Findings for CE Case Study

Phase Three data collection and analysis consolidated and expanded on findings from Phases One and Two. Responses from the employer, professional accreditation body representatives, and teaching staff affirmed the Domains and Dimensions. The interviews identified the barriers and
challenges to implementing strategies graduate work-readiness. All stakeholders agreed partnerships were integral to addressing these gaps, but limitations prevented the formation of mutually beneficial collaborations. Interestingly, professional accreditation body representatives were of the opinion that their role incorporated partnering with universities and industry. However, staff perceived their role as “regulators”. Professional identity, student resilience and the need for students to be partners in their learning journey were dominant themes emerging from stakeholder interviews, particularly with teaching staff.

Analysis of curriculum documents revealed an absence of WIL, restricting opportunities for students to engage in real world application. The majority of assessments required knowledge recall, with students rarely required to evidence employability capabilities. There was little evidence of industry involvement in assessment design, providing students feedback, or networking with students.

Phase Three findings reshaped the illustrative overview of the findings into a more holistic overview of which the Domains and Dimensions form a part. The university experience should be underpinned by partnerships comprising students, graduates, the university, employers and professional accreditation bodies. The partnership is designed to collaborate on and support:

- Curriculum design,
- Assessment practices,
- Staff Capacity,
- Mentoring for all stakeholders, and
- Development of professional identity for all stakeholders

Table 4.12 presents the final Domains and Dimensions from Case Study One: CE. The additional Dimensions emerging from Phase Three results are represented in red. Table 4.12 highlights partnerships between key stakeholders which drive all aspects of the student experience. Results from the CE Case Study show that the overarching Domains of Staff quality and expertise, Course content and structure, WIL and workplace relevance, Assessment, Skill development, Social connections, Motivation/stimulation, Professionalism, and Mentoring are developed, implemented and quality assured through the partnerships. For collaborative partnerships to function appropriately, clarity of the roles, responsibilities, and expectations for each of the stakeholders is required. The Domains are not mutually exclusive; synergies and intersections are evident. Partnerships are the mechanism by which the connections across Domains are optimised and weaknesses addressed. Collaboration in the design of curriculum and assessment with collective responsibility across all stakeholders address the Dimensions in WIL and workplace relevance, and
ensure authentic assessment models with feedback from multiple sources. This approach will, in
turn, improve skill development and ensure student learning focuses on those skills important for
the future workforce. Social connections are facilitated with a greater focus on partnership
arrangements and working collaboratively. The increased real-world application will stimulate
learning and motivate students to take responsibility for their progress and development. This in
turn enhances professionalism and facilitates the development of a professional identity through
self-exploration and determination. Partnerships create the opportunity for mentoring among and
between stakeholders. As reported by research participants, the challenge resides with the
establishment of these partnerships as it requires a cultural shift in all sectors, not the least of which
is the university. Champions will be instrumental in driving partnerships with executive
endorsement from the university.

4.6 Conclusion

This chapter provided a detailed précis of the CE degree through gathering quantitative and
qualitative data from stakeholders including graduates, employers, students, teaching staff and
representatives of the two professional accrediting bodies. The findings showed synergies across
stakeholder perspectives and identified scope for how stakeholders can work collaboratively to
prepare graduates for the future workplace. The need to nurture partnerships that facilitate shared
responsibility and authentic learning experiences was espoused by all stakeholders. However,
barriers to making this a reality were also raised, something which will be addressed in the
Discussion chapter. The following chapter, Chapter Five, reports on the results for Case Study Two:
OT.
### Table 4.12

**CE Case Study: Phase One, Phase Two and Phase Three Domains and Dimensions**

<table>
<thead>
<tr>
<th>Domains</th>
<th>Staff quality and expertise</th>
<th>Course content and structure</th>
<th>WIL and workplace Relevance</th>
<th>Assessment</th>
<th>Skill development</th>
<th>Social connection</th>
<th>Motivation/stimulation</th>
<th>Professionalism</th>
<th>Mentoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnership</td>
<td>Students - Graduates - University - Employers - Professional Accreditation Bodies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Domains</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clarity of expectations and standards</strong></td>
<td>Less academia</td>
<td>Employability</td>
<td>Real world tasks, authenticity</td>
<td>Writing, speaking (communication)</td>
<td>Diversity</td>
<td>Learner engagement</td>
<td></td>
<td></td>
<td>Industry-based mentors</td>
</tr>
<tr>
<td><strong>Professional learning for staff</strong></td>
<td>Course design</td>
<td>Networking with employers</td>
<td>Feedback on performance</td>
<td>Creativity (new situations)</td>
<td>Inter-cultural/global</td>
<td>Students take responsibility</td>
<td></td>
<td></td>
<td>Resilience</td>
</tr>
<tr>
<td><strong>Reward and recognition for staff</strong></td>
<td>Cohesion and transition</td>
<td>Industry awareness</td>
<td>Learning through failure</td>
<td>Thinking</td>
<td>Value others’ perspectives</td>
<td>Self-directed learning</td>
<td></td>
<td></td>
<td>Values and ethics</td>
</tr>
<tr>
<td><strong>Currency of industry expertise</strong></td>
<td>Resources</td>
<td>Industry placements</td>
<td>Rigour of assessment process</td>
<td>Problem-solving (quantitative and analysis)</td>
<td>Sense of belonging, connected</td>
<td>Independent learning</td>
<td></td>
<td></td>
<td>Peer mentors</td>
</tr>
<tr>
<td><strong>Staff as mentors</strong></td>
<td>Irrelevant content</td>
<td>Employer expectations</td>
<td>Assessment profile design</td>
<td>Teamwork</td>
<td>Intellectual and emotional support</td>
<td>Interpersonal skills</td>
<td></td>
<td></td>
<td>Staff capacity and approaches</td>
</tr>
<tr>
<td><strong>Mentors for staff</strong></td>
<td>Foundational year</td>
<td>Staff currency and capacity</td>
<td>University policy and protocols – Technical skills/discipline knowledge</td>
<td>Friendships</td>
<td></td>
<td>Self-awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Currency of content</strong></td>
<td>Real world application</td>
<td>Accreditation requirements</td>
<td>Intercultural</td>
<td>Communities of practice</td>
<td></td>
<td>Self-efficacy and self-identity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multi-disciplinary</strong></td>
<td>Transition to professional</td>
<td>Focus on knowledge acquisition</td>
<td>Using ICT</td>
<td></td>
<td></td>
<td>Initiative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Quality of work placement</strong></td>
<td>Reflection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Positive attitude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lifelong learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Professional identity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Entrepreneurship</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Accept challenges</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 5 : RESULTS CASE STUDY TWO: OCCUPATIONAL THERAPY (OT)

5.1 Introduction

Case Study Two gathered and analysed data pertaining to the Bachelor of Science (Occupational Therapy) (OT), a four year full time or equivalent part time degree (See Section 3.7.2). This Chapter provides an overview of the findings for the OT Case Study. Results are presented for each phase showing the cumulative effect of the mixed methods research design whereby findings from each phase built on and corroborated findings from previous phases. While each phase focused on particular research questions, collectively the findings addressed the overarching research question with a focus on OT students: How can stakeholders work collaboratively to prepare graduates for the future workplace?

5.2 Phase One: Important Components and Gaps in a University Education for OT Stakeholders

In Phase One the Course Experience Questionnaire (CEQ) and the Graduate Employability Indicator Surveys (GEI) (See Section 3.8.1) were administered. These surveys garnered graduates’ levels of satisfaction with their course experience as well as the perspectives of employers, graduates and university teaching staff on graduate outcomes as a result of their studies. Phase One informed RQ1 and RQ2.

5.2.1 Course Experience Questionnaire (CEQ) for OT Graduates

The CEQ was administered to OT graduates of 2012, 2013 and 2014 three months post-graduation. For the purposes of this research, each CEQ survey will be referred to by the year of the graduating cohort. (See Table 3.4 for CEQ items).

Table 5.1 shows the number of respondents and percentage response rates for each CEQ event, while Table 5.2 provides the percentages of respondents by gender and residency.

Table 5.1  
Number of OT Respondents and Percentage Response Rates for CEQ per Year

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Number of respondents</th>
<th>Possible Respondents</th>
<th>Percentage response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>63</td>
<td>109</td>
<td>58%</td>
</tr>
<tr>
<td>2013</td>
<td>67</td>
<td>103</td>
<td>65%</td>
</tr>
<tr>
<td>2014</td>
<td>60</td>
<td>105</td>
<td>57%</td>
</tr>
<tr>
<td>Total</td>
<td>180</td>
<td>317</td>
<td>57%</td>
</tr>
</tbody>
</table>
Table 5.2

*OT Respondents for CEQ by Gender and Residency*

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Gender (%)</th>
<th>Residency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>2012</td>
<td>89</td>
<td>11</td>
</tr>
<tr>
<td>2013</td>
<td>95</td>
<td>5</td>
</tr>
<tr>
<td>2014</td>
<td>85</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 5.1 shows that the number of respondents for the quantitative section of the CEQ was steady over the three CEQ events ranging from 60 (2014) to 67 (2013). Percentage response rates were also consistent with a low of 57% recorded in 2014 and peaking at 65% in 2013. Overall, fifty seven percent of graduates provided feedback on their course experience across all three CEQ events. The demographics information in Table 5.2 highlights the dominance of female respondents which aligned closely to the proportion of female enrolments in the degree. The percentage of international students who responded to the survey, although small, represented a higher ratio than the proportion of international student OT enrolments.

Table 5.3 shows the number of comments collected in each survey year against both the best aspects and needs improvement questions, with the breakdown of domestic and international graduates. All survey respondents had studied the degree on a full time basis.

Table 5.3

*Number of Comments in CEQ for 2012, 2013 and 2014 OT Graduates*

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Number of Comments for Best Aspects (BA)</th>
<th>Number of Comments for Needs Improvement (NI)</th>
<th>Domestic Headcount</th>
<th>International Onshore Headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>50</td>
<td>51</td>
<td>42</td>
<td>9</td>
</tr>
<tr>
<td>2013</td>
<td>60</td>
<td>52</td>
<td>53</td>
<td>7</td>
</tr>
<tr>
<td>2014</td>
<td>62</td>
<td>61</td>
<td>59</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>172</td>
<td>164</td>
<td>154</td>
<td>21</td>
</tr>
</tbody>
</table>

Table 5.3 indicates a gradual increase in the number of comments over the three years. Also shown is the small proportion of international onshore graduates who provided comments (18%, 12% and 8%) compared with domestic graduates.
Findings from CEQ Quantitative Items for OT Graduates

The quantitative data was analysed by item to determine areas with which graduates Agreed or Strongly Agreed and those areas with low levels of agreement. These findings informed the important components of a university education (RQ1) and the design of subsequent phases. The frequency distribution showing the level of respondents’ agreement with each item is provided in Figure 5.1.

The CEQ quantitative data for OT graduates showed a high level of agreement with items across the three CEQ events. Over 80% of graduates Agreed or Strongly Agreed in each CEQ survey that staff allocated time to commenting on their work, skill development improved as a result of their studies, the course prepared them well for unfamiliar situations and the future, the course encouraged appreciation of diverse perspectives. Overall, graduates were satisfied with the quality of the course.

Graduates were less satisfied with staff feedback, clarity of standards, explanations and expectations, interest and motivation inspired by staff, development of confidence, enthusiasm stimulated by their studies, and staff efforts to understand personal difficulties.

The percentage of Agree plus Strongly Agree for the above items varied across the three survey events with over 80% agreement recorded in some years and agreement levels in the 60% to 80% band in other survey events, suggesting a variation in student perceptions across the different student cohorts. However, clarity of expectations and explanations, staff efforts to understand personal difficulties, and enthusiasm stimulated by their studies, recorded agreement levels between 60% and 80% for all three CEQ surveys.
Figure 5.1: CEQ responses for 2012, 2013 and 2014 OT graduates: Agree + Strongly Agree
To distil the data and determine overarching themes, the weighted average percentage responses for Agree and Strongly Agree were calculated across the three years. Table 5.4 shows the percentage Agree plus Strongly Agree for each year and the weighted average across all three survey events. Item responses were categorised into two sections based on the average percentage responses:

1. Items with 80% or higher satisfaction
2. Items with 60% to 80% satisfaction

No items recorded less than 60% satisfaction so this category was omitted from the table. Table 5.4 highlights the consistency of graduates’ perceptions across the three CEQ surveys.

These categories are the benchmarks used by the University for internal and external benchmarking. Table 5.5 shows a breakdown of where each item fits within the two categories, highlighting the elements of the course experience where levels of agreement were between 60% and 80%, thereby requiring further investigation. The highlighted cells are those items directly pertaining to workplace preparedness.
Table 5.4
*Percentage Agree Plus Strongly Agree for 2012-2014 OT Graduates and Weighted Average*

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>2012 grads %</th>
<th>2013 grads %</th>
<th>2014 grads %</th>
<th>Weighted Average %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The staff put a lot of time into commenting on my work</td>
<td>85.00</td>
<td>84.00</td>
<td>89.00</td>
<td>85.91</td>
</tr>
<tr>
<td>2. The teaching staff normally gave me helpful feedback on how I was going</td>
<td>84.00</td>
<td>76.00</td>
<td>86.00</td>
<td>81.81</td>
</tr>
<tr>
<td>3. The course helped me develop my ability to work as a team member</td>
<td>95.00</td>
<td>94.00</td>
<td>93.00</td>
<td>94.02</td>
</tr>
<tr>
<td>4. It was always easy to know the standard of work expected</td>
<td>61.00</td>
<td>68.00</td>
<td>75.00</td>
<td>67.89</td>
</tr>
<tr>
<td>5. The teaching staff of this course motivated me to do my best work</td>
<td>77.00</td>
<td>82.00</td>
<td>86.00</td>
<td>81.61</td>
</tr>
<tr>
<td>6. The course provided me with a broad overview of my field of knowledge</td>
<td>90.00</td>
<td>94.00</td>
<td>96.00</td>
<td>93.31</td>
</tr>
<tr>
<td>7. The course sharpened my analytic skills</td>
<td>93.00</td>
<td>93.00</td>
<td>89.00</td>
<td>91.74</td>
</tr>
<tr>
<td>8. My lecturers were extremely good at explaining things</td>
<td>77.00</td>
<td>81.00</td>
<td>76.00</td>
<td>78.09</td>
</tr>
<tr>
<td>9. The teaching staff worked hard to make their subjects interesting</td>
<td>75.00</td>
<td>90.00</td>
<td>82.00</td>
<td>82.50</td>
</tr>
<tr>
<td>10. The course developed my confidence to investigate new ideas</td>
<td>80.00</td>
<td>91.00</td>
<td>79.00</td>
<td>83.62</td>
</tr>
<tr>
<td>11. The course developed my problem-solving skills</td>
<td>93.00</td>
<td>91.00</td>
<td>94.00</td>
<td>92.61</td>
</tr>
<tr>
<td>12. The staff made a real effort to understand difficulties I might be having with my work</td>
<td>67.00</td>
<td>59.00</td>
<td>65.00</td>
<td>63.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>13. I usually had a clear idea of where I was going and what was expected of me in this course</td>
<td>77.00</td>
<td>68.00</td>
<td>83.00</td>
<td>75.72</td>
</tr>
<tr>
<td>14. University stimulated my enthusiasm for further learning</td>
<td>70.00</td>
<td>66.00</td>
<td>76.00</td>
<td>70.48</td>
</tr>
<tr>
<td>15. The course improved my skills in written communication</td>
<td>89.00</td>
<td>93.00</td>
<td>92.00</td>
<td>91.36</td>
</tr>
<tr>
<td>16. I learned to apply principles from this course to new situations</td>
<td>95.00</td>
<td>99.00</td>
<td>93.00</td>
<td>95.78</td>
</tr>
<tr>
<td>17. It was often hard to discover what was expected of me in this course</td>
<td>26.00</td>
<td>26.00</td>
<td>21.00</td>
<td>24.32</td>
</tr>
<tr>
<td>18. I consider what I learned valuable for my future</td>
<td>97.00</td>
<td>97.00</td>
<td>96.00</td>
<td>96.68</td>
</tr>
<tr>
<td>19. As a result of my course, I feel confident about tackling unfamiliar problems</td>
<td>79.00</td>
<td>82.00</td>
<td>86.00</td>
<td>82.67</td>
</tr>
<tr>
<td>20. My course helped me to develop the ability to plan my own work</td>
<td>89.00</td>
<td>91.00</td>
<td>87.00</td>
<td>89.07</td>
</tr>
<tr>
<td>21. The staff made it clear right from the start what they expected from students</td>
<td>72.00</td>
<td>75.00</td>
<td>75.00</td>
<td>74.01</td>
</tr>
<tr>
<td>22. My university experience encouraged me to value perspectives other than my own</td>
<td>95.00</td>
<td>90.00</td>
<td>94.00</td>
<td>92.92</td>
</tr>
<tr>
<td>23. Overall, I was satisfied with the quality of this course</td>
<td>95.00</td>
<td>93.00</td>
<td>90.00</td>
<td>92.72</td>
</tr>
</tbody>
</table>
### Table 5.5

**CEQ Items by Category of Agreement Levels for 2012, 2013 and 2014 OT Graduates**

<table>
<thead>
<tr>
<th>CEQ Items</th>
<th>80% and over Agreement</th>
<th>Between 60% and 80% agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The staff put a lot of time into commenting on my work</td>
<td></td>
<td>4. It was always easy to know the standard of work expected</td>
</tr>
<tr>
<td>2. The teaching staff normally gave me helpful feedback on how I was going</td>
<td></td>
<td>8. My lecturers were extremely good at explaining things</td>
</tr>
<tr>
<td>3. The course helped me develop my ability to work as a team member</td>
<td></td>
<td>12. The staff made a real effort to understand difficulties I might be having with my work</td>
</tr>
<tr>
<td>5. The teaching staff of this course motivated me to do my best work</td>
<td></td>
<td>13. I usually had a clear idea of where I was going and what was expected of me in this course</td>
</tr>
<tr>
<td>6. The course provided me with a broad overview of my field of knowledge</td>
<td></td>
<td>14. University stimulated my enthusiasm for further learning</td>
</tr>
<tr>
<td>7. The course sharpened my analytic skills</td>
<td></td>
<td>17. It was often hard to discover what was expected of me in this course</td>
</tr>
<tr>
<td>9. The teaching staff worked hard to make their subjects interesting</td>
<td></td>
<td>21. The staff made it clear right from the start what they expected from students</td>
</tr>
<tr>
<td>10. The course developed my confidence to investigate new ideas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. The course developed my problem-solving skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. The course improved my skills in written communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I learned to apply principles from this course to new situations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I consider what I learned valuable for my future</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. As a result of my course, I feel confident about tackling unfamiliar problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. My course helped me to develop the ability to plan my own work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. My university experience encouraged me to value perspectives other than my own</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Overall, I was satisfied with the quality of this course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Shaded cells highlight survey items that directly relate to work-readiness.*
Summary of OT Graduates: CEQ Quantitative Data

OT graduates expressed a high level of agreement with the quality of the OT degree across all three CEQ events. Based on the average for each item, no items recorded agreement levels below the 60% benchmark. Focussing on those items that related to work-readiness only, graduates showed high levels of agreement with elements of the course that specifically developed work readiness attributes. These included teamwork, motivation, discipline knowledge, analytic skills, confidence to investigate new ideas, problem-solving, written communication, application of principles to new situations, value for future application, tackling unfamiliar problems, ability to plan own work, and valuing others’ perspectives. Stimulation of enthusiasm for further learning was the only work-related item that fell in the 60% to 80% category. The CEQ qualitative data enabled graduate perceptions to be explored in greater depth.

Findings from CEQ Qualitative Data: CE Graduates

The CEQ collected qualitative data via two questions:

1. What were the Best Aspects of your course (BA)?
2. What aspects of your course were most in Need of Improvement (NI)?

A manual deductive analysis was undertaken initially using the outcomes of the quantitative data as foundational themes. Inductive analysis followed which identified new themes not apparent in the quantitative data. The qualitative data was uploaded to NVivo to organise and classify data, and determine the occurrence of common themes evident in the graduates’ comments. Themes for each of the graduate groups were captured which were then consolidated into an overall thematic schema for OT Graduates in 2012, 2013 and 2014. Table 5.6 shows the dominant themes for each survey event.
Table 5.6
*Themes Emerging from CEQ Qualitative Data for 2012, 2013 and 2014 OT Graduates*

<table>
<thead>
<tr>
<th>Themes</th>
<th>2012 Graduates (n=50)</th>
<th>2013 Graduates (n=60)</th>
<th>2014 Graduates (n=62)</th>
<th>Total Best Aspects</th>
<th>2012 Graduates (n=51)</th>
<th>2013 Graduates (n=52)</th>
<th>2014 Graduates (n=61)</th>
<th>Total Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIL and Workplace Relevance</td>
<td>26</td>
<td>48</td>
<td>46</td>
<td>120</td>
<td>18</td>
<td>28</td>
<td>8</td>
<td>54</td>
</tr>
<tr>
<td>Course Content and Structure</td>
<td>10</td>
<td>24</td>
<td>25</td>
<td>59</td>
<td>19</td>
<td>21</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Staff Quality and Expertise</td>
<td>24</td>
<td>27</td>
<td>31</td>
<td>82</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Assessment</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>15</td>
<td>10</td>
<td>15</td>
<td>40</td>
</tr>
<tr>
<td>Social Connections</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>11</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Motivation/Stimulation</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Mentor/Support</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>9</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Professionalism</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Skill Development</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Analysis of the qualitative data endorsed the high level of agreement OT graduates reported in the quantitative data. The most frequently occurring themes emerged as both BA and areas NI which suggests graduates benefited from the experience when these elements were incorporated in their learning and sought to have them more frequently across the course.

Table 5.6 shows the key themes evident in the qualitative data. An explanation of themes related to work-readiness are outlined below.

1. **WIL and Workplace Relevance**

Out of a total of 172 comments related to this theme, 120 were positive. Graduates relayed the value of “lecturers who were currently working clinically” (Graduate 30, 2014. BA) as instrumental in providing authentic learning experiences and opportunities to connect with practitioners in the occupational therapy field. The capacity of staff to “share real life experiences” (Graduate 17, 2014. BA) was a reoccurring theme across the best aspects comments. Many respondents simply stated “fieldwork” (Graduate 12, 2012. BA) or “clinical placements” (Graduate 50, 2013. BA) as the most valuable aspects of the OT degree.

For areas needing improvement, graduates felt “it would be helpful to have practicals throughout the course, so you can consolidate theory and practical concurrently” (Graduate 13, 2012. NI). Graduates suggested that “Learning how to get a job when you graduate” (Graduate 38, 2013. NI) would assist in sourcing employment, preparing for the competitive recruitment process, and showcasing employability attributes. “Support for students on placement” (Graduate 01, 2014. NI) was perceived to be inadequate, as was the intensity of fieldwork (practical placement) in fourth year. Graduates felt unprepared for the challenges and uncertainties for which they needed “more support” (Graduate 22, 2014. NI) to “better prepare for placements and practical situations”.

2. **Course Content and Structure**

Graduates commented on the value of interactive learning and the content of the degree. “The vast scope of topics covered” (Graduate 49, 2012. BA) was thought to be a strength of the course. Graduates valued the range of subjects taught and appreciated the modern learning facilities which enabled “hands on experience in different areas of occupational therapy” (Graduate 14, 2013. BA). Graduates were critical of the heavy theoretical content and the lack of preparation for the clinical placement with suggestions that the course structure needed to change to “better prepare students for placements and practical situations. It was sometimes too theory based and it was hard to translate information into practical situations” (Graduate 7, 2013. NI).
3. **Staff Quality and Expertise**

Graduates were impressed with the dedication, experience, “support and passion from well-informed staff” (Graduate 24, 2012. BA) who were “willing to share their knowledge and clinical experiences with students” (Graduate 16, 2012. BA), a perception that resonated with many graduates. The industry expertise of staff enabled the application of theoretical concepts to authentic scenarios in preparation for the workforce. Graduates regarded the high quality of staff expertise and clinical experience as “more of a mutual relationship that reflected the real world” (Graduate 10, 2013. BA). Teaching staff were considered approachable, flexible and “passionate, knowledgeable and always willing to help” (Graduate 12, 2013. BA). Areas perceived as needing improvement included clarity of expectations, supporting students’ development and staff who were research orientated and perceived to be “not fully involved to understand the difficulties or monitor the progress of students’ confidence” (Graduate 41, 2012. NI).

4. **Assessment**

Negative comments about assessment (40) exceeded the positive comments (11). While graduates benefited from the practical assessments, they were critical of “scheduling of assignments” (Graduate 23, 2014. NI) and considered many to be “irrelevant and unfair” (Graduate 42, 2013. NI). Graduate 34 (2013. NI) expressed concern that “marking systems were subjective and inconsistent and feedback lacked content”. Assessment was perceived as a “factory-like process with lack of time for discourse and exploring learning” (Graduate 25, 2013. NI). “Feedback from teaching staff” (Graduate 02, 2014. NI) was also perceived to be an area requiring improvement.

5. **Social Connections**

“The social interactions between students and staff” (Graduate 10, 2013. BA) and the relationships fostered with staff were considered a strength. Graduates were cognisant of a divide within the student cohort and suggested “staff need to address the lack of cohesiveness among students, both locally and internationally” (Graduate 01, 2012. NI). One international respondent claimed that domestic students “treated us like we are not there” (Graduate 23, 2012. NI) and felt there was little empathy “towards students from different cultural backgrounds”.

6. **Motivation/Stimulation**

Nine comments related to a best aspect and six highlighted where improvements were needed. Comments conveying that “the teaching staff were wonderful, very motivating and helpful” (Graduate 14, 2013. BA) featured frequently. However, graduates also mentioned that they were
“not motivated by some staff throughout the course” (Graduate 51, 2014. NI) and “real examples/stories would make things more interesting and engaging” (Graduate 18, 2014. NI).

7. Mentor/Support

Graduates commented on the value of industry-based mentors as well as fellow students and staff. Graduates remarked that staff “were more like coaches in our professional career” (Graduate 26, 2012. BA) and were appreciative of the “support and passion from well-informed staff” (Graduate 24, 2012. BA). The benefits of staff “willing to share their knowledge and clinical experiences with students” (Graduate 16, 2012. BA), resonated with many graduates. Mentoring which encompassed “career support and development” (Graduate 32, 2014. NI) was considered an area needing improvement.

8. Professionalism

Respondents stated that the practical focus and quality of teaching “reinforced personal values in a way that allowed confidence in the workplace” (Graduate 20, 2012. BA). The practical components of the course “developed professionalism and interpersonal skills as well as research skills and skills as an occupational therapist that allow me to get a job in a competitive market” (Graduate 15, 2013. BA). Negative comments in the professionalism domain related mainly to international students who found the logistics of clinical placements difficult when the “placement was a four hour bus journey” (Graduate 50, 2013. NI). Many experienced language and cultural barriers in the workplace setting where staff and clients “lacked multicultural exposure” (Graduate 16, 2012. NI).

9. Skill Development

Graduates believed the course experiences had “broadened thinking” (Graduate 20, 2012. BA). Graduates also emphasised that “the practical component of the course helped to transfer skills learnt to real life settings” (Graduate 60, 2014. BA). While there was general consensus that the course had equipped graduates well with skills required for workplace proficiency, the “development of time management, communication skills and professional communications, conflict resolution and dealing with difficult clients” (Graduate 26, 2012. NI) were perceived to be areas that could be improved.

Summary of OT Graduates: CEQ Qualitative Data

The CEQ qualitative data consolidated the major themes evident in the quantitative data and provided greater depth and context to graduate perceptions. WIL and Workplace Relevance
attracted the highest number of positive and negative comments. Assessment recorded the substantially more needs improvement comments than best aspects, many of which related to the relevance of assessment tasks. Graduates commented that social connections, while a best aspect of the course, also needed improvement. Comments pertaining to motivation/stimulation and mentor/support showed a slightly higher number of best aspects comments as opposed to comments focussed on areas needing improvement. Professionalism and skill development attracted a small number of comments almost evenly distributed across best aspects and needs improvement. OT graduates commented both positively and negatively on key elements of the course related to work-readiness, highlighting the important components and the gaps in their university experience.

**Summary of CEQ Data: OT Graduates**

The quantitative and qualitative CEQ data suggests OT graduates held high regard for teaching staff and the authenticity of their learning experiences. Graduates were especially appreciative of their relationship with staff which allowed open and regular channels of communication. The most positively perceived staff capability was their experience in the practice-based setting which informed their teaching and ensured currency of industry standards and practices. Graduates saw this aspect as a catalyst for enhancing their work-readiness skills.

Practical components of the course and the opportunities for industry engagement were unquestionably the most valued feature of the course. The real-world learning embedded in the course was described as providing “a broad set of skills essential to a quality, person-centred occupational therapist” (Graduate 47, 2014. BA). Graduate comments highlighted the value of the practical components which enabled the integration of theory and practice and provided real-world learning experiences, thereby developing employability capabilities.

Despite acknowledgement that the practical elements were excellent, graduates commented on the desire to have the industry placements occur more regularly and be embedded across the four years rather than only their final year, as there was a perception that students would benefit from a more developmental approach to the workplace environment. The Needs Improvement comments pertaining to WIL and Workplace relevance suggested this could be improved by embedding work-based experiences earlier in the course, and scaffolding the development of employability capabilities with enhanced support and feedback.

Assessment emerged as a dominant area requiring improvement. Comments related to the quality of feedback on student performance, clarity of expectations, weighting of exams, timing of assessments, and authenticity of assessments. Mentor/support, professionalism and skill
development attracted a relatively small numbers of comments, but sufficient to be considered a viable theme as these areas connect to more dominant themes.

In summary, the CEQ quantitative data revealed graduates’ satisfaction with areas of their course experience that related to work-readiness. The CEQ qualitative data provided greater insight to the important components that supported the development of employability capabilities. The themes emerging from the CEQ quantitative and qualitative data will be consolidated further following the second part of Phase One which involved the GEI Surveys.

5.2.2 Graduate Employment Indicator (GEI) Surveys for OT Stakeholders

The GEI Surveys are a suite of three online surveys intended to gather the perceptions of graduates (of up to five years), employers and teaching staff on the most highly regarded employability capabilities of the profession and the gaps in graduates’ generic skills thereby highlighting deficits in the course experience (See Section 3.8.1). Qualitative data is gathered via questions targeted for the particular stakeholder.

A total of 79 stakeholders (26 graduates, 36 employers and 17 teaching staff) responded to the OT survey. See Appendix G for respondents’ demographic information and response rates.

**GEI Quantitative Data: OT Graduate Perceptions**

Twenty four of the 26 graduate respondents were female (92.3%). Seventeen (65.4%) were 25 years or younger, eight (30.8%) were aged 26-35 years, and one (3.8%) was older than 45 years. Seven (26.9%) respondents were one year post-graduation, eight had graduated two years prior, and two respondents had completed the degree five years ago. Twenty three (88.5%) graduates were domestic students and three (11.5%) international.

Graduates ranked the extent to which their degree contributed to their development of 14 employability capabilities using a four-point Likert Scale ranging from Very little to Very much (see Appendix E). Graduates were also asked how important they perceived each capability for employment success. Respondents selected from Very little importance to Very important for this question. Figure 5.2 provides a visual overview of graduate responses.

Over 80% of graduates identified most skills as important, with slightly lower levels of importance recorded for Industry awareness and Quantitative analysis of problems. Using ICT was considered the least important with 57% of respondents deeming it to be either of very little importance or quite important.
No items recorded a gap in capabilities perceived important and those evident in the degree program greater than 30%. The largest gaps were evident in Speaking, Teamwork, Intercultural understanding, Problem-solving, and Industry awareness. A smaller gap between importance and development was recorded for Values and ethics, Community engagement, Social contexts, Writing, Knowledge, Using ICT, and Thinking. Independent learning and Quantitative analysis of problems were perceived to be developed sufficiently for the OT profession.

![Comparison of OT graduate perceptions](image)

*Figure 5.2: Comparison of OT graduate perceptions (n=26) of the extent the degree experience contributed to capability development with the importance of those capabilities*

Thirty percent of graduates believed they were very little (6%) or to some extent (26%) work ready compared with 68% who felt they were quite a bit (45%) or very much (23%) work ready.

**GEI Quantitative Data: OT Employers Perceptions**

Thirty six employers responded to the survey, 22 of whom were middle managers, one an executive manager, and 13 identified as belonging to the ‘other’ category. Thirty respondents worked for the public sector, two for a small-medium enterprise, and four were employed by a large private sector enterprise. All organisations were based in Australia or New Zealand. The majority of employer respondents were employed in the Health and Community Services sector (32) and two each in the education and mining industry areas. Thirty two (89%) respondents were female. Figure 5.3 compares OT employers’ perceptions of the development of capabilities with their importance.

Employers considered most skills to be very important with the majority receiving over 80% agreement. Intercultural understanding, Industry awareness, Social contexts and Using ICT were
ranked of less importance. Community engagement and Quantitative analysis of problems were considered of least importance.

Employers perceived many employability capabilities to be under-developed in graduates, most notably Problem-solving with a gap of 62% and Industry awareness with a 57% gap. Thinking and Knowledge were also considered to be lacking in graduates when they entered the workforce. While Intercultural understanding, Team work, Values and ethics, Community engagement, and Using ICT were perceived as more developed, there was still a mismatch between the level of development and their importance.

![Figure 5.3: Comparison of OT employer perceptions (n=37) of the extent the degree experience contributed to capability development with the importance of those capabilities](image)

The majority of employers (65%) felt that graduates were quite a bit (62%) or very much (3%) work ready compared with 27% of employers who believed graduates were to some extent (24%) or very little (3%) work ready.

**GEI Quantitative Data: OT Teaching Staff Perceptions**

Of the 17 university teaching staff who responded, 11 had full time continuing contracts and four were part-time continuing staff. One staff member was on a full time fixed term contract and one was on a part time contract. Seven of the respondents had been teaching at a university for more than seven years, six had taught at a university for between four and seven years and four had been employed at a university for less than three years. Sixteen respondents had extensive industry experience (more than five years) and one had moderately extensive experience in industry (between one and five years). Thirteen had recent industry experience (in the past year), two
moderately recently (two to five years) and two less recently (six to ten years). Four were male and 13 female.

Figure 5.4 presents a comparison of the teaching staff perceptions of the extent graduates demonstrate each capability with the importance of those capabilities. Staff perceived that all attributes were poorly developed except Using ICT, where the perceived level of development exceeded its importance.

Figure 5.4: Comparison of OT teaching staff perceptions (n=19) of the degree experience contributed to capability development with the importance of those capabilities

All other skills showed a shortfall in level demonstrated as opposed to level of importance. A substantial gap between importance and level of development is evident in Writing, Speaking, Thinking, Quantitative analysis of problems, Problem solving, Community engagement and Industry awareness. The results from teaching staff indicate they perceived graduates lacked proficiency in the majority of these capabilities.

Figure 5.5 presents a comparison of staff perceptions of their confidence in teaching and assessing each capability. When comparing staff confidence to teach the capabilities with their confidence to assess, teaching staff appear confident that they have the skills to incorporate teaching and assessing these skills in the course.

Staff are least confident teaching and assessing Using ICT, but both employers and teaching staff considered that graduates are highly proficient in Using ICT. Over 80% of teaching staff were confident with their ability to assess in most other attributes, with Quantitative analysis of problem-
solving, Intercultural understanding, Industry awareness and Social contexts recording less than 80%. Despite this level of confidence, staff perceived the development of these skills in graduates as inadequate.

Figure 5.5: Comparison of teaching staff (n=19) confidence (quite confident and very confident) in teaching and assessing capabilities

Summary of Stakeholder Perceptions of Employability Capabilities in OT Graduates

Figure 5.6 presents triangulation of perspectives on the importance of the capabilities of the three stakeholder groups: graduates, employers and teaching staff. Stakeholders generally agree on the importance of most capabilities.
Employers consider Quantitative analysis of problems, Community engagement and Industry awareness as less important than graduates and teaching staff. Problem-solving is viewed as more important by teaching staff, whereas graduates value Social contexts more than employers and teaching staff. While all stakeholders consider Discipline knowledge to be important, graduates and employers agreed on the level of importance while teaching staff considered it slightly less important. Overall, the three stakeholders show a similar trend in their perceptions of the importance of each of the capabilities.

Figure 5.7 shows a triangulation of the perspectives of the stakeholder groups on the extent new graduates demonstrate the capabilities (quite a bit or very much). While there are similarities with stakeholder perceptions about the importance of capabilities, analysis of data pertaining to perceptions of graduates’ demonstration of skills, shows variation between the stakeholder groups.

Graduates consider knowledge to be well-developed while both teaching staff and employers perceive knowledge acquired by graduates to be less so. Writing and Speaking showed similar trends with graduates and employers agreeing on the degree to which these skills are demonstrated but teaching staff perceiving these areas to be poorly demonstrated. Employers and teaching staff agreed that Quantitative analysis of problems was poorly demonstrated, whereas graduates considered this to be more developed. Teaching staff and employers thought Using ICT was very well developed, while graduates considered it poorly developed. Agreement with the development of Team work showed greater consistency, but results suggest this skill could be developed further.
Graduates and teaching staff considered that Independent learning was moderately developed, whereas employers considered it to be poorly developed. All stakeholders agreed that Intercultural understanding required greater emphasis in the course, particularly teaching staff. Problem-solving, deemed to be very important in a workplace context, recorded high agreement for graduates, but very low levels of agreement for employers and teaching staff. Values and ethics recorded agreement between all stakeholders, while employers and teaching staff considered Community engagement to be poorly developed. Industry awareness recorded low levels of agreement for all stakeholders, with a small percentage of employers agreeing that it was well-developed. Graduates considered social contexts to be moderately developed, while both employers and teaching staff thought it was poorly developed. Figure 5.7 highlights the divergent perspectives on employability capabilities demonstrated by graduates.

**Figure 5.7:** A comparison of graduate, employer and teaching staff perceptions of capabilities perceived as more demonstrated or developed

GEI qualitative responses were sorted into broad themes apparent in the GEI quantitative data and building on those used in the CEQ analysis. This identified key themes where frequency of themes enabled data to be organised and summarised in preparation for more detailed analysis. This approach informed the nodes created in NVivo for analysis and connections.
GEI Qualitative Data: OT Graduates

Graduates were invited to respond to two open questions:

- What were the best aspects of this degree in developing your skills for employment (BA)?
- How could the degree be changed to improve your skills for employment (NI)?

Twenty-three comments relating to the Best Aspects and 24 pertaining to the Needs Improvement were received from graduates. The qualitative data in the GEI attracted much richer comments around employability and industry engagement with many of the respondents being in employment for several years, in contrast to the CEQ data where respondents had completed their studies three months prior and had less experience (or no experience) with workplace requirements.

While graduate comments relayed the positive aspects of the practical and real-world components of the course (20 of the 23 comments), they frequently commented on how this aspect could be improved (18 of the 23 comments). The practical placements were considered “undoubtedly the best way to consolidate the skills taught as you feel that all the knowledge finally makes sense - you can see how it is applied to REAL people in REAL settings” (Graduate 14, 2013. BA). Graduates expressed the desire for “more practical and experiential elements” given that “occupational therapy is essentially a hands-on job and there was far too much academia in the degree” (Graduate 23, 2013. NI). The value of practical placements in developing “critical thinking and team-oriented learning” (Graduate 7, 2013. BA) was highlighted. Practical placements were considered “the best way to prepare for the job” (Graduate 15, 2013. NI). However, graduates still felt they were inadequately prepared for the competitive nature of recruitment, expressing the need to “practice writing selection criteria and interview panels with case studies” (Graduate 15, 2013. NI). Graduates suggested “more clinicians [actively employed as an OT] involved in the teaching” (Graduate 19, 2013. NI) as a strategy for improving the relevance and authenticity of the learning experiences. The also felt “more practicums need to be offered across the degree and the School needs to liaise more with the community to ascertain need and trends, so student learning is more reality based than solely theory based” (Graduate 12, 2013. NI).

Comments made reference to the need for more “diversity in the course structure which would allow for options and improved marketability of the students of this course” (Graduate 1, 2013. NI). Graduates appreciated the “different types of assessment tasks and learning activities including vivas [oral defence examination], practical assessments, oral presentations and case studies” (Graduate 12, 2013. BA). The practical examinations were perceived to be particularly useful for “practical real-world examples and critically analysing situations” (Graduate 8, 2013. BA). The
same graduate believed authentic assessment developed their skills and enabled them “to liaise constantly with clients, stakeholders and communities”.

**GEI Qualitative Data: Employers of OT Graduates**

Employers were invited to answer two questions:

- What skills, attributes and personal qualities do you consider to be the most useful for new graduates in this field (MU)?
- Which (if any) skills, attributes and personal qualities of new graduates would you prioritise for improvement (NI)?

Employers made 35 comments for both attributes and personal qualities most useful and those considered priorities for improvement. Skills prioritised for improvement by employers included “communication skills and interdisciplinary practice” (Employer 02, 2013. NI), “the ability to collaborate and work cooperatively” (Employer 15, 2013. NI), and “professional skills and self-reflection” (Employer 04, 2013. NI). Employer 08 (2013. MU) conveyed the most useful skills as:

    Well-developed, communication skills, willingness to learn, takes responsibility for own learning and professional development, entry level clinical skills and knowledge, team player but also able to work independently, developed problem solving and ethical decision-making skills, administrative skills, creative thinking skills.

Employer 23 (2013. MU) suggested the “personal attributes of enthusiasm, willingness to receive and adapt to feedback, initiative, and good communication skills” were the most useful attributes, thereby stressing the need for graduates to be resilient, manage workplace stress and accept feedback. Employer 13 (2013. MU) suggested graduates needed to respond to “constructive feedback, be eager to learn, and confident to ask questions”.

**GEI Qualitative Data: OT Teaching Staff**

Teaching staff made 21 comments in response to the following questions:

- What do you see as the main incentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
- What do you see as the main disincentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
• What do you see as your role in assisting students to develop these attributes, skills and personal qualities?
• What sort of staff development opportunities would increase your confidence to teach and assess work-related skills, attributes and personal qualities?

Incentives

Staff showed genuine passion and enthusiasm for teaching and gained satisfaction from “watching students grow and develop competence” (Staff 17, 2013) and “personal satisfaction from being an effective teacher” (Staff 15, 2013). Teaching staff saw their role as “developing the OT profession and providing quality service to the needy” (Staff 02, 2013) by ensuring a “high quality of graduate therapists who can fulfil their roles in an ever-evolving environment” (Staff 04, 2013). Staff 09 (2013) stated that observing the “growth of the student into a professional” was an incentive.

Disincentives

Staff perceived “time demands” (Staff 01, 2013), “university policy and procedures” (Staff 5, 2013), “lack of interest in learning by some students” (Staff 13, 2013), and “workload and pay” (Staff 15, 2013) as major disincentives for assisting students to develop work-related skills and personal qualities. “A system which does not value teaching skills as much as research” (Staff 17, 2013) was cited as a disincentive for putting energy and time into teaching. This perception resonated with staff who were discouraged to “maintain active employment in clinical or practice roles as they were more generously rewarded and acknowledged for research” (Staff 8, 2013).

Teacher’s Role

Staff saw themselves as “role models and mentors in the profession” (Staff 02, 2013) and considered their role to be a “professional obligation” (Staff 03, 2013) to “inspire students” (Staff 05, 2013). Staff perceived they had a key role in “engaging students with a variety of learning activities and assessments” (Staff 19, 2013) that provided “real life case studies” (Staff 17, 2013). “Challenging students to be critical thinkers through assessment design” (Staff 14, 2013) was considered pivotal to motivating students and stimulating their learning.

Staff Development

Staff identified “strategies for engaging students” (Staff 07, 2013), “conducting effective assessments and providing feedback to students” (Staff 02, 2013) and “interaction with industry” (Staff 03, 2013) as key areas for professional development. Partnerships and shared “learning between academics and clinicians” (Staff 12, 2013) was suggested as a useful strategy for
maintaining industry currency. Staff expressed the need for professional learning in teaching and assessing skills such as “industry awareness” (Staff 19, 2013), “ethics and values and using IT” (Staff 08, 2013). Several staff commented on the need for professional learning in curriculum design to facilitate the development of a “logical, coherent course and greater consistency between units” (Staff 16, 2013). Designing “innovative assessment” (Staff 19, 2013) was also identified as an area of need.

5.2.3 Overview of Phase One findings for OT Case Study

Phase One identified the important components of a university education that support the development of employability capabilities, and identified stakeholders’ perceptions of the gaps in the skills and knowledge of graduates in workplace preparedness with specific reference to the OT discipline. Table 5.7 provides a visual representation of the major themes and sub-themes emerging from Phase One of the OT Case Study which are referred to as Domains and Dimensions respectively. The quantitative and qualitative data from both the CEQ and GEI surveys were merged to ascertain the overarching Domains evident in stakeholder perceptions. The University setting emerged as a new Domain from the GEI data with frequent reference to university operations that impacted on staff capacity to provide a quality student experience. Other themes identified in the data are encapsulated with in the broader Domains and are termed Dimensions.
Table 5.7

**OT Case Study: Phase One Domains and Dimensions**

<table>
<thead>
<tr>
<th>Domains</th>
<th>WIL and Workplace relevance</th>
<th>Course Content and structure</th>
<th>Staff quality and expertise</th>
<th>Assessment</th>
<th>Social Connection</th>
<th>Motivation/stimulation</th>
<th>Mentor/support</th>
<th>Professionalism</th>
<th>Skill development</th>
<th>University protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employability, getting a job</td>
<td>Too theoretical</td>
<td>Currency of industry expertise</td>
<td>Authentic and innovative assessment</td>
<td>Inter-cultural</td>
<td>Learner engagement</td>
<td>Industry-based mentors</td>
<td>Confidence in workplace</td>
<td>Time-management</td>
<td>Reward and recognition for staff</td>
<td></td>
</tr>
<tr>
<td>Hands-on experience</td>
<td>More frequent WIL placement across course</td>
<td>Passion and enthusiasm</td>
<td>Feedback on performance</td>
<td>Relationships with staff</td>
<td>Lifelong learning</td>
<td>Career support and development</td>
<td>Personal values</td>
<td>Conflict resolution</td>
<td>Professional learning for staff</td>
<td></td>
</tr>
<tr>
<td>Industry and community Partnerships</td>
<td>Partnerships with community and industry</td>
<td>Staff confidence</td>
<td>Scheduling of assessment profile</td>
<td>Cohesive student cohort</td>
<td>Stimulation for further learning</td>
<td>Mentoring from staff</td>
<td>Multicultural exposure</td>
<td>Communication (spoken and written)</td>
<td>Teaching versus research</td>
<td></td>
</tr>
<tr>
<td>More fieldwork/ clinical placements</td>
<td>Flexibility and diversity</td>
<td>Partnerships</td>
<td>Diversity of assessments</td>
<td>Motivating teachers</td>
<td>Peer mentors</td>
<td>Values and ethics</td>
<td>Teamwork</td>
<td>Policies and protocols</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support/ Supervision on placement</td>
<td>Logical and coherent curriculum</td>
<td>Teaching versus research priority</td>
<td>Assessment for learning</td>
<td>Real-world application motivating</td>
<td>Students take personal responsibility</td>
<td>Discipline knowledge</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Interdisciplinary practice</td>
<td>Professional learning</td>
<td>Professional learning</td>
<td>Resilience</td>
<td>Problem-solving and critical thinking</td>
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<tr>
<td>Staff currency of industry experience</td>
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<td></td>
<td>Self-reflection</td>
<td>Creativity</td>
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<td>Industry awareness</td>
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<td>Transferability of skills</td>
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<tr>
<td>Motivates interest and engagement</td>
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<td></td>
<td>Independent learning</td>
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</table>
5.3 Phase Two: Graduate Outcomes and Student Perspectives for OT

Phase Two investigated the employment outcomes for 2012 and 2013 OT graduates and probed further into the strengths, weaknesses and challenges of the student experience. This was followed by individual and small group interviews with current students studying the OT degree. The design of the interview questions (See Appendix I) were based on the Domains and Dimensions occurring in Phase One of the Case Study. This phase of the research addressed RQ1, RQ2 and RQ3 (See Section 3.3).

5.3.1 Graduate Destination Survey (GDS): OT Graduates

Data on employment outcomes of graduates was collected via the Graduate Destination Survey (GDS). GDS respondents in 2013 (2012 graduates) comprised 65 graduates, 89% of whom were female. Eighty nine percent were in the 20 to 24 years age bracket, 8% were 25 to 29. The 34 to 39 years age group and 45 years plus age bracket each comprised 1.5% of the respondents. The majority of respondents were domestic students (68%). One respondent was of Indigenous heritage. Fifty three 2013 graduates responded to the 2014 GDS. Ninety six percent were female, 76.5% were in the 20 to 24 age group, 15% in the 25 to 26, and 4% were aged 30 to 34 years. Two respondents were aged between 40 and 45 and one was in the 45 plus age bracket. Australian residents accounted for 82% of the responses with the remaining respondents being international students (18%).

Employment outcomes were higher for 2012 graduates with almost 59% employed on a full time basis. A high of 42% of those working full time were employed on a permanent or open-ended contract basis while 16% were in casual or temporary positions. Full time positions were lower for 2013 graduates (40%) but a substantially higher proportion were working part time (38%) in this cohort. Of those working full time, 78% (2012) and 76% (2013) secured employment in the Health Care and Social Assistance sector, indicating that a high proportion of full time working graduates were employed in the field for which they trained. Nine percent of 2012 graduates and 12% of 2013 graduates were still seeking work.

Figure 5.8 specifies the sources graduates used to secure employment. In 2012, the majority of graduates sourced employment through job advertisements on the internet (42%). Graduates of 2013 sourced employment through contacts with family and friends (21%), internet advertisements (17%) and work contacts or networks (15%). Five percent of 2012 graduates and 9% of 2013 graduates directly approached an employer requesting employment. Figure 5.8 highlights the
minimal support by the university (0% and 9%) to assist graduates in sourcing employment, and the low impact of University Careers Services in sourcing employment (3% and 2%).

OT graduates of 2012 and 2013 enjoyed optimistic employment outcomes upon completion of their studies, although there was a decline in job opportunities evident in 2013, suggesting an increasingly competitive job market with more OT graduates applying for fewer positions. The GDS data revealed that minimal support was provided by Faculty staff and University Careers Services in assisting students to make the transition from student to professional. While the university cannot ‘promise’ to source graduate positions, supporting students and equipping them with the relevant resources throughout the process is important.

### 5.3.2 Individual and Small Group OT Student Interviews

In 2014 and 2015, individual and small group interviews with seven current students studying the OT undergraduate degree were conducted. The age bracket, year of study, and international or
domestic status were noted for each of the participants. Table 5.8 outlines the type and duration of each interview with demographic details of participants.

Table 5.8
Summary of Individual and Small Group Interviews for OT

<table>
<thead>
<tr>
<th>Participant code</th>
<th>Date</th>
<th>Duration</th>
<th>International onshore or domestic</th>
<th>Age bracket</th>
<th>Gender</th>
<th>Year of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sm[OT]1</td>
<td>16th Oct 2014</td>
<td>1 hour</td>
<td>2 domestic and 1 international onshore</td>
<td>20-25</td>
<td>All female</td>
<td>4th year</td>
</tr>
<tr>
<td>Sm[OT]2</td>
<td>4th Dec 2015</td>
<td>1 hour</td>
<td>All domestic</td>
<td>25-30</td>
<td>All female</td>
<td>4th year</td>
</tr>
</tbody>
</table>

IS[OT] 1

<table>
<thead>
<tr>
<th>Date</th>
<th>Duration</th>
<th>International onshore or domestic</th>
<th>Age bracket</th>
<th>Gender</th>
<th>Year of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>30th April 2015</td>
<td>1 hour</td>
<td>Domestic</td>
<td>20-25</td>
<td>Female</td>
<td>3rd year</td>
</tr>
</tbody>
</table>

Sm = Small Group, IS= Individual Student, OT = Occupational Therapy

Interview questions were specifically designed to further explore the notion of employability, the purpose of a university educational experience, and to delve further into key issues raised in previous data collection and analysis. Student interviews provided a broadened context to the existing schema with more explicit and in-depth comments pertaining to the Phase One Domains and Dimensions. It should be noted that students’ perceptions differed from those of graduates who have competed in the workforce and are more aware of the limitations and strengths of their skill set. Qualitative data collected from the individual and small group interviews are reported in the order of the most dominant to least dominant Domains derived from Phase One with new Domains following. Student interviewees agreed that university study was instrumental in “getting a decent job for financial sustainability” (IS[OT]1). “Family expectations” (Sm[OT]1) and “personal expectations” (Sm[OT]2) were cited as reasons for attending university and reflected a “core value” (IS[OT]1) of parents. Students were convinced that a university education was essential for “career satisfaction and long term security” (Sm[OT]1).

1. WIL and Workplace Relevance

The practical experiences were overwhelmingly cited as the greatest strength of the course because the learning that occurs “can’t be taught in the classroom and is where the theoretical aspects come together” (Sm[OT]1). While the students valued the practical aspects of the course, they expressed the need for more work-based experiences as they “change you as a person and you experience failure which helps you grow” (IS[OT]1). Sm[OT]1 felt more “career focussed content and opportunities to engage and network with industry” would enhance the course. The final year of the degree, when much of the learning is undertaken in the workplace was described as “phenomenal. I
felt like I understood what the role of an OT actually is” (Sm[OT]1). Sm[OT]2 were critical of the structure of the practical experiences suggesting that they needed to be more “developmental and scaffolded across the course”. They believed the practice experiences emphasised the irrelevance of the university content and highlighted that industry were seeking graduates who were “willing to learn, professional, resilient and responded constructively to feedback”. Sm[OT]2 also valued the “sims labs” where “paid actors pretend to be clients and students interact with the actors, so it is like the actual workforce”. Students felt ill-prepared for the “huge jump from high school to uni” with the perception that staff “expect us to do everything and know everything” (IS[OT]1).

2. Course Content and Structure

Students were generally satisfied with the course structure and content as it provided a “broad overview [of the OT profession] which will help in the future” (IS[OT]1). Some content was considered “not relevant, especially lots of first year units and disjointed aspects” (Sm[OT]1) and “wishy washy airy fairy first year” (Sm[OT]2). The “diversity of units” (IS[OT]1) was considered a Best Aspect of the course as it provided “a taste of the different areas [of the OT profession]”. The “hands-on” (IS[OT]1) nature of the course featured prominently as a Best Aspect during the interviews. Criticism of the content of subjects was centred on being too “knowledge focussed” (Sm[OT]1) and a lack of “relevance to the real world” (IS[OT]1).

3. Staff Quality and Expertise

Students commented on the “supportive and understanding” (Sm[OT]1) approach of staff which was instrumental in achieving positive learning outcomes. Most of the staff were “clinicians with good practitioner knowledge [of the OT profession]” (IS[OT]1) which students considered beneficial for ensuring currency of industry practices. There was a perception that staff “just expected you to know and I had no idea. It is confronting when you don’t know what is happening” (IS[OT]1).

4. Assessment

Students made positive comments pertaining to “lots of case based assessments” (Sm[OT]1) but were also of the opinion that the repetitive nature of “a whole bunch of cases gets monotonous” (IS[OT]1). They were appreciative of the “feedback staff provided [on assessment]” (Sm[OT]1). While there was consensus that the course incorporated practical elements relevant to the workplace, assessment was “marks driven” IS[OT]1). The competitive culture caused resentment of staff “spoon feeding [students] information on assessments” (IS[OT]1) which was perceived as
unfair and unnecessary. Students believed “assessments got a lot more relevant and real-world” (Sm[OT]2) in later years of the degree. Students valued the authenticity of the learning experiences and assessment strategies deployed to validate their learning. “It has been really rewarding getting feedback from the workplace supervisors” (Sm[OT]2). Sm[OT]1 valued the constructive feedback from work-based supervisors as it provided clarity around “exactly where I needed to get better and I could make active positive change. As a result I became more confident in my personal and professional identity”. “The time between handing it in and getting the feedback was so far apart that you kind of half looked at it and then went, whatever, I passed” (IS[OT]1) typified students’ views on the timing of feedback and how it impacted on the learning.

5. Social Connections

Social connections were perceived as important to students as they were “good opportunities to grow and meet people” (Sm[OT]1). IS[OT]1 perceived “groups who worked together” were an important avenue for connecting socially. The same student valued the cohesiveness of the OT student group because “you know everyone, know each other’s strengths and weaknesses so work well together”. Sm[OT]2 commented that the development of professional identity was hindered “because I didn’t have many friends at the time so I didn’t feel like I could do it [be an OT]”, highlighting the link between professional identity and social connections.

6. Motivation/stimulation

The “need to be motivated” (IS[OT]1) was considered integral to success in the OT course as motivation was the key to being “self-driven and promoting learning to learn” (IS[OT]1). “It [the OT course] was really motivating for me and encouraged me to make positive change” (Sm[OT]2). “Feedback from workplace supervisors” (Sm[OT]1) was perceived as important for motivation in a professional context.

7. Mentor/support

The value of mentors was implicit in many comments pertaining to staff quality as students regarded the majority of staff as “supportive and understanding” (Sm[OT]1), which was instrumental to achievement. Students commented on the worth of “having someone as a mentor to give you feedback in the areas that you do really well and the areas that you need more work on” (Sm[OT]2). Students considered staff, fellow students and industry supervisors as potential mentors.
8. **Professionalism**

Students were divided in their perceptions of how effectively the course developed self-efficacy, self-identity and their capacity for professionalism. Sm[OT]1 were “not sure it developed a strong sense of self-efficacy and self-identity”, while IS[OT]1 felt the course “helped a great deal in managing professional problems”. Students agreed that the course “enabled awareness of [personal] strengths and weaknesses” (IS[OT]1) and nurtured “confidence” (Sm[OT]1). IS[OT]1 was still concerned that she was “not confident enough in skills” and her “self-perception was not developed”. There was a perception that “self-efficacy emerges through engaging with the real world” (Sm[OT]1). Students wanted more focus on “the finesse and etiquette around the OT profession to maintain a patient’s dignity” (Sm[OT]2). The work placement experience was considered pivotal to the development of professional behaviours and professional identity, as it helped students feel “confident and professional” (Sm[OT]2).

9. **Skill Development**

Students were generally complimentary about the skill development the course afforded. Sm[OT]1 remarked that the “skills [covered in the OT course] are transferrable. The community-based [learning] prepared me well and developed professional skills”. The course prepared students effectively for working in “multi-disciplinary teams” (Sm[OT]2) and covered many “different attributes” (IS[OT]1) required of an OT. Other students expressed opposing points of view stating that the course “needed more skills development rather than content” (Sm[OT]2).

Two new themes emerged from the individual and small group interviews with current students: Enhancing employability and the Integration of theory and practice.

10. **Transition to Employment**

Students expressed concern at the declining job prospects since they embarked on the degree. Students engaged in “volunteering to boost skills and strengthen [their] resume” (Sm[OT]2). Sm[OT]1 were appreciative of staff encouragement to take “part in different PD events for OT” as they had assumed the “degree was enough”. There was a perception that the university could provide better support in sourcing and applying for jobs through “interview techniques, resume writing and addressing job criteria” (IS[OT]1).

11. **Integration of Theory and Practice**

Students felt that they had studied “two different things that don’t marry up nicely” (Sm[OT]2). Sm[OT]1 thought they “learnt more [on fourth year practical placement] than in the past four years” thus highlighting a disconnect between the theoretical components and practical aspects.
Theoretical focus of content was considered “far removed” (IS[OT]1) from what was learned on placement.

Phase One Domains were reinforced through Phase Two findings with enhanced scope in some of the existing Dimensions, and several new Dimensions emerging (the corresponding Domain is in brackets):

- Networking with industry (WIL and Workplace Relevance)
- Support for transition to employment (WIL and Workplace Relevance)
- Integration of theory and practice (Course content and structure)
- Marks driven assessment (Assessment)
- Feedback from workplace supervisors (Assessment)
- Experiencing failure (Assessment)
- Personal growth through social connections (Social Connections)
- Working collaboratively (Social Connections)
- Self-driven, learning to learn (Motivation/stimulation)
- Participation in extra-curricular activities (Motivation/stimulation)
- Motivation inspired by workplace supervisors (Motivation/stimulation)
- Responding to feedback (Professionalism)
- Professional identity (Professionalism)
- Personal awareness of strengths and weaknesses (Professionalism)

5.3.3 Overview of Phase One and Phase Two Findings for OT Case Study

Phase Two reinforced the importance of practical, work-based experiences to facilitate the work readiness of students. Students emphasised the quality and industry expertise of staff, and the value of authentic assessment. While social connections did not feature prominently in the discussions, they were assumed in the culture of OT students and deemed to be important. Motivation was highlighted as critical to the success of an OT as lifelong learning and willingness to engage in ongoing learning was deemed essential in the profession. Students expressed the value of workplace supervisors as mentors who provided constructive feedback on personal strengths and areas where students needed to improve. Exploring self-identify, self-efficacy and professional identity drew many comments from students about how the course nurtured their professionalism and where this could be strengthened. Students’ skill development was perceived as adequate although less focus on knowledge content was suggested. These Dimensions were explored in greater depth in Phase Three of the Case Study. Table 5.9 provides an overview of Phase One and Phase Two findings with modifications highlighted in blue.
<table>
<thead>
<tr>
<th>Domains</th>
<th>WIL and workplace relevance</th>
<th>Course content and structure</th>
<th>Staff quality and expertise</th>
<th>Assessment</th>
<th>Social Connections</th>
<th>Motivation/stimulation</th>
<th>Mentor/support</th>
<th>Professionalism</th>
<th>Skill development</th>
<th>University protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employability, getting a job</td>
<td>Too theoretical</td>
<td>Currency of industry expertise</td>
<td>Authentic and innovative assessment</td>
<td>Inter-cultural</td>
<td>Learner engagement</td>
<td>Industry-based mentors</td>
<td>Confidence in workplace</td>
<td>Time-management</td>
<td>Reward and recognition for staff</td>
<td></td>
</tr>
<tr>
<td>Hands-on experience, simulations</td>
<td>More frequent WIL placement across course</td>
<td>Passion and enthusiasm</td>
<td>Feedback on performance</td>
<td>Relationships with staff</td>
<td>Lifelong learning</td>
<td>Career support and development</td>
<td>Personal values</td>
<td>Conflict resolution</td>
<td>Professional learning for staff</td>
<td></td>
</tr>
<tr>
<td>Industry and community Partnerships</td>
<td>Partnerships with community and industry</td>
<td>Staff confidence</td>
<td>Scheduling of assessment profile</td>
<td>Cohesive student cohort</td>
<td>Stimulation for further learning</td>
<td>Support, mentoring from staff</td>
<td>Multi-cultural exposure</td>
<td>Communication (spoken and written)</td>
<td>Teaching versus research</td>
<td></td>
</tr>
<tr>
<td>More fieldwork/clinical placements</td>
<td>Flexibility and diversity</td>
<td>Partnerships</td>
<td>Diversity of assessments</td>
<td>Personal growth through social connections</td>
<td>Motivating teachers</td>
<td>Peer mentors</td>
<td>Values and ethics</td>
<td>Teamwork</td>
<td>Policies and protocols</td>
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<tr>
<td>Support/Supervision on placement</td>
<td>Logical and coherent curriculum</td>
<td>Teaching versus research priority</td>
<td>Assessment for learning</td>
<td>Working together</td>
<td>Real-world application motivating</td>
<td>Students take personal responsibility</td>
<td>Resilience</td>
<td>Problem-solving and critical thinking</td>
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<tr>
<td>Interdisciplinary /multi-disciplinary</td>
<td>Integration of theory and practice</td>
<td>Professional learning</td>
<td>Marks driven</td>
<td>Self-driven, learning to learn</td>
<td>Resilience</td>
<td>Problem-solving and critical thinking</td>
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<tr>
<td>Staff currency of industry experience</td>
<td>Feedback from workplace supervisors</td>
<td>Participate in extra-curricular activities</td>
<td>Self-reflection</td>
<td>creativity</td>
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<td>Industry awareness</td>
<td>Experience failure</td>
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<td>Respond to feedback</td>
<td>Transferability of skills</td>
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<tr>
<td>Motivates interest and engagement</td>
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<td>Professional identity–linked to social</td>
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<tr>
<td>Networking with industry</td>
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<td>Independent learning</td>
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<tr>
<td>Transition to employment</td>
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<td>Awareness of personal strengths and weaknesses</td>
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</tbody>
</table>

Table 5.9
**OT Case Study: Phase One and Phase Two Domains and Dimensions**
5.4 Phase Three: Partnerships and Curriculum Design to Enhance Employability of OT Graduates

Phase Three of the Case Study incorporated interviews with a representative from the professional accreditation body; an employer of OT graduates; and two teaching staff including the Head of School, who were interviewed separately. Interviews focussed on the value of university partnerships in ensuring work-ready graduates. In addition, a content analysis of curriculum documents was undertaken to ascertain the level to which WIL was evident in the course. Coupled with the qualitative data from interviews with stakeholders, the content analysis provided data on how embedding WIL in the curriculum enhances the employability capabilities of graduates. Phase Three addressed RQ2, RQ3 and RQ4.

5.4.1 Representative of Professional Accreditation Body and Employer Interviews: OT

Interview questions were specifically designed to elaborate on themes emerging from Phases One and Two, with the intention of further developing the Domains and Dimensions. Interview questions (See Appendix J) inquired into the quality of the learning experience, the roles and responsibilities of all stakeholders, industry’s role in ensuring employable graduates, professional identity, the role of the Occupational Therapy Board (OTB), and the nature of partnerships. Questions were deliberately open-ended in format to elicit free responses and allow the interview to be guided somewhat by the interviewee, with probing questions where relevant. Deductive analysis of interview data was undertaken initially using the Domains and Dimensions compiled from Phases One and Two. Inductive analysis followed to identify new themes.

The OTB representative was interviewed for 45 minutes on 9th December 2015. She had been a clinical practitioner for 25 years and was currently employed by the university in a dual appointment where she maintained her clinical role. She has held a position on the OTB since 2011. The employer interview was held on 8th February 2016 for a duration of 60 minutes. She was Head of the OT Department at a large city hospital and had worked as a practitioner for over 25 years.

Interview with Representative of the Professional Accreditation Body: OT

The interviewee explained that the OTB is a “regulatory body” whose “competency standards inform the education of undergraduate OTs”. The OTB “mandates 1000 hours [of professional placement]” which incorporates working with the industry to ensure workplace supervision. The OTB representative explained that:
The purpose of accreditation is to assure the quality of educational programs, and to promote continuous improvements. Programs leading to an OT qualification must be accredited by the OTB. The accreditation standards incorporate and build on the minimum standards for OT education outlined by the World Federation for Occupational Therapists (WFOT).

An important role of the Professional Accreditation Body is the “National Registration which is a way of monitoring OTs and the number of OTs in Australia.”

The OTB representative agreed that “curriculum design is pivotal to quality student outcomes”. She stated that “Fieldwork partnerships are vital” for optimal practice-based experiences for all stakeholders”. While “there was a good relationship between [the University] and industry”, this had not always been the case. “A lot of work has been undertaken to improve the way the organisations work together”. The interviewee valued her dual role of clinician and academic, as it “had proved invaluable in [her] role on the board”.

She deemed the strengths of the OT degree to be “discipline knowledge and the development of skills through the application of that knowledge”. The OTB representative stressed the importance of work placements in developing students’ employability capabilities, but acknowledged that it will be “difficult to find clinical placements in the future” due to an increasing number of students. There will need to be some rethinking around “the way fieldwork placements are arranged as [the current model] places extreme pressure on industry and industry-based supervisors. In the future, different models such as ‘simulated learning’ will need to be considered” for quality assurance processes and to ensure that graduate outcomes are sufficiently developed.

The OTB representative felt that graduates “exit [the OT degree] with a sense of professional identity”. She expressed concern over the diminishing contact hours at university and was doubtful students were “encultured into OT”. The interviewee believed that “OT students attending [the workplace] in uniform ensured they were clearly identifiable” thereby nurturing a professional identity. She highlighted the efforts of the OT industry and universities in raising the profile of the OT profession. Professional Accreditation was a mechanism for achieving this as there is “a sense that being a registered profession adds to the status of the profession” and gives it greater credibility.

*Interview with Employer: OT*

The employer regarded “communication, interpersonal skills, confidence, clinical reasoning and self-management” to be important components of a university education that support graduate
employability. While the employer considered there to be many strengths in the education students received, she thought “scope of exposure to the practical environment, ability to apply theory in practical situations, resilience and conflict negotiation skills” were lacking. She considered that a university had the responsibility to “instil that education is a lifelong process, and teach students to question and reflect in their working life continuously”.

In describing the role of the employer in supporting student learning, she identified many aspects including “in-depth skill acquisition and dealing with the realities of the working world” and “how to work in a team; and deal with workload pressure and conflict or differing opinions, negotiate in a competitive environment and ultimately advocate on the client’s behalf”. She commented on the need for universities to ensure students experience inter-disciplinary work and believed the role of the university was to “establish expectations and coach professional behaviours, in terms of ethics, values and respect for all”.

She believed that partnerships between universities and industry needed to be inclusive and incorporate regular consultation and communication, “seeking input on curriculum design and student learning processes and facilitating open discussion and engagement”. She also expressed the need to “include industry partners in supervision and assessment, providing case studies and opportunities to work with students”.

The employer was particularly ardent on the topic of professional identity which she considered was important for “believing in and promoting the profession with a sense of pride and not be easily persuaded in terms of compromise” to maintain the profile of the profession. The employer related how OT had previously not enjoyed the same level of esteem as other health professions because of the difficulty in “conceptualising the profession, knowing the role and scope of an OT”. The professional identity of OTs has evolved substantially over the last 10 years as a result of “an increasing number of OTs and commitment to research which had enabled an evidence-based approach to practice”. The involvement of the OTB was perceived as integral to building and maintaining a positive sense of professional identity for OTs.

The employer reported that the recruitment process involved both “informal and formal approaches and was not based purely on marks, but also the ability to engage, problem solve and show empathy”. She did specify that a successful recruit is provided with “coaching from more experienced staff to ensure their professional and lifelong learning continues beyond university. We strive to have a culture of encouragement to ensure graduates are supported and build workplace resilience”.

175
The interviews with a representative from the OTB and an employer of OT graduates strengthened all Domains. The importance of exposure to the work environment and the calibre of educational programs were emphasised, the quality of which is dependent on consultative, inclusive and communicative partnerships between stakeholders. The role of industry partners in curriculum and assessment design, learning experiences, and student supervision was emphasised. Both stakeholders highlighted the eminence of professional identity in the OT profession, believing that displaying pride in the profession, employing an evidence-based approach, and instilling a “culture of encouragement” were fundamental to a positive professional identity. Skills identified in previous phases were reinforced with specific reference to application of knowledge, interpersonal skills, clinical reasoning, advocacy and lifelong learning as fundamental to an OT.

5.4.2 Teaching Staff Interviews: OT

Two teaching staff for the OT degree were interviewed. TS[OT]1, a senior lecturer and practical coordinator, was interviewed for 60 minutes on 7th October 2015. He had worked for 14 years as an OT, and had been employed as an academic at the University for 13 years. The Head of School (TS[OT]2) was interviewed on 14th October for 60 minutes. He had worked as a clinical OT for 5 years before gaining employment at the University, a position he had held for 10 years. He had recently been appointed Head of School. The interview questions are shown in Appendix K.

Findings from the staff interviews are reported against each of the Domains evident from Phases One and Two. Staff agreed that the key role of a university education was to “develop people on a personal and professional level who are competent to go into the work force” (TS[OT]2, 2015) and to “practice safely and effectively as OTs” (TS[OT]1, 2015).

1. WIL and Workplace Relevance

Staff believed strong partnerships with industry facilitated a “positive transition” (TS[OT]2, 2015) for graduates into the workforce. It was perceived there was a “growing tension” (TS[OT]2, 2015) between universities and industries and a “perfect storm was brewing as student numbers grew while the number of industry-based staff is declining” (TS[OT]1, 2015). With “accreditation expecting more practical field work experiences” (TS[OT]2, 2015) the tensions are exacerbated. Staff agreed that “every semester there have to to be substantial authentic experiences to prepare students for fieldwork in fourth year” (TS[OT]1, 2015). Teaching staff were concerned about the high probability that the university will need to pay to send students on practice-based experiences in the future as a result of the drain on industry-based resources.
Building and maintaining industry partnerships requires “high levels of investment” (TS[OT]2, 2015) from the university. The “possible demise of the teaching area several years ago due to an absence of robust relationships with industry” (TS[OT]2, 2015) exemplifies the reliance on industry partners. TS[OT]1 suggested that “Alumni were under-utilised” as potential industry partners. Staff agreed that a partnership requires “give and take” (TS[OT]1, 2015), highlighting the important dynamics of functional partnerships.

The impact of learning experiences in the workplace was emphasised by TS[OT]1(2015):

The students are learning nothing here [in the classroom] about how to be an occupational therapist. They learn some theory and basic skills but putting the whole jigsaw together, it’s so complex it cannot happen in a tutorial room. The reality is you need to be out there, in a hospital, school or private practice working with patients.

The value of “fieldwork and authentic learning environments and working with vulnerable patients” (TS[OT]1, 2015) needs to occur “earlier in the course”. Industry-based supervisors were perceived as important as they “provide feedback on performance, challenge students, and socialise them into the profession” (TS[OT]2, 2015). Staff endorsed students’ opinion that the university does not support students in “planning where they are going in their careers” (TS[OT]1, 2015). TS[OT]1 (2015) voiced concern about the poor quality of academic supervision for students on professional placement which compromised the “consistency of fieldwork experiences”.

2. Course Content and Structure

Staff were critical of the curriculum claiming it was written “in the 1990s but no one had the time to start again. Content is siloed and compartmentalised, not sequenced or connected” (TS[OT]1, 2015). It was agreed that inter-professional practice was a priority but it only “happens across first year whereas it should happen vertically across first, second, third and fourth year” (TS[OT]2, 2015). TS[OT]1 (2015) expressed the need for “more fieldwork in the early years of the course” but countered this idea with “industry don’t want to support first year students as they don’t have time to deal with inexperienced students”. When discussing the role of industry partners in curriculum design, TS[OT]2 (2015) believed they should “critique curriculum” to inform what our “graduates should know and be able to do”.

3. Staff Quality and Expertise

Staff presented as passionate and enthusiastic about their role as a teacher but attested that one of the key challenges for them in executing their role was the expectation to “do more in less time”
The “tension between research and teaching performance measures” (TS[OT]1, 2015) was highlighted as a confounding factor in allocating time to teaching responsibilities. With “14 years practice in the OT profession” TS[OT]1 (2015) felt confident, believing the balance of his expertise facilitated a good understanding of the “interplay between theory and practice” which complemented his teaching role and enabled the capacity to influence student learning.

4. Assessment

The difficulty for students transitioning learning across contexts was considered a result of “the assessment environment” (TS[OT]2, 2015) which drives students to “work to pass and not engage in the learning experience” (TS[OT]1, 2015). Staff expressed the desire to “do more practical assessments to evidence professional capabilities” (TS[OT]2, 2015) but it is “highly expensive and time-consuming” (TS[OT]1, 2015) to implement. Staff argued that it was doubtful that professional skills were assessed as assessment is “really more theoretical” (TS[OT]1, 2015). Assessments “using real actors to simulate life like experiences” (TS[OT]2, 2015) provided rigorous validation of student capabilities, but as funding was reduced, it was more difficult to enact these forms of assessment. TS[OT]2 (2015) believed “assessment needed to draw more on their interpersonal communication skills and learning styles”. In the current assessment model “students are assessment focussed which narrows vision” (TS[OT]1, 2015). Staff agreed that the involvement of industry partners in “designing assessment and providing feedback to students” (TS[OT]2, 2015) was of critical importance.

5. Social Connections

“Students need to talk and speak and interact with each other” (TS[OT]1, 2015) to gain optimal outcomes from their learning and to learn from each other. Social connections provide opportunities for “replicating the real world” (TS[OT]1, 2015), thereby preparing students for a professional environment. Time constraints have forced staff to “reduce interactions between fellow students and staff, which severely compromises the impact of the university experience” (TS[OT]2, 2015). “Professional practice established through building meaningful relationships” (TS[OT]2, 2015) was perceived as important but was becoming increasingly challenging with the push for online education, increasing demands on teaching staff, and a tight fiscal environment.

6. Motivation/stimulation

Staff expected students to be “active learners and take responsibility for their behaviour” (TS[OT]2, 2015). Motivation of students was identified as “an issue in the workplace” (TS[OT]2, 2015). TS[OT]1 (2015) explained that the impact of learning experiences was dependent on “what the
students actually bring” and contribute. Both staff agreed that students must be prepared to “use their skills and ask for support” to progress. “The best students do that well” (TS[OT]2, 2015).

7. Mentor/support:

The term mentor was not used by teaching staff but they firmly believed in the positive impact of “role modelling in the workplace” (TS[OT]1, 2015) and providing “great supervision and feedback” (TS[OT]2, 2015) to guide and support students in becoming OT professionals.

8. Professionalism

“We work very hard to promote professional identity through external role models” (TS[OT]2) but countered this with “students are struggling with what their professional identity is”. Staff held the view that “clinical experience is where identity is ground” (TS[OT], 2015). With clinical experience restricted to fourth year, the teaching area had embedded WIL through simulations which gave the students “confidence and built professional identity” (TS[OT], 2015). TS[OT]1 (2015) described professional identity as “immersing students in real life scenarios with real life patients and problems where students are exposed to values of the profession”. Staff reiterated the importance of students “dressed in a uniform, that builds a professional identity, a sense of belonging” (TS[OT]1, 2015). “Great supervision and great feedback” were perceived as fundamental to the development of a professional identity and “critical to self-advocacy and self-confidence” (TS[OT]2, 2015). TS[OT]1 (2015) argued that a professional identity can’t be established in first year as “students don’t understand their own profession”. Staff felt students were only “superficially prepared for the transition into a professional” (TS[OT]1, 2015).

9. Skill Development

“Communication, active learning, problem solving, values and professional behaviour” (TS[OT]2, 2015) and “emotional intelligence, assertiveness” (TS[OT]1, 2015) were cited as important skills for graduate employability. While the consensus was that skill development was important, staff believed discipline knowledge was fundamental to students enacting skills appropriately. Staff stressed the importance of the affective domain for developing holistic experiences, but felt this was lacking in students. They highlighted the need for students to understand “personal values, beliefs, perceptions, and biases, and who I am as a professional?” (TS[OT]1, 2015).

10. University Priorities

The drive for online learning compromised OT education as “reading the non-verbals such as body language and engaging students intellectually” (TS[OT]1, 2015) was essential for the OT profession
and could not be achieved in an online environment. “Online learning compromises skill
development” (TS[OT]2, 2015), and prevents “working and talking together, interacting face
to face in real life” (TS[OT]1, 2015). Staff identified “immersion and acculturation into the
profession” (TS[OT]1, 2015) as a gap in the student experience which can’t be replicated in an
online platform. The decreasing number of contact hours with students was perceived to diminish
learning and result in “massive gaps” (TS[OT]1, 2015) in students’ skill proficiency.

11. Professional Accreditation

Staff perceived accreditation as “life and death” (TS[OT]2, 2015). The accreditation process was
considered a “powerful enabler that gives the course credibility” (TS[OT]1, 2015). With recognition
that “no accreditation, no course” (TS[OT]1, 2015) was the impact of failing to address the OTB
competencies in curriculum, staff viewed it as “a bit like an exam” (TS[OT]2, 2015), but considered
it “a very useful” process (TS[OT]1, 2015). Staff acknowledged the importance of the professional
competencies, but were doubtful “students attained them all” (TS[OT]1, 2015).

Overview of Teaching Staff Interviews: OT

Teaching staff stressed the value of learning in the workplace for developing professional
competencies intrinsic to the OT profession. They commented on the importance of partnerships
with industry in realising these opportunities for students, but reported mounting tension as student
numbers rose, placing increased demand on the workplace. Staff were critical of the curriculum
which they considered to be incoherent and outdated, suggesting it could be enhanced with greater
input from industry on curriculum and assessment design. Staff with dual roles that encompassed
practice-based expertise and academic experience, were considered integral to a quality education
for students, as were social connections. Assessment strategies were of particular concern to staff as
they lacked authenticity and encouraged students to be focussed on assessment outcomes rather
than the learning. The supervision, guidance and feedback from industry-based supervisors was
acknowledged as very important in nurturing the professional capacities of students. Professional
identity was emphasised as fundamental to the OT profession. It was argued that OT is essentially a
“social construct” (TS[OT]1, 2015) and greatly compromised by the diminishing contact hours for
students and transition to online delivery. Staff reiterated the importance of the development of
skills such as communication, advocacy, and confidence, with the inclusion of compassion,
decision-making, leadership, emotional and social intelligence, and assertiveness. While
professional accreditation was deemed valuable, staff interviews exposed challenges with the
process.
5.4.3 Curriculum Document Content Analysis: OT

The content analysis of twenty eight curriculum documents connected stakeholder perceptions to the focus, content and experiences the particular curriculum afforded. The coding assigned in the content analysis determined the relevance and authenticity of the learning outcomes and assessment tasks to the workplace (See Table 3.9). The findings from the Curriculum Document Content Analysis informed RQ3.

The Authentic Assessment Framework (AAF) provided the criteria for judging the authenticity of outcomes and assessments, and attributing the appropriate WIL descriptor. WIL was Not evident in 35% of the assessment weighting, where content was theoretical and provided the discipline knowledge required to engage in more authentic learning experiences. The first year units incorporated assessment profiles that showed little evidence of authenticity. Assessments assigned Emerging (26%) and Developing (27%) descriptors provide a rich foundation for the workplace assessments which are assigned a descriptor of Highly developed (12%). Analysis revealed a developmental approach to embedding authenticity in the OT degree.

Table 5.10 provides a list of the assessment tasks, the number of occurrences of the assessment type and the overall weighting across the OT course. While tests occurred most frequently (16), exams carried the highest weighting (17.1%). These assessment types are essentially measures of recalling theoretical knowledge, but are complemented by a series of authentic assessment tasks where students were required to evidence workplace behaviours. Case studies, presentations, practicals/simulations, fieldwork, portfolios, and reflections collectively account for 47.6 % of the assessment weighting. This represents an authentic assessment profile in which students were given opportunities to showcase their skills in real world situations. Several of the assessments conducted in the workplace were pass/fail units which effectively means no weighting attached. This was mitigated to some degree by allocating 100% of the weighting to fieldwork when it was the only type of assessment. In other subjects where fieldwork was one of several assessments, weighting was apportioned equally among the assessments.

Overview of Curriculum Document Content Analysis: OT

The content analysis of curriculum documents indicates a balanced assessment profile comprising a combination of knowledge recall, and the application of that knowledge in authentic settings. The generally positive feedback from graduates and students is testament to this diverse and real-world assessment continuum. The way in which the assessments were embedded in the program, supports a scaffolded and developmental approach to skill development, thereby enhancing graduate
employability. Notwithstanding, stakeholders conveyed other challenges in assessment design and administration.

Table 5.10  
*Assessment types for OT*

<table>
<thead>
<tr>
<th>Assessment types</th>
<th>Number of occurrences</th>
<th>Weighting per total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam</td>
<td>12</td>
<td>17.1</td>
</tr>
<tr>
<td>Case Study</td>
<td>13</td>
<td>15.0</td>
</tr>
<tr>
<td>Presentation</td>
<td>13</td>
<td>12.0</td>
</tr>
<tr>
<td>Test</td>
<td>16</td>
<td>10.6</td>
</tr>
<tr>
<td>Written task e.g. essay</td>
<td>8</td>
<td>9.7</td>
</tr>
<tr>
<td>Practical assessment/simulation</td>
<td>6</td>
<td>7.6</td>
</tr>
<tr>
<td>Plans</td>
<td>4</td>
<td>5.6</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>4</td>
<td>5.1</td>
</tr>
<tr>
<td>Portfolio</td>
<td>4</td>
<td>4.3</td>
</tr>
<tr>
<td>Fieldwork</td>
<td>7</td>
<td>4.2</td>
</tr>
<tr>
<td>Reflection</td>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>Critique</td>
<td>2</td>
<td>3.1</td>
</tr>
<tr>
<td>Report</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>94</td>
<td>100</td>
</tr>
</tbody>
</table>

5.5 Overview of Phase Three Findings: OT

Responses from stakeholders confirmed and elaborated on the Domains and Dimensions identified in Phases One and Two. All stakeholders agreed that WIL and workplace relevance were of critical importance to graduate capability and workplace readiness. The interviewees stressed the importance of partnerships, highlighting stakeholders’ roles and responsibilities, and outlining characteristics of beneficial partnerships. Findings indicated that ‘Partnerships’ emerge as fundamental and overarch all Domains and Dimensions.

The quality, coherence and content of the education program was perceived as crucial, with input from industry partners considered an imperative. While professional accreditation was viewed as integral to a quality course, perceptions of stakeholders appeared disconnected. The OTB representative and employer perceived it to inform curriculum on the basis of a partnership model, whereas teaching staff deemed it to be a ‘necessary hindrance’.
Staff appeared confident in their ability to deliver and assess workplace proficiencies but were critical of the impetus to move to online delivery. While the content analysis of curriculum documents showed that assessments were diverse and encompassed knowledge and practice-based expertise, there was a perception that the assessment profile could be further enhanced with greater collaboration between stakeholders. Social connections were described as pivotal to the development of professional identity for an OT. Professional identity loomed as a high priority for interviewees, emerging as a “social construct” (TS[OT]1, 2015) impinging on supervisor feedback, learning experiences, and interaction with others. With the emphasis on professional identity, the Professionalism Domain was renamed Professional Identity with professionalism becoming a Dimension of this Domain. Interpersonal, advocacy, lifelong learner, emotional intelligence and assertiveness were added to the Skills Domain.

Analysis of curriculum documents showed an authentic assessment profile where WIL was scaffolded across the curriculum, enabling students to engage in real world application. A proportion of assessments were conducted in the workplace and incorporated feedback from industry supervisors. Students were required to evidence employability capabilities through assessment artefacts.

Figure 5.11 provides a tabular summary of the findings from Case Study Two: OT. Changes to the table as a result of Phase Three findings appear in red.

5.6 Conclusion

This chapter provided a detailed précis of the OT degree through gathering quantitative and qualitative data from students, graduates, employers, teaching staff and a representative of the professional accreditation body. The findings showed synergies across stakeholder perspectives and identified scope for how stakeholders can work collaboratively to prepare graduates for the future workplace. The need to nurture partnerships that facilitate shared responsibility and authentic learning experiences is espoused by all stakeholders. However, barriers to making this a reality were also raised which will be addressed in the discussion chapter. The results of Case Study Three – PE are provided in Chapter Six.
Table 5.11  
**OT Case Study: Phase One, Two and Three Domains and Dimensions**

<table>
<thead>
<tr>
<th>Domains</th>
<th>WIL and Workplace Relevance</th>
<th>Course Content and Structure</th>
<th>Staff Quality and Expertise</th>
<th>Assessment</th>
<th>Social Connections</th>
<th>Motivation/ Stimulation</th>
<th>Mentor/ Support</th>
<th>Professional Identity</th>
<th>Skill Development</th>
<th>University Protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students – University Staff – Employers – Professional Accrediting Bodies</td>
<td>Employability, getting a job</td>
<td>Too theoretical</td>
<td>Currency of industry expertise</td>
<td>Authentic and innovative assessment</td>
<td>Inter-cultural</td>
<td>Learner engagement</td>
<td>Industry-based mentors</td>
<td>Confidence in workplace</td>
<td>Self-management</td>
<td>Reward and recognition for staff</td>
</tr>
<tr>
<td>Hands-on experience, simulations,</td>
<td>More frequent WIL placement across course</td>
<td>Passion and enthusiasm</td>
<td>Feedback on performance</td>
<td>Relationships with staff</td>
<td>Lifelong learning</td>
<td>Career support and development</td>
<td>Personal values, ethics, interpersonal</td>
<td>Conflict resolution</td>
<td>Professional learning for staff</td>
<td></td>
</tr>
<tr>
<td>More fieldwork/clinical placements</td>
<td>Partnerships with community and industry</td>
<td>Staff confidence</td>
<td>Scheduling of assessment profile</td>
<td>Cohesive student cohort</td>
<td>Stimulation for further learning</td>
<td>Support, mentoring from staff</td>
<td>Multi-cultural exposure</td>
<td>Communication (spoken and written)</td>
<td>Teaching versus research</td>
<td></td>
</tr>
<tr>
<td>Support/ Supervision on placement</td>
<td>Flexibility and diversity</td>
<td>Partnerships</td>
<td>Diversity of assessments</td>
<td>Personal growth through social connections</td>
<td>Motivating teachers</td>
<td>Peer mentors</td>
<td>Students take personal responsibility</td>
<td>Teamwork, independent learning</td>
<td>Policies and protocols</td>
<td></td>
</tr>
<tr>
<td>Interdisciplinary/ multi-disciplinary practice</td>
<td>Logical and coherent curriculum</td>
<td>Teaching versus research priority</td>
<td>Assessment for learning</td>
<td>Working together</td>
<td>Real-world application motivating</td>
<td>Instil professional behaviours</td>
<td>Resilience</td>
<td>Discipline knowledge</td>
<td>Support from careers services</td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff currency of industry experience</td>
<td>Integration of theory and practice</td>
<td>Professional learning</td>
<td>Marks driven</td>
<td>Builds OT culture</td>
<td>Self-driven, learning to learn</td>
<td>Role-modelling</td>
<td></td>
<td></td>
<td>Dual staff appointments</td>
<td></td>
</tr>
<tr>
<td>Industry awareness</td>
<td>Professional accreditation competencies</td>
<td>Clarity of standards</td>
<td>Feedback from workplace supervisors</td>
<td>Impact of mode of delivery</td>
<td>Participate in extra-curricular activities</td>
<td></td>
<td></td>
<td></td>
<td>Establish expectations</td>
<td></td>
</tr>
<tr>
<td>Motivates interest and engagement</td>
<td>Industry advice on curriculum design</td>
<td>Dual roles – clinician and academic</td>
<td>Experience failure</td>
<td>Motivating workplace supervisors</td>
<td>Aware of strengths and weaknesses</td>
<td>Self-reflection</td>
<td></td>
<td></td>
<td>Collaborative curriculum and assessment</td>
<td></td>
</tr>
<tr>
<td>Networking with industry</td>
<td>Multi-disciplinary</td>
<td>Academic work-based supervision</td>
<td>Cost and resourcing</td>
<td></td>
<td>Respond to feedback</td>
<td>Problem-solving, critical thinking,</td>
<td></td>
<td></td>
<td>Investment in building partnerships</td>
<td></td>
</tr>
<tr>
<td>Integration of theory and practice</td>
<td>Modes of delivery</td>
<td>Collaborative assessment design</td>
<td>Professional identity–linked to</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accreditation standards</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Embedding WIL in curriculum</td>
</tr>
</tbody>
</table>
Chapter 6: RESULTS CASE STUDY THREE: PRIMARY EDUCATION (PE)

6.1 Introduction

Case Study Three gathered and analysed data relating to the Bachelor of Education (Primary Education) (PE), a four year full time or equivalent part time degree. See Section 3.7.3 for information on the PE degree. This Chapter provides an overview of the findings for the PE Case Study. Results are presented for each phase showing the cumulative effect of the mixed methods research design whereby findings from each phase built on and corroborated with findings from previous phases. While each phase focused on particular research questions, collectively the findings address the overarching research question with a focus on PE students: How can stakeholders work collaboratively to prepare graduates for the future workplace?

6.2 Phase One: Important Components and Gaps in a University Education for PE Stakeholders

In Phase One of the data collection, The Course Experience Questionnaire (CEQ) and the Graduate Employability Indicator Surveys (GEI) (See Section 3.8.1) were administered. These surveys gleaned graduates’ levels of satisfaction with their course experience, as well as the perspectives of employers, graduates and university staff on the skill development of graduates as a result of their studies, and the importance of those skills for primary school educators. Phase One findings provided the information to answer RQ1 and RQ2 (See Section 3.3).

6.2.1 Course Experience Questionnaire (CEQ) for PE Graduates

The CEQ was administered by Graduate Careers Australia to PE graduates of 2012, 2013 and 2014 three months post-graduation. For the purposes of this research, each CEQ survey will be referred to by the year of the graduating cohort (See Section 3.8.1).

Table 6.1 shows the number of respondents and percentage response rates for each CEQ event, while Table 6.2 provides the percentages of respondents by gender and residency.

Table 6.1 shows that the number of graduate respondents for the quantitative section of the CEQ increased markedly from 56 (2012) to 136 (2013). There was a slight reduction in the number of responses for 2014 graduates (129). The number of respondents reflected enrolment figures which almost doubled from 2012 to 2013. Percentage response rates were highest in 2013 with 64% of the cohort completing a CEQ survey. Fifty three percent of the 2012 graduates and 50% of the 2014 graduates responded.
Table 6.1
Number of PE Respondents and Percentage Response Rates for CEQ per Year

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Number of Respondents</th>
<th>Possible Respondents</th>
<th>Percentage Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>57</td>
<td>107</td>
<td>53%</td>
</tr>
<tr>
<td>2013</td>
<td>136</td>
<td>212</td>
<td>64%</td>
</tr>
<tr>
<td>2014</td>
<td>129</td>
<td>259</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>322</td>
<td>578</td>
<td>56%</td>
</tr>
</tbody>
</table>

The demographics information in Table 6.2 highlights the dominance of female respondents. This represents a slightly higher proportion of female respondents than indicated by the male to female ratio in enrolment figures (80% female in 2012, 85.7% female in 2013, and 86.2% female in 2014). There was a small percentage of international respondents in each of the survey events, statistically representing the small percentage of international enrolments in the PE degree.

Table 6.2
CEQ PE Respondents by Gender and Residency

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Gender (%)</th>
<th>Residency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>2012</td>
<td>93</td>
<td>7</td>
</tr>
<tr>
<td>2013</td>
<td>95</td>
<td>5</td>
</tr>
<tr>
<td>2014</td>
<td>90</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 6.3 shows the number of comments collected in each survey year of the CEQ against the Best Aspects (BA) and Needs Improvement (NI) questions, with the breakdown of domestic and international students. All survey respondents had studied the degree on a full time basis.

As shown in Table 6.3 the number of comments received from graduates of 2012, 2013 and 2014 reflects enrolment trends for the PE degree across these years. The single international student response is indicative of a small number of international student enrolments (2% in 2012 and 2013, and 1% in 2014).
Table 6.3
Number of Comments in CEQ for 2012, 2013 and 2014 PE Graduates

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Number of comments for Best Aspects (BA)</th>
<th>Number of comments for Needs Improvement (NI)</th>
<th>International onshore headcount</th>
<th>Domestic headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>52</td>
<td>51</td>
<td>-</td>
<td>52</td>
</tr>
<tr>
<td>2013</td>
<td>124</td>
<td>125</td>
<td>-</td>
<td>126</td>
</tr>
<tr>
<td>2014</td>
<td>124</td>
<td>116</td>
<td>1</td>
<td>127</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>292</td>
<td>1</td>
<td>305</td>
</tr>
</tbody>
</table>

Findings from CEQ Quantitative Items for PE Graduates

The CEQ quantitative data was analysed by item to determine areas with which graduates agreed or strongly agreed and those areas with low levels of agreement. The findings informed the important components of a university education for employability (RQ1) and the design of subsequent phases.

CEQ quantitative data was downloaded via Excel and analysed using SPSS. A descriptive analysis of the data determining frequency of responses and measures of central tendency was undertaken. The frequency distribution showing the level of respondents’ agreement with each item is provided in Figure 6.1.

The CEQ quantitative data for PE graduates showed the only item that over 80% of graduates across all three survey events agreed or strongly agreed with was Item 15 (The course improved my skills in written communication). The graduates of 2012 appear to be the most satisfied cohort with equal to or greater than 80% agreement recorded for seven items. Aside from Item 15 (The course improved my skills in written communication), the only other item for which the graduates of 2013 had over 80% agreement was Item 2 (The teaching staff normally gave me helpful feedback on how I was going). The graduates of 2014 did not record over 80% agreement with any other items apart from Item 15.
23. Overall, I was satisfied with the quality of this course
22. My university experience encouraged me to value perspectives other than my own
21. The staff made it clear right from the start what they expected from students
20. My course helped me to develop the ability to plan my own work
19. As a result of my course, I feel confident about tackling unfamiliar problems
18. I consider what I learned valuable for my future
17. It was often hard to discover what was expected of me in this course
16. I learned to apply principles from this course to new situations
15. The course improved my skills in written communication
14. University stimulated my enthusiasm for further learning
13. I usually had a clear idea of where I was going and what was expected of me in...
12. The staff made a real effort to understand difficulties I might be having with my...
11. The course developed my problem-solving skills
10. The course developed my confidence to investigate new ideas
9. The teaching staff worked hard to make their subjects interesting
8. My lecturers were extremely good at explaining things
7. The course sharpened my analytic skills
6. The course provided me with a broad overview of my field of knowledge
5. The teaching staff of this course motivated me to do my best work
4. It was always easy to know the standard of work expected
3. The course helped me develop my ability to work as a team member
2. The teaching staff normally gave me helpful feedback on how I was going
1. The staff put a lot of time into commenting on my work

Figure 6.1: CEQ responses for 2012, 2013 and 2014 PE graduates: Agree + Strongly Agree
To distil the data and determine overarching themes, the weighted average percentage responses for Agree and Strongly Agree were calculated across the three years. Table 6.4 shows the percentage Agree plus Strongly Agree for each year and the weighted average across all three survey events. Item responses were categorised into three sections based on the average percentage responses:

1. Items with 80% or higher satisfaction;
2. Items with 60% to 80% satisfaction
3. Items with 60% or lower satisfaction

Table 6.5 shows a breakdown of where each item fits within the three categories. Table 6.5 shows that 80% of students are satisfied with only two items, the development of written skills through the course and clarity of staff expectations. Fourteen of the items fit into the 60% to 80% category, suggesting that these items need further investigation. Graduates reported a high level of dissatisfaction (below 60%) with a further six items which require intense scrutiny. Highlighted items are those that directly relate to work-readiness.
Table 6.4  
*Percentage Agree Plus Strongly Agree for 2012, 2013 and 2014 PE Graduates and Weighted Average*

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>2012 grads %</th>
<th>2013 grads %</th>
<th>2014 grads %</th>
<th>Weighted Average %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The staff put a lot of time into commenting on my work</td>
<td>69.00</td>
<td>68.00</td>
<td>66.00</td>
<td>67.39</td>
</tr>
<tr>
<td>2. The teaching staff normally gave me helpful feedback on how I was going</td>
<td>80.00</td>
<td>83.00</td>
<td>62.00</td>
<td>74.06</td>
</tr>
<tr>
<td>3. The course helped me develop my ability to work as a team member</td>
<td>83.00</td>
<td>66.00</td>
<td>62.00</td>
<td>67.41</td>
</tr>
<tr>
<td>4. It was always easy to know the standard of work expected</td>
<td>57.00</td>
<td>43.00</td>
<td>53.00</td>
<td>49.48</td>
</tr>
<tr>
<td>5. The teaching staff of this course motivated me to do my best work</td>
<td>66.00</td>
<td>46.00</td>
<td>55.00</td>
<td>53.15</td>
</tr>
<tr>
<td>6. The course provided me with a broad overview of my field of knowledge</td>
<td>77.00</td>
<td>66.00</td>
<td>77.00</td>
<td>72.35</td>
</tr>
<tr>
<td>7. The course sharpened my analytic skills</td>
<td>85.00</td>
<td>63.00</td>
<td>70.00</td>
<td>74.98</td>
</tr>
<tr>
<td>8. My lecturers were extremely good at explaining things</td>
<td>54.00</td>
<td>60.00</td>
<td>53.00</td>
<td>59.49</td>
</tr>
<tr>
<td>9. The teaching staff worked hard to make their subjects interesting</td>
<td>57.00</td>
<td>69.00</td>
<td>53.00</td>
<td>60.47</td>
</tr>
<tr>
<td>10. The course developed my confidence to investigate new ideas</td>
<td>74.00</td>
<td>69.00</td>
<td>66.00</td>
<td>68.60</td>
</tr>
<tr>
<td>11. The course developed my problem-solving skills</td>
<td>69.00</td>
<td>71.00</td>
<td>66.00</td>
<td>68.65</td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>12</td>
<td>The staff made a real effort to understand difficulties I might be having with my work</td>
<td>46.00</td>
<td>57.00</td>
<td>53.00</td>
</tr>
<tr>
<td>13</td>
<td>I usually had a clear idea of where I was going and what was expected of me in this course</td>
<td>71.00</td>
<td>66.00</td>
<td>62.00</td>
</tr>
<tr>
<td>14</td>
<td>University stimulated my enthusiasm for further learning</td>
<td>74.00</td>
<td>46.00</td>
<td>68.00</td>
</tr>
<tr>
<td>15</td>
<td>The course improved my skills in written communication</td>
<td>94.00</td>
<td>83.00</td>
<td>89.00</td>
</tr>
<tr>
<td>16</td>
<td>I learned to apply principles from this course to new situations</td>
<td>86.00</td>
<td>77.00</td>
<td>74.00</td>
</tr>
<tr>
<td>17</td>
<td>It was often hard to discover what was expected of me in this course</td>
<td>34.00</td>
<td>34.00</td>
<td>38.00</td>
</tr>
<tr>
<td>18</td>
<td>I consider what I learned valuable for my future</td>
<td>86.00</td>
<td>80.00</td>
<td>77.00</td>
</tr>
<tr>
<td>19</td>
<td>As a result of my course, I feel confident about tackling unfamiliar problems</td>
<td>74.00</td>
<td>51.00</td>
<td>57.00</td>
</tr>
<tr>
<td>20</td>
<td>My course helped me to develop the ability to plan my own work</td>
<td>83.00</td>
<td>71.00</td>
<td>79.00</td>
</tr>
<tr>
<td>21</td>
<td>The staff made it clear right from the start what they expected from students</td>
<td>57.00</td>
<td>54.00</td>
<td>53.00</td>
</tr>
<tr>
<td>22</td>
<td>My university experience encouraged me to value perspectives other than my own</td>
<td>79.00</td>
<td>77.00</td>
<td>72.00</td>
</tr>
<tr>
<td>23</td>
<td>Overall, I was satisfied with the quality of this course</td>
<td>74.00</td>
<td>71.00</td>
<td>74.00</td>
</tr>
</tbody>
</table>
### Table 6.5
**CEQ Items by Category of Agreement Levels for 2012, 2013 and 2014 PE Graduates**

<table>
<thead>
<tr>
<th>CEQ Items</th>
<th>80% and Over Agreement</th>
<th>Between 60% and 80% Agreement</th>
<th>60% and Below Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. The course improved my skills in written communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. The staff made it clear right from the start what they expected from students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The teaching staff normally gave me helpful feedback on how I was going</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The course helped me develop my ability to work as a team member</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The course provided me with a broad overview of my field of knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. The course sharpened my analytic skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. The teaching staff worked hard to make their subjects interesting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. The course developed my confidence to investigate new ideas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. The course developed my problem-solving skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I usually had a clear idea of where I was going and what was expected of me in this course</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I learned to apply principles from this course to new situations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I consider what I learned valuable for my future</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. My course helped me develop the ability to plan my own work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. My university experience encouraged me to value perspectives other than my own</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Overall, I was satisfied with the quality of this course</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Shaded cells highlight survey items that directly relate to work-readiness.
**Summary of PE Graduates: CEQ Quantitative Data**

PE graduates across all CEQ events were of the opinion that the PE degree needs improvement. Based on the average for each item across the three CEQ surveys, six items recorded agreement levels below the 60% benchmark and 14 out of the possible 23 items recorded levels of agreement between 60% and 80%. Focusing on those items related to work-readiness only, graduates were dissatisfied with motivation instilled by teaching staff, stimulation of enthusiasm for further learning, and confidence nurtured to tackle unfamiliar problems. Graduates showed a higher level of satisfaction with other items, however the percentage agreement with these items suggested there was room for improvement. Graduates from all CEQ events agreed that the course improved their skills in written communication.

**Results for CEQ Qualitative Data: PE Graduates**

The CEQ collected qualitative data via two questions:

1. What were the Best Aspects of your course (BA)?
2. What aspects of your course were most in Need of Improvement (NI)?

Analysis of CEQ qualitative data followed the same processes as Case Study One (CE) and Case Study Two (OT). Table 6.6 shows the dominant themes for each PE CEQ survey event.
### Table 6.6
**Themes Emerging from CEQ Qualitative Data for 2012, 2013 and 2014 PE Graduates**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Best Aspects (BA)</th>
<th>Needs Improvement (NI)</th>
<th>Total Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012 Graduates (n=52)</td>
<td>2013 Graduates (n=124)</td>
<td>2014 Graduates (n=124)</td>
</tr>
<tr>
<td>Staff Quality and Expertise</td>
<td>14</td>
<td>33</td>
<td>40</td>
</tr>
<tr>
<td>Assessment</td>
<td>7</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>WIL and Workplace Relevance</td>
<td>13</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>Flexibility</td>
<td>14</td>
<td>49</td>
<td>45</td>
</tr>
<tr>
<td>Course Content and Structure</td>
<td>15</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td>Learning Activities and Resources</td>
<td>5</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Social connections</td>
<td>7</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Organisation and Administration</td>
<td>-</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Workplace Transition</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Motivation</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Confidence/Skill Development</td>
<td>1</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Role Models and Mentors</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
Analysis of the qualitative data highlighted dominant themes which students perceived as both best aspects and areas in need of improvement. Comments pertaining to flexibility, learning activities, and organisation and administration were removed following analysis as comments did not relate to workplace readiness. An overview of the Best aspects (BA) and Needs improvement (NI) relating to the themes is outlined below.

1. **Staff Quality and Expertise**

Graduates complimented staff who delivered “challenging lessons that engaged all students” (Graduate 03, 2014. BA) and were “knowledgeable and enthusiastic” (Graduate 10, 2012. BA). They appreciated staff who provided “clear expectations and information” (Graduate 18, 2013. BA). Quality staff who were “experienced in the field [of education]” (Graduate 124, 2013. BA) and showed a “commitment to students” (Graduate 24, 2014. BA) were highly commended. “Regular communication” (Graduate 46, 2013. BA), “excellent support” (Graduate 43, 2012. BA), and “passion about their subject area which engaged the students” (Graduate 102, 2014. BA) were qualities deemed indicative of a good teacher.

Some staff were considered to be “not very helpful” (Graduate 19, 2013. NI) with “poor communication between teachers and students” (Graduate 14, 2012. NI). “Lack of clarity for instructions” (Graduate 69, 2014. NI) and “variability of expectations between units” (Graduate 33, 2012. NI) were frequently occurring criticisms. “Lecturers who did not model being a teacher” (Graduate 12, 2012. NI) in their delivery practices were perceived as inadequate by graduates.

2. **Assessment**

Assessment was described as “confusing” (Graduate 16, 2014. NI) and lacking in “clarity” (Graduate 83, 2014. NI). Graduates wanted more “meaningful assessments” (Graduate 03, 2012. NI) and “more authentic tasks” (Graduate 95, 2014. NI) that provided “real-world experiences” (Graduate 29, 2014. NI) with “relevance to a classroom teacher” (Graduate 22, 2014. NI). Graduate 38 (2013. NI) was critical of the “inconsistencies in marking”, while Graduate 40 (2012. NI) felt there needed to be “tighter controls on cheating and people who share work”. Graduates wanted more “immediate feedback” (Graduate 77, 2014. NI) with “more comments on assessments” (Graduate 19, 2012. NI). While graduates provided feedback on the positive aspects of assessment, the negative comments outweighed positive perspectives by a ratio of 4:1.
3. WIL and Workplace Relevance

Despite the PE degree comprising three practicums, graduates were resolute that “a greater emphasis on providing more practicum placements” (Graduate 03, 2014. NI) and “longer practical experiences” (Graduate 17, 2012. NI) were required. Practicums are where “teaching skills are developed” (Graduate 5, 2013. NI) and learning occurs at “a deeper level” (Graduate 90, 2014. NI), which “affects job prospects and confidence” (Graduate 32, 2014. NI). “Practical experience” (Graduate 04, 2014. BA) was also highlighted for “refining skills in practice” (Graduate 83, 2013. BA) and was perceived to be “where most of the learning occurred” (Graduate 81, 2013. BA).

Graduates thought practicums were “not well organised” (Graduate 39, 2012. NI) and the difficulties were exacerbated when they had to “organise [their] own practicum placements” (Graduate 50, 2012. NI). “Better communication to students” (Graduate 88, 2013. NI) and improved liaison “between schools and the prac office” (Graduate 29, 2012. NI) were required. “Networking during practicums” (Graduate 16, 2013. BA) provided opportunities “applicable for future working situations” (Graduate 88, 2014. BA), the success of which was dependent on the “enthusiasm of the mentoring teacher” (Graduate, 15. 2012. BA).

4. Course Content and Structure

Graduates’ comments relating to course structure and content were almost evenly dispersed across Best Aspects and Needs Improvement. Graduates felt the “final year units” (Graduate 10, 2014. BA) “made the whole course come together” (Graduate 03, 2013. BA). The “variety of subjects” (Graduate 84, 2014. BA) and “broad coverage” (Graduate 03, 2012. BA) with a “solid basis of theory” (Graduate 19, 2012. BA) were perceived positively. Graduates considered the course “was well-structured” (Graduate 48, 2012. BA) and incorporated a “variety and range of course materials” (Graduate 62, 2013. BA). Graduate 93 (2013. BA) thought “the course content was interesting, well presented, extremely relevant and beneficial”.

Negative comments included a perception that graduates were not “prepared for employment in an Aboriginal community” (Graduate 07, 2012. NI) and there was “too much theory“ (Graduate 16, 2012. NI). Graduates questioned the coherence of the course attesting that subjects “did not flow” (Graduate 23, 2012. NI), “units seemed disorganised” (Graduate 36, 2012. NI) and “shrouded in confusion” (Graduate 33, 2013. NI) with a lot of “repetition in units” (Graduate 91, 2014. NI). Some content was deemed to be “out of date” (Graduate 19, 2012. NI) and was of “no use in the classroom” (Graduate 09, 2013. NI). Graduates also thought that “making [the course] more diverse” (Graduate 85, 2013. NI) would enhance interest and engagement.
5. **Social Connections**

Graduates enjoyed the “peer collaborations” (Graduate 23, 2014. BA), “discussion time with peers” (Graduate 05, 2013. BA), “working with others” (Graduate 55, 2014. BA) and the “support of fellow students” (Graduate 80, 2014. BA). “Networking opportunities and making friends with future teachers” (Graduate 106, 2014. BA) was deemed useful for future career opportunities, while others valued the “positive relationships formed” (Graduate 52, 2012. BA) throughout the course. “Exchanging different ideas with other students” (Graduate 37, 2013. BA) and “meeting people with different perspectives” (Graduate 122, 2013. BA) were perceived beneficial for optimal outcomes. Some graduates felt there was “little discussion or sharing” (Graduate 20, 2012. NI) and the “social aspect of the course” (Graduate 12, 2013. NI) warranted improvement. The importance of “building a close relation with the mentor teacher” (Graduate 105, 2013. NI) was highlighted.

6. **Workplace Transition**

This theme related to preparation for making the transition from student to professional. “Gaining the qualification to be a teacher” (Graduate 114, 2014. BA) and “gaining full time employment” (Graduate 56, 2014. BA) were cited as Best Aspects. Some graduates simply stated “completing the degree” (Graduate 02, 2014. BA) as a personal highlight of their experience. However, others felt the course lacked “preparation for entering the workforce and addressing application criteria” (Graduate 56, 2013. NI). There was “no help in completing the teaching registration process” (Graduate 37, 2013. NI) with suggestions that support for this could “be added to the end of the course” (Graduate 63, 2013. NI). Graduates wanted assistance with “looking for teaching jobs” (Graduate 83, 2013. NI) with the suggestion that “workshops, advice and guidelines” (Graduate 26, 2014. NI) would be helpful in making the transition from student to graduate.

7. **Motivation**

Comments indicated that motivation is intrinsically connected to “engaging and challenging learning experiences” (Graduate 3, 2014. BA) facilitated by “enthusiastic staff with great teaching experience” (Graduate 124, 2013. BA). Graduates relayed the ability of these staff to “encourage me to strive to do better” (Graduate 31, 2012. BA) and “believe in myself with a commitment to hard work” (Graduate 58, 2013. BA). “Feedback provided and effort of teachers” (Graduate 107, 2014. BA) helped students “aspire to reach personal goals” (Graduate 103, 2013. BA). Some graduates felt that “staff were fantastic at motivating [students]” (Graduate 22, 2012. BA) while others described staff as “boring and unenthusiastic” (Graduate 88, 2014. NI). “Uninteresting
lecturers who know nothing about the course” (Graduate 96, 2014. NI) were described as “demotivating” (Graduate 73, 2013. NI).

8. **Confidence/Skill Development**

Graduates felt that “the course pushed [them] to learn different skills” (Graduate 31, 2012. BA), and promoted the development of “great networking skills and the ability to work with others” (Graduate 24, 2013. BA). Developing the skill of “learning to learn” (Graduate 39, 2013. BA) was considered valuable for career success. Skills such as “self-reliance and time management” (Graduate 113, 2013. BA), “planning” (Graduate 68, 2014. BA), and “using technology and communication” (Graduate 81, 2014. BA) were encouraged through learning experiences. “Broad knowledge” (Graduate 84, 2014. BA) gained throughout the course and the application of “writing, communication, critical and analytical thinking skills, and resilience” (Graduate 119, 2014. BA) in real-world settings was perceived as pivotal for developing the confidence necessary for the teaching profession.

9. **Role Models and Mentors**

Graduate comments highlighted the potential impact of mentors on their capacity to succeed. Graduates stated that “lecturers who were good role models for teaching” (Graduate 12, 2012. BA) and the richness of feedback from “mentor teachers while on practicum” (Graduate 02, 2012. BA) strengthened the impact of their learning experiences. The mentor teacher was perceived invaluable to the development of professional capabilities with the in-situ “knowledge and advice they provided” (Graduate 88, 2013. BA). Graduates recognised that a “competent mentor teacher” (Graduate 17, 2013. NI) was integral to successful outcomes from work-based experiences. Furthermore, graduates acknowledged the support and advice offered by “tutors and other students” (Graduate 89, 2014. BA). Engaging teaching strategies “should be taught by example” (Graduate 98, 2014. NI) by university teaching staff, and “lecturers who did not role model being a good teacher” (Graduate 12, 2012. NI) were perceived unsatisfactory. Graduates also expressed the need for “more support from [university] tutors” (Graduate 19, 2012, NI) while on practical placements.

**Summary of PE Graduates: CEQ Qualitative Data**

The CEQ qualitative data reinforced key themes evident in the quantitative data and provided a more complete perspective of graduate perceptions. PE graduates expressed both positive and negative perceptions across the evolving themes. This is exemplified in Staff quality and expertise where 87 comments were complimentary and 138 highly critical of staff. Given staff are central to actuating the emerging themes, the polarised views around Staff quality and expertise potentially
cascade, impacting on overall course quality and enactment. The themes from graduate comments collated across the three CEQ events, informed the first research question: What are the important components of a university education that support the development of employability capabilities?

**Summary of CEQ Data: PE Graduates**

The CEQ quantitative and qualitative data showed PE graduates perceived some aspects of their course positively, but highlighted many areas that required improvement. Low levels of agreement were evident with motivation inspired by teaching staff, and confidence to tackle unfamiliar problems was also considered to be poorly embedded in the course experience. Analysis revealed that these areas were in need of urgent attention. Graduates expressed dissatisfaction with feedback provided by staff, exposure to discipline knowledge specific to PE, confidence to explore new and innovative ideas, the development of problem-solving skills, and the encouragement to value perspectives of others. Respondents to the CEQ surveys indicated that these items required further investigation as to how they might be improved.

Graduates valued authentic assessment and learning experiences that had relevance to the workplace. Comments highlighted the value of the practice-based components of the course which enabled the application of theory to practice. Despite this, graduates wanted “more practical situations” (Graduate 01, 2012. NI) with “improved coordination” (Graduate 12, 2013. NI). Graduates expressed disappointment with “no prac in first year” (Graduate 14, 2013. NI).

Graduates highlighted both Best Aspects and Needs Improvement features of all major themes identified in analysis of CEQ quantitative data. This suggested that while there were positive experiences for students, these were offset by negative opinions, thereby resulting in an overall negative perception of course quality and graduate outcomes.

The themes emerging from the CEQ quantitative and qualitative data were consolidated further following the second part of Phase One which involved the GEI Surveys. These surveys gleaned perspectives of graduates, employers and teaching staff with a focus on employability skill development evident in graduates, and the importance of those skills.

**6.2.2 Graduate Employment Indicator (GEI) Surveys for PE Stakeholders**

The GEI Surveys are a suite of three online surveys designed to gather the perceptions of graduates (of up to five years), employers and teaching staff on the most highly regarded employability capabilities of the PE profession and the gaps in graduates’ generic skills, thereby highlighting
deficits in the course experience (See Section 3.8.1). Qualitative data is gathered via questions targeted for the particular stakeholder.

A total of 49 stakeholders (30 graduates, 10 employers and 9 teaching staff) responded to the GEI surveys. See Appendix H for respondents’ demographic information and response rates.

**GEI Quantitative Data: PE Graduate Perceptions**

All 30 graduate respondents were female. Three graduates were 25 years or younger, nine were 26-35 years, 12 fell into the 26-35 age group, and six were older than 45. Responses were collected from graduates who had completed their studies from one to five years previously. Twenty-one were one year post-graduation, six had graduated two years prior, three had completed the PE degree three years before, and one had completed the degree five years ago. All graduates were Australian domestic students, with 16 full time students and 14 part time.

Graduates ranked the extent to which their degree contributed to their development of 14 employability capabilities using a 4-point Likert Scale ranging from Very little to Very much (See Appendix E). Graduates were also asked how important they perceived each capability for employment success. Respondents selected from Very little importance to Very important for this question. Figure 6.2 provides a visual overview of graduate responses.

Graduates identified most capabilities as important with levels of agreement exceeding 90%. Independent learning (77%) was considered less important but still measured a level of agreement with importance that showed graduates considered it a useful skill. Figure 6.2 shows that graduates placed a high level of importance on all capabilities for work readiness.

![Figure 6.2: Comparison of PE graduate perceptions (n=30) of the extent the degree experience contributed to capability development with the importance of those capabilities](image-url)
As demonstrated in Figure 6.2, graduates perceived that there was a considerable gap in development of the majority of capabilities. Independent learning was the only capability for which a higher percentage of graduate respondents perceived more developed than its importance. Thirty three percent of graduates believed they were very little (6%) or to some extent (27%) work ready, compared with 67% who felt they were quite a bit (40%) or very much (27%) work ready.

**GEI Quantitative Data: Employers Perceptions of PE Graduates’ Employability**

Ten employers responded to the survey, three of whom were executive managers. Two respondents were middle managers while five employers fell into the ‘other’ category. Eight respondents worked for the public sector, and two for a small-medium enterprise. All organisations were based in Australia or New Zealand. All employer respondents were employed in the Education sector. Eight of the 10 respondents were female. Responses are reported numerically given the small number of responses (10).

Figure 6.3 highlights the comparison of employer perceptions of the extent the degree experience contributed to capability development with the importance of each capability. All 10 respondents agreed that the most important capabilities were Knowledge, Writing, Speaking, Thinking, Independent learning, Problem-solving, and Social contexts. Nine of the 10 employers reported that Quantitative analysis of problems, Using ICT, Teamwork, Values and ethics, and Industry awareness were quite or very important. Of less importance was Intercultural understanding, with Community engagement rated least important.

![Figure 6.3: Comparison of PE employer perceptions (n=10) of the extent the degree experience contributed to capability development with the importance of those capabilities](image-url)

---

201
Employers considered nine of the 14 capabilities insufficiently developed. The largest gaps between degree of importance and extent developed was Independent learning and Problem-solving, both important skills for workplace proficiency. Using ICT, Teamwork, and Intercultural understanding were perceived to be sufficiently developed for workplace proficiency. Seven employers believed graduates were very much (1) or quite a bit (6) work ready compared with three who felt graduates were to some extent work ready.

**GEI Quantitative Data: PE Teaching Staff Perceptions**

Of the 9 university teaching staff respondents, two had full time continuing contracts and three were on a full time fixed term contract. The remaining four staff respondents were on sessional/casual contracts. Five of the respondents had been teaching at a university for more than seven years, two had taught at a university for between four and seven years, and two had been employed at a university for less than three years. One staff member had industry-based experience of between one and five years while the remaining eight had worked in industry for longer than five years. Two respondents reported that their most recent industry experience was between six and 10 years ago, four had moderately recent experience in industry (between one and five years), and three had industry experience in the past year. Seven were female and two male.

Figure 6.4 presents a comparison of the teaching team perceptions of the extent new graduates demonstrated each capability (quite a bit plus very much) with the importance of capabilities (quite important plus very important) to the professional setting. Results are presented numerically given the small number of respondents.

![Figure 6.4: Comparison of PE teaching staff perceptions (n=9) of the degree experience contributed to capability development with the importance of those capabilities](image-url)
Most capabilities were deemed to be quite or very important by teaching staff with the exception of Problem-solving and Intercultural understanding, which recorded slightly lower levels of agreement pertaining to their importance. Quantitative analysis of problems was identified as important by six staff.

Teaching staff perceived there to be a substantial gap between level of importance and the extent the capability is demonstrated by graduates. The greatest difference is evident in Thinking, with two teaching staff deeming it to be sufficiently developed but all agreeing that it was of high importance. Staff felt that all other capabilities, while important, were poorly developed as a result of the PE degree. According to staff, Using ICT was the most developed capability, with six staff perceiving this skill as sufficiently developed. The results shown in Figure 6.4 indicate that teaching staff perceived graduates lacked proficiency in most capabilities.

Figure 6.5 presents a comparison of staff perceptions of their confidence in teaching and assessing each capability. Staff were least confident teaching and assessing intercultural understanding and industry awareness. They were Quite or Very Confident teaching in all other skill areas. While staff demonstrated high levels of confidence teaching and assessing the capabilities, they perceived that these skills were poorly developed in the PE degree.

![Figure 6.5: Comparison of teaching staff (n=9) confidence (Quite Confident and Very Confident) in teaching and assessing capabilities](image)

**Summary of Stakeholder Perceptions of Employability Capabilities in PE Graduates**

Figure 6.6 presents triangulation of perspectives on the importance of the capabilities of the three stakeholder groups: graduates, employers and teaching staff. Stakeholders generally agree on the
importance of most capabilities. Teaching staff considered quantitative and problem-solving less important than both employers and graduates. Employers valued independent learning more than graduates and teaching staff. Overall, the three stakeholders show a similar trend in their perceptions of the importance of each of the capabilities.

Figure 6.6: A comparison of graduate (n=30), employer (n=10) and staff (n=9) perceptions of capabilities perceived as more important to early professional success

Figure 6.7 shows a triangulation of the perspectives of the stakeholder groups on the extent that new graduates demonstrate the capabilities (quite a bit or very much). Graduates and employers considered Knowledge to be well-developed while teaching staff perceived this as an under-developed skill. Writing shows a similar trend but teaching staff demonstrated less agreement with the level of development of this skill than for Knowledge. Employers perceived Speaking to be more developed than did teaching staff and graduates. Thinking and Quantitative analysis of problems showed differing opinions between stakeholders with graduates considering them well-developed, employers moderately so, and teaching staff perceiving them to be poorly developed. Graduates and teaching staff agreed that Using ICT and Teamwork lacked proficiency, whereas employers considered graduates to be highly skilled in these areas. Respondents disagreed on the level of development in Independent learning with graduates seeing this as well-developed, employers as an area that needed more work, and teaching staff perceiving it to be poorly developed. Employers thought graduates demonstrated Intercultural understanding adequately, while graduates and teaching staff disagreed that this skill was developed as a result of their degree.
All stakeholders agreed that Problem-solving was a skill that required further development through the degree. Employers were satisfied with Values and ethics graduates demonstrated in the workplace, while both graduates and teaching staff viewed this as in need of improvement. Community engagement was perceived as an area that needed improvement by all stakeholders with graduates and teaching staff reporting lower levels than did employers. Graduates and employers thought there was greater awareness of Industry awareness than did teaching staff. Social contexts showed a similar trend across all stakeholders. Figure 6.7 highlights the divergent perspectives of stakeholders on the development of employability capabilities demonstrated by graduates.

![Figure 6.7: A comparison of graduate (n=30), employer (n=10) and teaching staff (n=9) perceptions of capabilities perceived as more demonstrated or developed](image)

**GEI Qualitative Data for PE Stakeholders**

GEI qualitative responses were sorted into broad themes apparent in the GEI quantitative data and building on those from the CEQ analysis. This identified key themes where frequency of themes enabled data to be organised and summarised in preparation for more detailed analysis.

**GEI Qualitative Data: PE Graduates**

Graduates were invited to respond to two open questions:

- What were the best aspects of this degree in developing your skills for employment (BA)?
How could the degree be changed to improve your skills for employment (NI)?

Twenty-nine comments relating to the Best Aspects and 29 pertaining to the Needs Improvement were collected from graduates. The qualitative data in the GEI attracted much richer data around employability and industry engagement than the CEQ as many of the respondents being in employment for several years, in contrast to the CEQ where respondents had completed their studies three months prior and had less or no experience with workplace requirements.

The majority of graduate comments made reference to the enhancement of “learning and teaching skills required to become a professional classroom teacher” (Graduate 3, 2014. BA) as a result of studying the PE degree. Skills cited as being developed included “collaboration skills and using technology” (Graduate 1, 2014. BA), “writing clarity, self-motivation” (Graduate 8, 2014. BA), “research skills” (Graduate 20, 2014. BA), “planning skills” (Graduate 24, 2014. BA), and “time management and personal organisation skills” (Graduate 30, 2014. BA). However, there was a perception that skill development would improve with “more hands-on experience and less theoretical learning” (Graduate 1, 2014. NI) and a focus on “skills used on the job [as a teacher]” (Graduate 9, 2014. NI). Graduate 29 (2014. NI) was of the opinion that the development of “employability skills” was inadequate across the degree.

The work-based components of the course were deemed “absolutely essential because that is where the real learning occurs” (Graduate 13, 2014. BA). Graduates also appreciated the opportunity to participate in three placements as it provided experience in “different schools and grade levels [of students]” (Graduate 18, 2014. BA). Despite the diversity of practicum opportunities, graduates felt that the degree could be improved with “more practical on the job experiences” (Graduate 2, 2014. NI) and “more real-life classroom situations” (Graduate 4, 2014. NI). This graduate commented that skills such as “report writing, parent communication, moderation and data collection” were integral to a teacher’s role but were lacking in course content. To optimise learning outcomes from a work-based experience, graduates stated that “the mentor teachers [should be] chosen carefully” (Graduate 11, 2014. NI) as they impact on the development of confidence and work skills. Graduate 14 (2014. NI) believed “more support while on practicums” was required. Furthermore, Graduate 23 (2014. NI) felt “the degree needed to be linked more with the practicalities of teaching” to connect learning to “real-world context theories and strategies, making for a richer practical”.

According to graduates, the theoretical components and discipline knowledge learned as a result of the course were thorough, especially in the areas of “child development and educational requirements” (Graduate 2, 2014. BA), “developing lesson plans” (Graduate 9, 2014. BA), “child psychology and behaviour management plans” (Graduate 12, 2014. BA), and “curriculum study
areas” (Graduate 21, 2014. BA). There was a perception that areas such as “literacy, reading and writing curriculum” (Graduate 5, 2014. NI) were inadequately addressed in the course, as well as “teaching English as a second language and teaching students with special needs” (Graduate 9, 2014. NI).

Some graduates considered the best aspect was being awarded “the qualification to become a teacher” (Graduate 10, 2014. BA) or more simply put “it just gave me the piece of paper” (Graduate 22, 2014. BA). “Lecturers who were still currently working in education” (Graduate 22, 2014. BA) were highly regarded by graduates as they were “informative and prepared for classroom readiness”. However, help with “looking for work, putting resumes together and completing registration” (Graduate 13, 2014. NI) was considered to be missing from the course. Graduates believed there needed to be a “dedicated subject” (Graduate 21, 2014. NI) to address this shortfall.

GEI Qualitative Data: Employers of PE Graduates

Employers were invited to answer two questions:

- What skills, attributes and personal qualities do you consider to be the most useful for new graduates in this field (MU)?
- Which (if any) skills, attributes and personal qualities of new graduates would you prioritise for improvement (NI)?

Employers made 15 comments for both attributes and personal qualities Most Useful (MU) and those considered priorities Needing Improvement (NI). “Behaviour management strategies, knowledge of the curriculum and good interpersonal skills” (Employer 1, 2014. MU) were deemed the most useful attributes for new teaching graduates. Employer 2 (2014. MU) added that a “strong work ethic” was imperative. Other skills perceived as useful by employers included “capacity to build positive relations with students, and behaviour management skills” (Employer 10, 2014. MU), “initiative, self-reflection, organisation and acceptance of critical feedback” (Employer 03, 2014. MU), and “initiative, problem-solving and ability to work independently” (Employer 04, 2014. MU). Employer 06 (2014. MU) focussed more on the affective domain commenting that graduates needed to be “nurturing, friendly, caring and compassionate with great self-esteem and a happy outlook on life”. Employer 09 (2014. MU) believed “dedication and passion for teaching” were necessary attributes while Employer 08 (2014. MU) felt that “a high degree of integrity” was essential. This employer also commented on the need for graduates to “be familiar with AITSL [standards] and the requirements of teachers”.

207
Priorities for improvement included “more exposure to the [Education] Department’s policies” (Employer 01, 2014. NI), and “the ability to plan learning sequences and how to assess” (Employer 04, 2014. NI). Employer 06 (2014. NI) expressed the need for graduates “to develop communication and interpersonal skills to a high degree to make them approachable to children, parents, peers and administration”.

*GEI Qualitative Data: PE Teaching Staff*

Teaching staff made 26 comments in response to the following questions:

- What do you see as the main incentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
- What do you see as the main disincentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?
- What do you see as your role in assisting students to develop these attributes, skills and personal qualities?
- What sort of staff development opportunities would increase your confidence to teach and assess work-related skills, attributes and personal qualities?

*Incentives*

Staff described the incentives for assisting students to develop work-ready skills were “to keep connected with the profession” (Staff 02, 2014) and maintain currency with the education profession. The commitment of teaching staff to “ensure high quality graduates” (Staff 07, 2014) was evident in the comments as staff were cognisant of their responsibility for “teaching future teachers with work-related skills” (Staff 04, 2014). Staff expressed “pride in the quality of the student experience” (Staff 01, 2014), believing that graduate outcomes reflected on their personal capacity as teachers. Staff perceived they had a “vested interest in teaching students to be reflective practitioners who can think” (Staff 08, 2014). This staff member felt that the “resilience and wisdom” students gleaned from the degree “ultimately affect [staff]” and the entire community. Overall, staff perceived they had an obligation to “contribute to improving education by preparing students with skills, attributes and personal qualities” (Staff 09, 2014) required of a graduate teacher.

*Disincentives*

Staff perceived “time and lack of resources” (Staff 05, 2014), and “students not attending classes and not completing required tasks” (Staff 07, 2014) as disincentives for assisting students to develop work-related skills, attributes and personal qualities. There was a sense that “multimodal
delivery” (Staff 02, 2014) impacted on the quality of the learning experience and was therefore a disincentive. Lack of funds was also cited as a disincentive with a perception by staff that the university values “only dollars” (Staff 02, 2014) and fails to support teaching staff to “link with workplaces”.

**Teacher’s Role**

Staff saw themselves as “the conduit between the workplace and the learner” (Staff 02, 2014) and “ensuring the theory component aligned with best workplace practice” (Staff 04, 2014). Assisting students to develop professional attributes, skills and personal qualities was considered the “main priority” (Staff 05, 2014) by staff. Staff considered an important role was to “model the skills, attitudes and behaviours” (Staff 08, 2014) required of a teaching professional.

**Staff Development**

Staff identified “effective methods to enhance work-related skills and attributes and personal qualities in students” (Staff 09, 2014) as a staff development opportunity. Staff 01 (2014) expressed a desire for further development in “effectively and equitably assessing” workplace skills. Staff 02 (2014) elaborated on these ideas suggesting professional development on “structuring cohesive units” which focused on problem-based learning. This staff member also expressed the need for support in “setting up partnerships with schools to help train the next generation of teachers”.

“Professional development on the AITSL standards” (Staff 04, 2014) was identified as a priority, as was “coaching teachers in the school” (Staff 08, 2014) to supervise students on practical placements and to provide constructive feedback.

**6.2.3 Overview of Phase One findings for PE Case Study**

Phase One identified the important components of a university education that supports the development of employability capabilities and identified stakeholders’ perceptions of the gaps in the skills and knowledge of graduates in workplace preparedness with specific reference to the PE discipline. Table 6.7 provides a representation of the major themes and sub-themes emerging from Phase One of PE Case Study which are respectively referred to as Domains and Dimensions. The quantitative and qualitative data from both the CEQ and GEI surveys were merged to ascertain the overarching Domains evident in stakeholder perceptions.
<table>
<thead>
<tr>
<th>Domains</th>
<th>Staff Quality and Expertise</th>
<th>Assessment</th>
<th>WIL and Workplace Relevance</th>
<th>Course Content and Structure</th>
<th>Social Connections</th>
<th>Workplace Transition</th>
<th>Motivation</th>
<th>Confidence, Skill Development</th>
<th>Role Models, Mentors</th>
<th>Affective Attributes</th>
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</thead>
<tbody>
<tr>
<td>Clarity of explanations and expectations</td>
<td>Authentic and meaningful assessments</td>
<td>Content relevant to classroom situation</td>
<td>Relevance, real-world context</td>
<td>Value perspective of others</td>
<td>Teacher registration process</td>
<td>Stimulation of enthusiasm</td>
<td>Teamwork</td>
<td>Support from staff</td>
<td>Integrity</td>
<td></td>
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<tr>
<td>Enthusiasm and dedication</td>
<td>Variety of tasks</td>
<td>More, longer, better organised placements</td>
<td>Diversity of subjects</td>
<td>Peer collaboration and support</td>
<td>Employment opportunities</td>
<td>Motivation to produce best work</td>
<td>Critical thinking, analytical, problem-solving</td>
<td>Staff modelling best practice</td>
<td>Caring and compassionate</td>
<td></td>
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<tr>
<td>Motivate and inspire interest</td>
<td>Clarity of requirements</td>
<td>Academic supervision</td>
<td>Course coherence</td>
<td>Communicative staff</td>
<td>Preparation for entry into workforce</td>
<td>Engaging and challenging experiences</td>
<td>Independent learning</td>
<td>Quality of mentor teachers</td>
<td>Values and ethics</td>
<td></td>
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<tr>
<td>Industry currency</td>
<td>Consistency and fairness</td>
<td>Industry experience of staff</td>
<td>Repetitive content</td>
<td>Networking opportunities and skills</td>
<td>Addressing application criteria</td>
<td>Student ownership</td>
<td>Time management</td>
<td>Peer support, role models</td>
<td>Interpersonal skills</td>
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<tr>
<td>Confidence</td>
<td>Immediate and Constructive feedback</td>
<td>Builds confidence</td>
<td>Theoretical-based</td>
<td>Working with others</td>
<td>Self-efficacy, self-esteem</td>
<td>Discipline knowledge</td>
<td>Relationship with mentor teacher</td>
<td>Resilience</td>
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<tr>
<td>Knowledgeable</td>
<td>Staff development in assessing workplace skills</td>
<td>Less theory</td>
<td>Positive relationships</td>
<td>Aspire to personal goals</td>
<td>Autonomy</td>
<td>Support while on practicum</td>
<td>Passion for teaching</td>
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<tr>
<td>Model skills, attributes and behaviours</td>
<td>Development of employability skills</td>
<td>Community engagement</td>
<td>Enthusiastic and experienced staff</td>
<td>Communication</td>
<td>Work ethic</td>
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<tr>
<td>Pride in profession</td>
<td>Familiarity with AITSL standards</td>
<td>Self-reflection</td>
<td>Nurturing and friendly</td>
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<tr>
<td>Professional learning</td>
<td>Industry awareness</td>
<td>Learning to learn</td>
<td>Happy outlook</td>
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<td>Partnerships with schools</td>
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<td>Communication</td>
<td>Initiative, self-reliance</td>
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<td>Maintain industry connections</td>
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<td>Using technology</td>
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<td>Intercultural capabilities</td>
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6.3 Phase Two: Graduate Outcomes and Student Perspectives for PE

Phase Two investigated the employment outcomes for 2012 and 2013 PE graduates and probed further into the strengths, weaknesses and challenges of the student experience. Data on employment outcomes of graduates was collected via the Graduate Destination Survey (GDS) which was followed by individual and small group interviews with current students studying the PE degree. The design of the interview questions (See Appendix I) were based on the Domains and Dimensions emerging from Phase One of the Case Study. Phase Two addressed RQ1, RQ2 and RQ3.

6.3.1 Graduate Destination Survey (GDS): PE Graduates

GDS respondents in 2013 (2012 graduates) comprised 33 graduates, 94% of whom were female. Fifty five percent were in the 20 to 24 years age bracket, 21% were 25 to 29 years, 12% were from the 34 to 39 year age group, 9% were between 40 and 44 years, and the 45 years plus age bracket comprised 3% of the respondents. The majority of respondents were domestic students (97%). Forty 2013 graduates responded to the 2014 GDS of which 87% were female. Fifty one percent were in the 20 to 24 age group, 20% were aged between 25 and 29, 9% were from 30 to 34 years, another 9% were aged 35-39, 2% were aged 40 to 44, and 9% were 45 years or more. Australian residents accounted for 98% of the responses with the remaining respondents being international students.

Employment outcomes were higher for 2012 graduates with 51% employed on a full time basis compared with 22% for 2013 graduates. Of the 2012 employed graduates, 11.5% were on permanent or open-ended contracts, 15.4% were employed on full time fixed term contracts of more than 12 months, a further 42.3% were working on fixed term contracts of less than 12 months, and 30.8% were working in a casual or temporary role. For the 2013 graduates who found employment, none were employed on a permanent or open-ended contract, 10% were employed on a fixed term contract of more than 12 months, 80% had sourced fixed term contract positions up to 12 months, and 10% were working on a temporary or casual basis. Full time positions were higher for 2012 graduates (51%) than 2013 graduates (22%). However, more 2013 graduates were working part time (62.2%) in comparison to 2012 graduate part time employment (27.3%). Of those working full time, 80.8% (2012) and 78.4% (2013) were working as an educational professional, indicating that a high proportion of full time working graduates were employed in the field for which they trained. Nine percent of 2012 graduates and 11% of 2013 graduates were still seeking work.

Figure 6.8 indicates the sources graduates used to secure employment. The major source of employment for was through direct contact with an employer in both 2012 (26%) and 2013 (21%). A higher percentage of 2012 graduates (21%) sourced a position through family or friends than
graduates of 2013 (10.5%). Seventeen percent of 2012 graduates and 21% of 2013 graduates, secured employment via work contacts or networks. Employers directly approached 21% of 2012 graduates and 13% of 2013 graduates with job offers. Figure 6.8 highlights the minimal support by the university careers service (0% for 2012 graduates and 2.6% for 2013 graduates) to assist graduates in sourcing employment.

![Figure 6.8: Sourcing employment 2012 and 2013 PE graduates](image)

**6.3.2 Individual and Small Group PE Student Interviews**

In 2015 and 2016, individual and small group interviews with current students studying the PE undergraduate degree were conducted. A total of four interviews were conducted with PE students, two involved a small group of students and two where individual students were interviewed. The first interview (IS[PE]1) was held on the 24th March 2015 with a domestic male student aged between 20 to 25 years. He was in the final year of the degree. This was followed by a session with six female participants (Sm[PE]1) on 30th March 2016, all of whom were domestic students aged between 20 and 25 years. This student group spanned first, third and fourth year of the degree. The third session (Sm[PE]2), held on 31st March 2016, involved five students, four females and one
male, all of whom were aged 25 to 30 and in the third year of their studies. The final session (IS[PE]2) was conducted on 19 April 2016 with a domestic, female student aged 20 to 25 years studying the final year of PE. All interviews were of one hour duration.

Interview questions were specifically designed to further explore the notion of employability and the purpose of a university educational experience (See Appendix I). Questions related to assessment, workplace relevance, social connections, workplace transition, motivation, confidence and skill development (including affective attributes), and role models/mentors. In addition, professional identity and self-efficacy, and professional accreditation were explored. Student interviews provided a broadened context to the existing schema with more explicit and in-depth comments pertaining to the Phase One Domains and Dimensions. Qualitative data collected from the individual and small group interviews are reported in the order of the most dominant to least dominant Domains derived from Phase One of the PE Case Study.

Students agreed that the main purpose for studying an education degree was to “get a job” (IS[PE]1, 2015) and increase the opportunities for “lifelong career progression and improved working conditions” (Sm[PE]1, 2016). “Family history and expectations” (IS[PE]2, 2016) was also cited as a reason for attending university. A higher education qualification was perceived to facilitate a “better lifestyle, a sense of achievement and an accomplishment” (IS[PE]2, 2016) and “increase employability, make a difference, and establish a future” (Sm[PE]2, 2016). Students suggested the degree was “not value for money or time” (IS[PE]1, 2015). They perceived that “it was more about the number [of students] in the door” (IS[PE]1, 2015) rather than quality, thus making it more competitive for sourcing jobs as graduate teachers.

1. **Staff Quality and Expertise**

“Definitely the tutors and lecturers” (IS[PE]2, 2016) were perceived to be a strength of the course. Students benefited from the “time and energy” (IS[PE]1, 2015) staff dedicated to their teaching. The “industry professionals [who teach curriculum units]” (IS[PE]1, 2015) were deemed to be particularly good in their delivery style. Students commented that staff teaching the education units “model [teaching practice] more” (Sm[PE]2, 2016) than specialisation areas where the “quality of teaching isn’t as good” (Sm[PE]2, 2016). There was agreement that the teaching was “really good in education units” (Sm[PE]2, 2016) whereas specialisation units were “boring because of the quality of teaching” (Sm[PE]2, 2016).
2. **Assessment**

Students felt assessments were “not authentic or relevant enough” (IS[PE]1, 2015) and had little application to the real world. They preferred “more assignments with less weighting” (Sm[PE]1, 2016), than assessments with high investment referred to as “do or die assessments” (Sm[PE]2, 2016). They felt there was a “lack of feedback on heavily weighted assessments” (Sm[PE]2, 2016). They also believed the “marking criteria for prac” (IS[PE]1, 2015) was of little value as the result was “just a pass or fail” (IS[PE]2, 2016) and provided little advice on how to improve. There was some criticism of essays as they didn’t see themselves “doing that as a teacher” (Sm[PE]2, 2016). Students liked that they “don’t have exams because passing exams isn’t going to make you a better teacher” (Sm[PE]2, 2016). “Learning through assignments” was thought to help retain concepts “because you apply what you have learned” (IS[PE]2, 2016). IS[PE]2 (2016) perceived “Case studies and reports in fourth year as quite authentic and definitely relevant”.

Students wanted more robust feedback on assessments than “just competent or highly competent” (IS[PE]1, 2015). There was a perception that tutors were “unfair” (Sm[PE]2, 2016) when providing feedback and “more consistency with feedback” (Sm[PE]2, 2016) was required. Students felt that “prac was more likely to test capabilities” (Sm[PE]2, 2016) because it “encouraged reflection” (Sm[PE]2, 2016) and enabled “questioning personal strengths and weaknesses” (Sm[PE]2, 2016). There was a belief that it was “harder to fail than to pass”, expressing criticism about the rigour of assessment. Students perceived failure to be worthwhile as it enabled you to “pick yourself up again” (IS[PE]2, 2016) and build resilience.

3. **WIL and Workplace Relevance**

Interviewees agreed that the “real strength [of the course] were the prac components” (Sm[PE]1, 2016) “because it is real” (IS[PE]1,2015) and where “theory is actually put into practice” (IS[PE]1,2015). They appreciated the “variety of pracs” (IS[PE]1, 2015), but felt they were “too short” (IS[PE]1, 2015). Students considered that practicums consolidated “career of choice” (IS[PE]1, 2015) and were a “reality check” (Sm[PE]2, 2016). They valued the opportunity to do practicums overseas “because it provided an international experience” (Sm[PE]2, 2016), thereby enhancing global employability. The “industry professionals [who teach curriculum units]” (IS[PE]1, 2015) were commended as they provided a relevant context to the learning content.

They all expressed a desire for “more pracs or other professional experience opportunities” (IS[PE]1, 2015) throughout the degree and wanted “a prac in first year” (IS[PE]2, 2016). Students felt unprepared for the workforce and wanted “more industry experience” (IS[PE]1, 2015) so they
can “walk into a classroom as a qualified teacher” (Sm[PE]2, 2016) with confidence. The final 10 week internship was thought to “tick a lot of boxes” (Sm[PE]2, 2016) in preparation for the professional working environment. Students attested that “the curriculum was outdated” (IS[PE]1, 2015) and there was a misalignment between “prac units and theory units” (IS[PE]2, 2016). Interviewees commented that the course prepared them for “the Australian context but was insufficient for international contexts” (Sm[PE]2, 2016).

4. Course Content and Structure

Students perceived the content as “relevant” (Sm[PE]2, 2016) but expressed a need for greater focus on “behaviour management” (IS[PE]2, 2016) and “teaching Indigenous students” (Sm[PE]2, 2016). They considered there were “issues with unit progression” (IS[PE]1, 2015), and determined that “the curriculum was outdated” (IS[PE]1, 2015). Suggested improvements included a course design that fostered “social connections and cohesiveness” (IS[PE]1, 2015) as there was a perception of “insufficient active engagement” (IS[PE]1, 2015). While they considered the “content interesting” there was uncertainty about how it would “apply in the classroom” (Sm[PE]1, 2016).

Students enjoyed the “core units in the course” (Sm[PE]2, 2016) and thought the “diversity of optional units” (Sm[PE]1, 2016) was an advantage. The specialisation units were perceived as “disconnected from teaching” (Sm[PE]2, 2016) as there was no guidance on how “to integrate them [into teaching strategies]” (Sm[PE]2, 2016).

5. Social Connections

Students believed a strength of the course was their “relationships with staff” (IS[PE]1, 2015). However, they commented on the lack of a “social network for support” (IS[PE]2, 2016) and believed there was “insufficient encouragement for students to engage with each other and poor collaboration between peers” (Sm[PE]1, 2016). Given that “teaching is all about relationships and communication” (IS[PE]1, 2015), students perceived this as a shortfall in the course. Suggested improvements included a course design that fostered “social connections and cohesiveness” (IS[PE]1, 2015). The value of professional networks was acknowledged but students ascertained that “prac was the only opportunity for professional engagement” (Sm[PE]2, 2015).

6. Workplace Transition

Students alleged there was a lack of information on “career development and progression” (IS[PE]1, 2015) and “what to do when you graduate” (IS[PE]2, 2016). Students nearing the end of the course demised that they “don’t really know what to do or where to go as a teacher. It hasn’t
been clarified” (IS[PE]1, 2015). The lack of opportunities to establish networks were raised with students claiming “a lot of people get jobs through who they know” (Sm[PE]2, 2016), thus highlighting the value of professional networks. They appreciated the support of mentor teachers who provided “helpful information on what next” (Sm[PE]1, 2016) but all students felt “more support for new teachers” was warranted.

7. **Motivation**

Students reiterated that they had to take responsibility for their development as a professional to give themselves the competitive edge as staff had to cater to a large and diverse student cohort. The motivated students “really had to push and engage in as many opportunities as possible” (IS[PE]1, 2015). Other students queried the notion of motivation as they felt there was “no support for the professional side of teaching” (IS[PE]1, 2015).

8. **Confidence/Skill Development**

Students voiced the need “to have confidence that you have the skills to do the job” (Sm[PE]2, 2016). The practical placements were highlighted as “where you get your confidence” (IS[PE]2, 2016). Skills deemed important were “research skills, and oral and written communication skills” (IS[PE]1, 2015), and the “resilience and initiative to pick yourself up” (Sm[PE]2, 2016). Students also felt that a “multidisciplinary context to broaden skillset and increase employability” (IS[PE]2, 2016) built confidence.

9. **Role Models and Mentors**

A “good mentor teacher who is in turn teaching you” (IS[PE]1, 2015) was considered invaluable for developing professional skills to “help you build and grow” (IS[PE]1, 2015). Students were however mindful of being a “burden on the teacher” (IS[PE]1, 2015). Students were disappointed with the support and mentoring from university supervisors as they weren’t always advised “who their supervisor was” (IS[PE]1, 2015). Students valued staff “role modelling best practice and giving ideas for their own practice” (Sm[PE]2, 2016). Interviewees saw themselves as gaining “prestige and status [through a teaching degree] and becoming “a role model in the community” (Sm[PE]2, 2016). All agreed that a “mentor impacts on your professional identity” (Sm[PE]2, 2016) and has a “massive impact on who you are” (Sm[PE]2, 2016). Students commented that staff teaching the education units “model [teaching practice] more” (Sm[PE]2, 2016) as they are also employed as primary teachers.
Two new themes emerged from the individual and small group interviews with current students: Professional Identity and Professional Accreditation.

10. Professional Identity

Professional identity was perceived as “critical in order to be successful and effective in the workplace” (IS[PE]1, 2015), but students were doubtful that “the course contributed to [professional identity]” (IS[PE]1, 2015). Students considered that “maintaining high standards is important to raising the profile of teaching” (IS[PE]2, 2016) and “standards shouldn’t drop” for students as it was important to maintain credibility. Students were concerned about the “huge attrition of teachers in the first five years” (Sm[PE]1, 2016).

Students agreed that established “networks help the development of professional identity” (IS[PE]1, 2015). They talked about the perceptions of teachers in the broader community expressing concern at the “public mindset” (IS[PE]2, 2016) where there is a lack of respect for the teaching profession. They felt this strongly in classes shared with students from other disciplines, believing the students saw them as “inferior” (Sm[PE]2, 2016). They were passionate in the belief that people “wouldn’t have got to where they are without teachers in their life.

“Who you are as a person and how you present yourself, your personality and sense of self helps engage the kids” (Sm[PE]1, 2016). When questioned about what makes them feel good, students responded that “the reaction from students when you are teaching them – when you are doing something well” (Sm[PE]1, 2016) makes me feel good about myself and “seeing the kids improve” (Sm[PE]1, 2016). Students agreed that the portfolio they were required to create during the course helped “to build professional identity” (Sm[PE]1, 2016) along with “regular positive and constructive feedback” (Sm[PE]2, 2016). Students felt that “opportunities for personal development from a professional perspective” (IS[PE]2, 2016) would be useful.

11. Professional Accreditation

The question pertaining to the role of the Professional Accreditation Body elicited questions like “they give us our qualification don’t they” (Sm[PE]1, 2016) or “does the portfolio have something to do with that? (Sm[PE]1, 2016). Students attested that details about the TRBWA were “not in the course but [understand] it is a pretty big deal” (Sm[PE]2, 2016). Sm[PE]2 (2016) contested that they “actually found about it on [their] own” but it “should be embedded into course work” (IS[PE]2, 2016). Students suggested that the course needed “much richer learning experiences” (IS[PE]1, 2015) that what is mandated by the TRBWA.
Interviews with current students emphasised the importance of assessment strategies and workplace relevance to the learning experiences. Students preferred activities that were more ‘hands on’, and identified social connections as pivotal to a successful career in the education sector. While students were appreciative of the social connections with staff, they felt collaboration with peers and establishing professional networks would enhance their course experience. Students perceived that there was no support for workplace transition apart from what a mentor teacher might provide. Little reference was made to motivation aside from the personal efforts students made to ensure they were competitive among the student body, optimising the likelihood of securing employment after graduation. Skills acquired as a result of the course experience were deemed pivotal to transitioning to the teaching profession with confidence, essential to the role of a teacher. Students stressed the importance of skills such as resilience and initiative. Role models and mentors were perceived to be very important, with students commenting that this role resided mainly with the classroom teacher while on practicum. Furthermore, students saw themselves as future role models as they grew and developed in the education profession. While students attested to the importance of a professional identity, there was some doubt that the course experience helped to facilitate the development of one. They also alluded to the lowly perceived status of education professionals in the community, however, they conveyed a sense of pride in the profession and believed good educators had an impact on the community. Students had little exposure to the rigours of professional accreditation and what it meant for their future lives as a professional.

6.3.3 Overview of Phase One and Phase Two Findings for PE Case Study

Analysis of the GDS data identified that graduates would appreciate increased support from university career services in the transition from student to teaching professional. The lack of support provided by the university in supporting the transition from student to professional was highlighted in Phase Two. Furthermore, students reinforced the importance of teaching staff with relevant industry-based expertise, authentic assessment, and workplace relevance. They commented on the strengths and areas of weakness in relation to social connections. Students discussed lack of support for transitioning to the workplace, and the importance of intrinsic motivation. Attributes such as resilience and initiative were cited as critical for workplace confidence. Students expressed the value of workplace mentors and the positive impact of role-models. They also discussed the importance of a professional identity and mechanisms by which it can be developed. It was also evident that students had limited exposure to the process of professional accreditation or the TRBWA.
Phase One Domains were reinforced through Phase Two data collection and analysis with one additional Domain emerging: Professional identity, and several new Dimensions evident. These are listed below with the corresponding Domain in brackets:

- Learning through failure (Assessment)
- Portfolio as evidence of skills (Assessment)
- Outdated curriculum (Course content and structure)
- International context (Course content and structure)
- Integration of theory and practice (Course content and structure)
- Networks for professional identity (Social connections)
- Foster social connections (Social connections)
- Relationships with staff (Social connections)
- University career support (Workplace transition)
- Lifelong career profession (Workplace transition)
- Getting the competitive edge (Workplace transition)
- Multi-disciplinary skills (Confidence/Skill development)
- Research skills (Confidence/Skill development)
- Becoming a role model (Role models, mentors)
- Impact on professional identity (Role models, mentors)
- Pride in profession (Professional identity)
- Prestige and status of profession (Professional identity)
- Sense of self (Professional identity)
- Personality attributes (Professional identity)
- Impact of mentors (Professional identity)

Table 6.8 provides an overview of Phase One and Two findings with modifications to Table 6.7 from Phase One highlighted in blue.
Table 6.8

PE Case Study: Phase One and Two Domains and Dimensions

<table>
<thead>
<tr>
<th>Domains</th>
<th>Staff Quality and Expertise</th>
<th>Assessment</th>
<th>WIL and Workplace Relevance</th>
<th>Course Content and Structure</th>
<th>Social Connections</th>
<th>Workplace Transition</th>
<th>Motivation</th>
<th>Confidence Skill Development</th>
<th>Role Models, Mentors</th>
<th>Affective Attributes</th>
<th>Professional Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity of explanations and expectations</td>
<td>Authentic and meaningful assessments</td>
<td>Relevant content</td>
<td>Relevance, real-world context</td>
<td>Value perspective of others</td>
<td>Teacher registration process</td>
<td>Stimulation of enthusiasm</td>
<td>Teamwork</td>
<td>Support from staff</td>
<td>Integrity</td>
<td>Pride in profession</td>
<td></td>
</tr>
<tr>
<td>Enthusiasm and dedication</td>
<td>Variety of tasks</td>
<td>More, longer, better organised placements</td>
<td>Diversity of subjects</td>
<td>Peer collaboration and support</td>
<td>Employment opportunities</td>
<td>Motivation to produce best work</td>
<td>Critical thinking, analytical, problem-solving</td>
<td>Staff modelling best practice</td>
<td>Caring and compassionate</td>
<td>Prestige and status of profession</td>
<td></td>
</tr>
<tr>
<td>Motivate and inspire interest</td>
<td>Clarity of requirements</td>
<td>Academic supervision</td>
<td>Course coherence and unit progression</td>
<td>Communication</td>
<td>Preparation for entry into workforce</td>
<td>Engaging and challenging experiences</td>
<td>Independent learning</td>
<td>Quality of mentor teachers</td>
<td>Values and ethics</td>
<td>Sense of self</td>
<td></td>
</tr>
<tr>
<td>Industry currency</td>
<td>Consistency and fairness</td>
<td>Industry experience of staff</td>
<td>Repetitive content</td>
<td>Networking opportunities and skills</td>
<td>Addressing application criteria</td>
<td>University career support</td>
<td>Self-efficacy, self-esteem</td>
<td>Discipline knowledge</td>
<td>Relationship with mentor teacher</td>
<td>Resilience</td>
<td>Impact of mentors</td>
</tr>
<tr>
<td>Confidence</td>
<td>Immediate and Constructive feedback</td>
<td>Builds confidence</td>
<td>Theoretical-based</td>
<td>Working with others</td>
<td>University career support</td>
<td>Self-efficacy, self-esteem</td>
<td>Discipline knowledge</td>
<td>Relationship with mentor teacher</td>
<td>Resilience</td>
<td>Impact of mentors</td>
<td></td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>Staff development in assessing</td>
<td>Professional learning for staff</td>
<td>Outdated curriculum</td>
<td>Positive relationships</td>
<td>Lifelong career progression</td>
<td>Aspire to personal goals</td>
<td>Autonomy</td>
<td>Support while on practicum</td>
<td>Passion for teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model skills, attributes and behaviours</td>
<td>Learning through failure</td>
<td>Improved partnerships with schools</td>
<td>International context</td>
<td>Community engagement</td>
<td>Getting the competitive edge</td>
<td>Enthusiastic and experienced staff</td>
<td>Communication</td>
<td>Becoming a role model</td>
<td>Work ethic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pride in profession</td>
<td>Portfolio as evidence of skills</td>
<td>Industry awareness</td>
<td>Integration of theory and practice</td>
<td>Networks for professional identity</td>
<td>Learning to learn</td>
<td>Self-reflection personal strengths and weaknesses</td>
<td>Impact on professional identity</td>
<td>Nurturing and friendly</td>
<td></td>
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<tr>
<td>Professional learning</td>
<td></td>
<td>Global employability skills</td>
<td>Foster social connections</td>
<td>Using technology</td>
<td>Happy disposition</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Partnerships with schools</td>
<td></td>
<td>Familiarity with AITSL standards and processes</td>
<td>Relationships with staff</td>
<td>Intercultural capabilities</td>
<td>Initiative, self-reliance</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Maintain industry connections</td>
<td></td>
<td></td>
<td></td>
<td>Multidisciplinary skills</td>
<td>Research skills</td>
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</tbody>
</table>

220
6.4 Phase Three: Partnerships and Curriculum Design to Enhance Employability of PE Graduates

Phase Three of the Case Study incorporated four data sources: an interview with an employer of PE graduates; a representative from the Professional Accreditation Body, the Teacher Registration Board of Western Australia (TRBWA); and individual interviews with three teaching staff including the Head of School. Interviews focussed on the value of partnerships between stakeholders in preparing work-ready graduates. In addition, a content analysis of curriculum documents was undertaken to ascertain the level to which WIL was evident in the course. Coupled with the qualitative data from interviews with stakeholders, the content analysis provided data on how embedding WIL enhances the employability capabilities of graduates. Phase Three addressed RQ2, RQ3 and RQ4.

6.4.1 Employer and Representative of Professional Accreditation Body Interviews: PE

Interview protocols were the same as those explained in Case Study One and Two. Interview questions (See Appendix J) inquired into the quality of the learning experience, the roles and responsibilities of all stakeholders, industry’s role in ensuring employable graduates, professional identity, the role of the TRBWA, and the nature of partnerships. The interview with the employer was held on 28th March 2016 and was 1.5 hours in duration. The employer interviewee was Principal of a large regional primary school in Western Australia (WA). His experience spanned over 40 years in regional areas across WA. The representative from the TRBWA was interviewed on 14th April 2016 for a period of 1.5 hours.

Interview with Employer: PE

The employer stressed that graduates must “love the fact they were educators” and should not perceive it as “just a job”. He highly regarded the ability to “make connections and understand how kids think” and “good management skills to manage classes effectively”. He considered that being a “good team member” with awareness of “their roles within that team” was essential. The importance of “insight, analytical, organisational, and teamwork skills” were reinforced. He considered that graduates had “good knowledge of the curriculum” and have “got better at managing kids” as a result of their PE degree. He stated that “they really know the Australian curriculum” and are familiar with “different types of assessment”. He believed recent improvement in these areas resulted from visiting “schools more often and learning on the job”. The employer highlighted the impact of the mentor teacher emphasising that students needed the support of “a really great teacher” to ensure they “question their experiences while on practicum”.

221
The employer felt that university staff had to be “quality teachers themselves” and be “a really good mentor or coach” with expertise relevant to primary education. He also thought staff had responsibility for linking the theoretical and practical elements of teaching and expressed concern that this was lacking in the students’ course experience. In terms of the role of the employer in ensuring quality work-based experiences for students, he felt that “lots of schools do not prepare well for the prac students”. The importance of “induction and preparation for students” ensured they felt “a part of the school”, and enhanced outcomes from their experience. He also reiterated that “you can’t have a weak or mediocre teacher take students” stating that it was difficult to manage because “they all want to have a student”. The “monitoring and mentoring” capacity of the mentor teacher was perceived as pivotal to a constructive learning experience for students.

The employer felt the PE degree needed to incorporate content relating to the “psychological, emotional, physical and social” development of children. Students must also be able to “use curriculum to plan and map” their teaching program. Other areas deemed to be priorities were the ability to “manage children and set boundaries” while also catering to individual student needs and backgrounds. The ability to “change and learn” in the shifting dynamics of the education sector, was deemed essential for a professional educator. Furthermore, the employer accentuated the importance of teachers being able to “reflect really well on what happened” and question outcomes of a lesson to ensure continual improvement as a professional.

The employer thought “every school should have a register of high quality teachers” who are “recognised by universities as having skills” required of a mentor teacher. He suggested a collaborative arrangement between the university and schools to determine “how the school selects such a person”. He was of the opinion that communication between universities and schools needed strengthening to establish a “strong connection” so employers had a “better understanding of the course” and could contribute more effectively to student development. He also believed school administrators and mentor teachers would benefit from “workshops held by the university” about expectations, and roles and responsibilities of all stakeholders. He was critical about the “skill level of some academic supervisors” who he described as “mediocre teachers”. He also raised the “issue of the assessment process of students on prac” expressing the desire to see students succeed but felt that mentor teachers were “not actually honest enough” in their deliberations on student capacity to fulfil the requirements of the practical placement, impacting on a systemic issue with the quality of teachers in the education department. The education system does not “want mediocre people” so PE students need to be “judged effectively”. The employer also said students should know “the ins and outs of what is available in terms of technology” and “understand the context of this in the classroom”.

222
In discussing professional identity in a PE context, the employer used the term “moral compass” to represent appropriate professional behaviour of primary educators. He believed primary teachers needed to be “empathetic and tolerant with strong moral values”. He also stressed the importance of being a “mentor and team member”. He believed primary teachers had an “obligation to embrace all kids and treat them with dignity and respect and build strong relationships”. He cited being “highly intelligent” as “critical” to a primary educator.

When recruiting staff, the employer explained the different categories of employees, of which the graduate pool was one. Graduate teachers were selected for interview based on the strength of a curriculum vitae, an application addressing specific criteria, and overall performance of practice-based learning experiences. The employer attested that principals are eager to employ new graduates because they are considered to be “flexible and open to innovation, excited and enthusiastic about opportunities, and they want to learn and connect well with others” making them extremely valuable to the cohesiveness and ethos of a school community.

*Interview with Representative of the Professional Accreditation Body: PE*

Questions for the representative of the TRBWA focussed on the role of the TRBWA and its relationship with universities. The interview with the TRBWA Representative was held on 14th April 2016 in a meeting room at the TRBWA main office. The interview was 1.5 hours in duration.

The interviewee described the main function of the TRBWA as “accrediting teacher education programs” through conducting “an assessment of the program against standards”. The TRBWA representative explained that educational institutions were required to submit evidence showing how the “program delivers, practices, and assesses students against the graduate teachers’ standards”. After a review of teacher quality and a “robust stakeholder engagement process”, the graduate teacher standards were developed to “ensure graduating teachers were sufficiently prepared to commence teaching”. A graduate from a program that is accredited by the TRBWA is “qualified for provisional registration”.

The TRBWA Representative considered that universities and the TRBWA had established “a relationship based upon the accreditation process rather than a partnership”. According to the TRBWA Representative, the TRBWA liaises with the university when a program is undergoing re-accreditation (every four years). In addition, a representative visits the university to present to final year students “about six months out from the completion of the course” to explain the provisional registration process.
The TRBWA Representative discussed the recently introduced requirements whereby selection criteria for education degree applicants must include a “non-academic component” in conjunction with academic requirements. “Motivation to teach, interpersonal communication skills, willingness to learn, resilience, self-efficacy, consciousness and organisational planning skills” were considered essential for a successful teacher. Other capabilities deemed important for students included the ability to “create and maintain creative and supportive learning environments, assess and provide feedback on student learning, engage in professional learning and to engage professionally with colleagues, parents, carers and the broader community”.

When asked about partnerships between the university and employers in ensuring work-ready graduates, the TRBWA Representative stated that there were “questions around where the university ends and where employment begins” and suggested that partnerships were critical for facilitating a smooth transition into the teaching profession. Provisional registration of graduates supported this transition as it “allows [graduate teachers] to demonstrate proficiency over the first three years before they become fully registered”. The TRBWA Representative agreed that a “good solid practicum experience prepares students well for the job of teaching”.

When discussing the role of universities in preparing graduates for future employment, the TRBWA Representative said that “recent industry experience of teaching staff” was an accreditation standard to ensure currency of curriculum content. Accreditation standards stipulate that universities and schools that host students on practicum require “signed agreements outlining expectations of supervising teachers and schools, and the expectations of university staff to formalise the partnership”. Employers of graduate teachers were also required to be involved in “the development, design and delivery of a [teaching] program”. The TRBWA requires “evidence of the university consulting widely with industry” in designing and enacting curriculum.

*Overview of Employer and Professional Accreditating Body Representative Interviews: PE*

The interviews with an employer of PE graduates and a representative of the TRBWA strengthened existing Domains. Both stakeholders highlighted the importance of teaching staff with recent industry experience to ensure currency of industry practices. The ability of graduates to ‘make connections’ with all stakeholders was considered pivotal to a successful career in education. Partnerships between schools and universities were conveyed as influential in developing, designing and delivering a quality education program. The employer believed such partnerships needed strengthening, suggesting better communication and reciprocal services should be negotiated. Both agreed that a quality practicum experience was paramount to producing quality teachers, with the employer adding that schools could be more proactive in managing and inducting students on
practicum. The employer stressed the impact of the mentor teacher stating that they “must be strong”. Skills such as organisation, motivation, reflection, communication, lifelong learning, and interpersonal characteristics, were deemed essential for the teaching profession. Both the employer and representative from the TRBWA alluded to a systemic issue around the quality of teachers. The TRBWA Representative perceived a key mechanism for addressing this issue was through the accreditation of education programs against AITSL standards. The TRBWA considered it has a ‘relationship’ rather than a ‘partnership’ with universities. The employer and TRBWA Representative reinforced skills already identified in previous phases but elaborated further on skills essential for a PE graduate, with specific emphasis on stakeholder roles and the need for robust partnerships. Interviews with three teaching staff enabled further exploration on the notion of partnerships.

6.4.2 Teaching Staff Interviews: PE

Three staff from the teaching area responsible for the PE degree were interviewed. TS[PE]1 was interviewed on 8th October 2015. He had extensive experience in a school setting and been employed at the University for three years as a Practical Coordinator. On the 23rd November, TS[PE]2 (Head of School) was interviewed. She had several years’ experience in a school-setting and had been employed at the University for 14 years. TS[PE]3, an Associate Professor, was interviewed on 9th December 2015. She had 11 years’ experience in national and international school settings and six years at the university. All interviews were one hour in duration. Interview questions (See Appendix K) were similar to those asked of employers and the TRBWA Representative, with more emphasis on the impact of curriculum on the student experience.

Findings from the staff interviews are reported against each of the Domains evident from Phases One and Two.

1. Staff Quality and Expertise

“Recent industry experience” (TS[PE]1, 2015) was deemed essential for PE teaching staff to ensure “cutting edge” (TS[PE]3, 2015) approaches that provide the “historical hindsight and discipline expertise” (TS[PE]3, 2015) required to ensure an optimal student experience. Staff stressed the importance of delivery approaches that challenged students and motivated them to extend the boundaries of their learning and provide “some future proofing” (TS[PE]3, 2015) and move “beyond the profession” (TS[PE]2, 2015).
2. Assessment

Staff supported the requirement for “authentic, genuine and reliable” (TS[PE]1, 2015) assessments, but ascertained that they were more “challenging, time consuming and costly” (TS[PE]2, 2015) to implement. Success in administering authentic assessment profiles was deemed to be reliant on the capability of staff to design and “structure assessments carefully” ensuring students were fully aware of “expectations” (TS[PE]2, 2015). “Positive feedback” (TS[PE]3, 2015) was deemed essential to the professional development of students, and was perceived as largely contingent on a scaffolded assessment design. In discussions on assessment of the practical components of the course, staff commented on “the hostility between school sites [and universities] regarding assessment” (TS[PE]3, 2015). This staff member believed school-based supervisors were best placed to judge students’ proficiencies as they observed the student constantly, whereas university staff “helicoptered in for an hour” resulting in minimal evidence on which to assess students’ skills.

3. WIL and Workplace Relevance

According to staff, “high quality practicum experiences” (TS[PE]2, 2015) facilitated “that crystallising moment when [students] suddenly click into the role of a teacher” (TS[PE]3, 2015). Practicum was perceived to provide the “link between theory and authentic context” (TS[PE]3, 2015). Staff attested that they made a real effort to “connect theory and practice” (TS[PE]2, 2015) to make content “more meaningful” for students. Staff agreed that practicums need to be “at the centre of what we do” (TS[PE]2, 2015) because they “help students decide” (TS[PE]2, 2015) on future career aspirations and “whether they are suited to the [teaching] profession” (TS[PE]1, 2015). Students “need to experience how a school functions, and the interesting and unusual dynamics between people” (TS[PE]1, 2015). Staff acknowledged that a bad practicum experience causes “terrible damage” (TS[PE]3, 2015) to students. TS[PE]2 (2015) believed “some students do not have the resilience to finish the degree and often the pressure point comes at prac”. Staff considered that “the amount of professional experience” (TS[PE]1, 2015) and “the variation of learning experiences” (TS[PE]1, 2015) were strengths of the PE degree. However, they expressed concern about the quality of school-based mentors believing they needed training “in being prac supervisors” (TS[PE]3, 2015).

4. Course Content and Structure

Staff reiterated the importance of a “well-rounded and balanced education” (TS[PE]2, 2015) which required “building and designing good curriculum” (TS[PE]2, 2015). Setting clear outcomes with aligned assessments and “establishing clear guidelines” (TS[PE]2, 2015) were considered pivotal to
a quality curriculum. Staff stressed the value of “a whole of course” (TS[PE]2, 2015) perspective and not compartmentalising “unit by unit” (TS[PE]2, 2015) which resulted in a disconnected curriculum. “Content areas, skills and knowledge” (TS[PE]1, 2015) and the “order of content” (TS[PE]3, 2015) were largely informed by the AITSL standards, which also specified the need to embed “the culture of teaching” in the course. Staff had made a deliberate effort to “make the first year a highly scaffolded continuum” (TS[PE]3, 2015) to facilitate a developmental approach to student learning.

5. Social Connections

Staff highlighted the importance of the “social aspect and a holistic approach to the whole student” (TS[PE]2, 2015). They commented on the ability of students to “interact with others effectively” (TS[PE]2, 2015). “Good personal and positive interactions with people in the workplace” (TS[PE]1, 2015) were deemed fundamental to a positive sense of self and professional identity.

6. Workplace Transition

Staff acknowledged that they need to “do better in supporting transition” (TS[PE]3, 2015) from student to graduate. Students “hired as a result of the final placement” (TS[PE]1, 2015), was seen as a benefit of the final practicum. Staff believed that “a degree that has professional accreditation attached to it should help transition into that [profession]” (TS[PE]3, 2015). However, staff wanted industry assistance in identifying the “gaps in transition” (TS[PE]3, 2015).

7. Motivation

“Social aspects, a variety of opportunities, and focusing on the whole student” (TS[PE]2, 2015) throughout the course experience were considered fundamental to maintaining student motivation. In addition, a “good workplace experience and constructive feedback” (TS[PE]1, 2015) helped to engage students and encourage aspirational goals. Other elements deemed to impact on motivation included “the right kind of environment to flourish” (TS[PE]2, 2015), “positive learning experiences” (TS[PE]3, 2015), “quality teaching staff” (TS[PE]1, 2015), and “inspirational school-based mentors” (TS[PE]2, 2015).

8. Confidence/Skill Development

“Creative, independent, active, resilient, resourceful” (TS[PE]2, 2015) were deemed essential skills for a successful teacher. TS[PE]3 (2015) included “empathy, resilience, critical analysis, questioning, reflection, and self-sufficiency” as important. This staff member felt students needed the ability to “self-determine solutions to problems”. Staff expressed the importance of “breadth and
depth in content knowledge” (TS[PE]1, 2015) in building confidence. There needs to be a “balance between professional skills and theory” (TS[PE]2, 2015). Despite the importance of workplace relevance, staff felt there “needed to be a balance in higher order thinking through engaging with theory and philosophy” (TS[PE]3, 2015). Increased flexibility in delivery of the course made it was hard to build in “self-regulation which feeds into self-efficacy and self-identity and builds confidence” (TS[PE]2, 2015).

9. Role Models and Mentors

Staff wanted “really good role models in schools” (TS[PE]2, 2015) as the “mentor and student relationship” (TS[PE]1, 2015) is pivotal to successful outcomes. Staff emphasised the impact of a “supportive workplace experience and very positive and nurturing mentoring” (TS[PE]1, 2015). They believed in the value of “reciprocal mentoring” (TS[PE]2, 2015) where all stakeholders benefited. School-based mentors need to “trust that we are going to go in and support them” (TS[PE]2, 2015). Staff were adamant that students must have a “quality supervisor – not just someone who puts their hand up” (TS[PE]3, 2015). TS[PE]1 (2015) commented on the challenge of engaging with schools as “some teachers don’t feel confident taking a prac student” and often feel no obligation to contribute to the standard of future teachers, which is a problem.

Specific focus on partnerships, professional identity and professional accreditation emerged from the interviews with staff. Analysis of the qualitative data pertaining to these dimensions is outlined below.

10. Partnerships

Partnerships were perceived as a mechanism for addressing many of the challenges associated with the delivery of the PE degree. The course needed to ensure that “linking and associating with the profession [occurred] very early on in the foundation year” (TS[PE]2, 2015). Staff agreed they needed to get “much better at working with mentor teachers and schools to improve students ability to make [professional] connections” (TS[PE]2, 2015). Staff made reference to the system “being broken” (TS[PE]1, 2015) but recognised that the solution resided with all stakeholders working together. Staff commented on the need for “a new model of engagement” (TS[PE]3, 2015). In the past there was “a perception that it is our [the universities’] problem” (TS[PE]2, 2015). Universities and schools need to “speak the same language” (TS[PE]3, 2015).

Staff cited many benefits of partnerships including the opportunity to “remain contemporary” (TS[PE]2, 2015) for mutual benefits. According to staff, “reciprocal partnerships” (TS[PE]2, 2015) “require trust” and build “social capital” (TS[PE]2, 2015) of schools. Negotiation of the “balance of
autonomy and support” (TS[PE]2, 2015) for both stakeholders was considered fundamental to mutually beneficial partnerships. While partnerships with “industry are important” (TS[PE]2, 2015), teachers in schools fail to see how “educating students supports their profession” (TS[PE]2, 2015).

In an effort to initiate a two-way partnership, staff were “trying to establish a professional hub” (TS[PE]2, 2015) where schools “work with us to design professional learning for teachers” (TS[PE]3, 2015). This was an endeavour to “offer schools and staff something from uni like using our facilities, co-branding, or academics sitting on school boards. We need to make relationships more reciprocal and more tangible from the schools’ perspective” (TS[PE]1, 2015).

According to staff, partnerships needed to extend “beyond the student placement” (TS[PE]3, 2015) requirement with opportunities for joint “research projects” (TS[PE]2, 2015) largely unexplored. The “relationships must go beyond the individual so you’ve got systemic change” (TS[PE]2, 2015) and be based on a sustainable model. The use of “MOUs to formalise partnerships” (TS[PE]2, 2015) established parameters, expectations, roles and responsibilities and “made things firmer and clearer” (TS[PE]1, 2015). “A really strong link between the students, the University and the workplace” (TS[PE]1, 2015) was considered imperative to maintaining currency. Staff wanted to be “more embedded into the actual life of schools” (TS[PE]3, 2015). They felt relationships were more promising with principals realising the need “to partner with us” (TS[PE]3, 2015) and be the “gatekeeper to recognise when someone is not good enough”. (TS[PE]3, 2015). Staff agreed that school-based staff needed to provide “evidence of the effectiveness and weaknesses of [university] programs and have a role in curriculum design” (TS[PE]3, 2015).

11. Professional Identity

Staff felt that a positive professional identity was reliant on “good workplace experiences” (TS[PE]1, 2015). Students needed to focus on “looking at identity, and how [students] see themselves as part of that profession” (TS[PE]2, 2015). Staff stressed the importance of reinforcing messages “about professionalism and the key values of the [teaching] profession, and to support and nurture [students] in an engaging environment” (TS[PE]1, 2015) thereby developing a strong sense of professional identity. “Self-efficacy is important, and we endeavour to “embed it in curriculum through work integrated learning” (TS[PE]2, 2015).

The practicum component was deemed critical in providing opportunities for students to show “they do have skills and abilities and they blossom and start articulating their abilities” (TS[PE]3, 2015). Through practicum, students establish an “identity in making that leap into being a teacher”
“Students need to be more resilient and toughen up a bit” (TS[PE]2, 2015) and practicum “builds resilience” (TS[PE]3, 2015).

12. Professional Accreditation

While staff recognised the value of professional accreditation, they perceived many challenges. Professional standards “help drive the curriculum but also have constraints” (TS[PE]2, 2015) as they are prescriptive about discipline units and content. With “different state systems, and a national body, there are lots of layers” (TS[PE]2, 2015). Professional standards provide the guidelines for assessing students but “often mentor teachers do not have the expertise to assess against the standards” (TS[PE]2, 2015).

Staff agreed that it was important for students to know that they are “undertaking a course that is accredited Australia-wide” (TS[PE]1, 2015) agreeing that the “benefits are students qualify in any state and degrees are comparable across institutions” (TS[PE]3, 2015). Staff attested that “sharing the same professional language had given clarity about what effective teaching is” (TS[PE]3, 2015). Staff felt “accreditation constraints” (TS[PE]3, 2015) restricted innovative curriculum design.

Overview of Teaching Staff Interviews: PE

Teaching staff believed their industry-currency and effective delivery models, that challenged and motivated students beyond the confines of the education profession, promoted broader contexts for lifelong learning. Staff agreed that authentic assessment profiles were important but required extra resourcing and were incumbent on staff capacity. They highlighted the value of learning in the workplace for establishing career-connection and enabling students to determine personal suitability to the education profession. While staff agreed on the benefits of professional accreditation, they felt it diminished flexibility in course content and delivery. A cohesive and connected curriculum was considered fundamental to quality student outcomes, as was a whole of course approach. They believed learning activities needed to challenge students and progress their ability to critically analyse and question information.

Social interaction which supported the development of positive relationships with all stakeholders, was perceived important for the development of a professional identity. Staff acknowledged that transition arrangements from student to graduate needed to improve, but felt more support from industry was required. Social connection, constructive feedback, quality teaching and supportive mentor teachers were cited as essential to initiate and maintain student motivation. Staff highlighted the importance of personal attributes, fundamental to positive relationships, which ultimately build
confidence in students’ self-perception. The value of school-based mentors was affirmed, but mentoring needed to ensure all stakeholders benefitted.

Staff regarded partnerships as important to the sustainability of the education degree. They believed partnerships with schools needed to broaden to include input into curriculum design, assessment, and research. Staff also highlighted the connection of self-identity, self-efficacy and professional identity, deeming it important for students to identify as a primary educator with pride.

6.4.3 Curriculum Document Content Analysis: PE Curriculum

The content analysis of curriculum documentation connected stakeholder perceptions to the focus, content and experiences afforded by the PE curriculum. The coding assigned in the content analysis determined the relevance and authenticity of the learning experiences and assessment tasks to the workplace (See Table 3.9). The findings from the Curriculum Document Content Analysis informed answers to RQ3 and RQ4.

The AAF provided the criteria for judging the authenticity of assessments and attributing the appropriate WIL descriptor (Not Applicable, Not Evident, Emerging, Developing, Highly Developed). Assessments categorised as Not Evident, accounted for 23% of the total assessment weighting, and occurred mainly in the first and second year of the degree. These assessments consolidated the fundamental knowledge required of a teacher, thus preparing students for applying this knowledge later in the degree. Content analysis revealed that 58% of assessments demonstrated an Emerging level of authenticity. Assessments categorised as Emerging were scattered across first and second year but occurred with greater frequency in third year, where students were required to engage with more authentic learning environments. Fifteen percent of the assessments in the PE degree were classified as Developing, representing increased real-world application in assessments. Two assessments were rated as Developing in the second year of the degree with the remaining assessments spread across third and fourth year, indicating incremental development of students’ skills, with increasing autonomy evident in the assessment. Three percent of assessments were assigned a Highly Developed rating where assessments were undertaken in the workplace setting. However, professional practicums were pass/fail units and therefore recorded a zero weighting. The final teaching report for the 10 week work placement was the only assessment for the final placement unit and weighted 100% of the subject assessments. One assessment (equating to 1%) was categorised as Not Applicable, where valid student outcomes were measured but had no workplace connection.
Table 6.9 provides a list of the assessment tasks, the number of occurrences of the assessment type and the overall weighting of the assessment type across the PE course.

Table 6.9  
Assessment types for PE

<table>
<thead>
<tr>
<th>Assessment Types</th>
<th>Number of Occurrences</th>
<th>Percentage Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio</td>
<td>14</td>
<td>24.0</td>
</tr>
<tr>
<td>Report</td>
<td>13</td>
<td>20.0</td>
</tr>
<tr>
<td>e-test</td>
<td>13</td>
<td>9.7</td>
</tr>
<tr>
<td>Case Study</td>
<td>5</td>
<td>8.8</td>
</tr>
<tr>
<td>Reflection</td>
<td>5</td>
<td>4.2</td>
</tr>
<tr>
<td>Professional Experience</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Lesson Plan</td>
<td>3</td>
<td>6.2</td>
</tr>
<tr>
<td>Performance</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Learning Journal</td>
<td>2</td>
<td>3.8</td>
</tr>
<tr>
<td>Project Plan</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>Presentation</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Website</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Exam</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Rationale</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Literature Review</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Teaching Report</td>
<td>1</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>74</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

This represents a developmental assessment profile in which the focus in early years of the degree was to provide the foundational skills required of a primary teacher. Assessments increased in complexity, engagement, and authenticity in the final years of the degree, enabling students to showcase their skills in real-world situations.

Overview of Curriculum Document Content Analysis: PE

The content analysis of curriculum documents indicates an assessment profile comprising a combination of tasks that assessed theoretical knowledge in the early years of the degree. Assessments in third and fourth years showed increasing relevance to workplace capabilities, whereby students were required to apply knowledge and evidence skills through more authentic
activities. The way in which the assessments were embedded in the program supports a scaffolded and developmental approach to skill development.

6.5 Overview of Phase Three Findings: PE

Findings from Phase Three of the PE Case Study strengthened findings from Phases One and Two and informed the reshaping and consolidation of the Domains and Dimensions. All stakeholders agreed that practical experiences, industry engagement, experienced mentors and career connections were of critical importance to graduate capability and workplace readiness. Interviewees expanded on the notion of partnerships, highlighted stakeholders’ roles and responsibilities, and outlined characteristics of beneficial partnerships. ‘Partnerships’ emerged as an overarching Domain as they were perceived as a mechanism for addressing existing challenges, building the capacity of all stakeholders, and ultimately enhancing graduate employability. Based on comments from interviewees, the concept of partnerships underpins all Domains and Dimensions.

Resilience, lifelong learning, organisation, adaptability, theoretical application, and discipline knowledge were considered essential attributes for transition into the teaching arena. The ability to connect and form professional relationships with relevant people was deemed crucial to a successful teaching career. Stakeholders agreed that graduates needed to demonstrate enthusiasm and passion for the teaching profession, and be innovative and creative in their approaches to engaging students. They were unanimous in the requirement for university teaching staff to be cognisant of current industry practices and protocols. The employer and teaching staff agreed that they should more actively contribute to establishing mutually beneficial partnerships, whereas the TRBWA Representative saw their role as overseeing the impact of partnerships on graduate outcomes. The transition from student to novice teacher was highlighted as an area of concern.

Workplace experiences were perceived as fundamental to the student experience, as was authentic assessment and constructive feedback on student performance. These aspects were considered key drivers of student motivation and engagement. The quality, coherence and content of the education program was perceived as critical, with input from industry partners considered an imperative. While professional accreditation was regarded as important to the status and profile of the education profession, it created barriers rather than enablers for innovative curriculum design and had little impact on the school setting. Professional identity, emerged as a key Domain that impacted on skill development, students’ confidence, pride in and passion for the teaching profession, and a core element for commitment to lifelong learning. Content analysis of curriculum documents showed a developmental assessment profile where WIL increased in complexity across the curriculum, enabling students to gradually build confidence in real-world application.
Phase Three findings reconfigured the tabular overview of the outcomes with the affirmation of explicit Domains and the merging of Dimensions. Partnerships became an overarching concept that impacted on all Domains and Dimensions. Table 6.10 provides a tabular summary of the findings from Case Study Three: PE. Existing Domains remained, as they were consistently salient themes in all phases, with new Dimensions appearing in red.

6.6 Conclusion

This chapter provided a detailed synopsis of the PE degree through gathering quantitative and qualitative data from stakeholders. The findings show synergies across stakeholder perspectives and identify how stakeholders can work collaboratively to prepare graduates for the future workplace. The need to nurture partnerships that facilitate shared responsibility and authentic learning experiences is espoused by all stakeholders. However, barriers to making this a reality were also raised, something which will be addressed in the discussion chapter. Chapter Seven provides a cross-case analysis of the three case studies, identifying similarities and differences evident in the results.
### Table 6.10
PE Case Study: Phases One, Two and Three Domains and Dimensions

#### Partnerships
Students – Graduates - University Staff – Employers – Professional Accrediting Body

<table>
<thead>
<tr>
<th>Domains</th>
<th>Staff Quality and Expertise</th>
<th>Assessment</th>
<th>WIL and Workplace Relevance</th>
<th>Course Content and Structure</th>
<th>Social Connections</th>
<th>Workplace Transition</th>
<th>Motivation</th>
<th>Confidence/Skill Development</th>
<th>Role Models, Mentors</th>
<th>Affective Attributes</th>
<th>Professional Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity of explanations and expectations</td>
<td>Authentic and meaningful assessments</td>
<td>Relevant content</td>
<td>Relevance, real-world context</td>
<td>Value perspective of others</td>
<td>Teacher registration process</td>
<td>Stimulation of enthusiasm</td>
<td>Teamwork</td>
<td>Support from staff</td>
<td>Integrity</td>
<td>Pride in profession</td>
<td></td>
</tr>
<tr>
<td>Enthusiasm and dedication</td>
<td>Variety of tasks</td>
<td>More, longer, better organised placements</td>
<td>Diversity of subjects</td>
<td>Peer collaboration and support</td>
<td>Employment opportunities</td>
<td>Motivation to produce best work</td>
<td>Critical thinking, analytical, problem-solving</td>
<td>Staff modelling best practice</td>
<td>Caring, compassionate, empathetic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivate and inspire interest</td>
<td>Clarity of requirements</td>
<td>Academic supervision</td>
<td>Course coherence and unit progression</td>
<td>Communicative staff</td>
<td>Preparation for entry into workforce</td>
<td>Engaging and challenging experiences</td>
<td>Independent learning</td>
<td>Quality of mentor teachers</td>
<td>Values and ethics, strong moral values</td>
<td>Sense of self</td>
<td></td>
</tr>
<tr>
<td>Industry currency</td>
<td>Consistency and fairness</td>
<td>Industry experience of staff</td>
<td>Repetitive content</td>
<td>Networking opportunities and skills</td>
<td>Addressing application criteria</td>
<td>Student ownership</td>
<td>Time management</td>
<td>Peer support, role models</td>
<td>Interpersonal skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence</td>
<td>Immediate and Constructive feedback</td>
<td>Builds confidence</td>
<td>Theoretical-based</td>
<td>Working with others</td>
<td>University support</td>
<td>Self-efficacy, self-esteem</td>
<td>Discipline knowledge</td>
<td>Relationship with mentor teacher</td>
<td>Resilience</td>
<td>Impact of mentors</td>
<td></td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>Staff development in assessing workplace skills</td>
<td>Professional learning for staff</td>
<td>Outdated curriculum</td>
<td>Positive relationships</td>
<td>Lifelong career progression</td>
<td>Aspire to personal goals</td>
<td>Autonomy</td>
<td>Support while on practicum, quality of mentor teachers</td>
<td>Passion for teaching</td>
<td>Adapt to shifting professional dynamics</td>
<td></td>
</tr>
<tr>
<td>Model skills, attributes and behaviours</td>
<td>Learning through failure</td>
<td>Industry awareness</td>
<td>International context</td>
<td>Community engagement</td>
<td>Getting the competitive edge</td>
<td>Enthusiastic and experienced staff</td>
<td>Communication</td>
<td>Becoming a role model</td>
<td>Work ethic</td>
<td>Positive workplace interactions</td>
<td></td>
</tr>
<tr>
<td>Pride in profession</td>
<td>Portfolio as evidence of skills</td>
<td>Improved partnerships with schools</td>
<td>Foster social connections</td>
<td>Networks for professional identity</td>
<td>Learning to learn</td>
<td>Self-reflection personal strengths and weaknesses</td>
<td>Impact on professional identity</td>
<td>Nurturing and friendly</td>
<td>WIL promotes professional identity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional learning</td>
<td>Scaffolded assessment skills</td>
<td>Global employability skills</td>
<td>Integration of theory and practice</td>
<td>Relationships with staff</td>
<td>Engage in professional learning</td>
<td>Using technology</td>
<td>Happy disposition</td>
<td>Focus on holistic student development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partnerships with schools</td>
<td>Resourcing for assessment</td>
<td>AITSL standards and processes</td>
<td>Intercultural capabilities</td>
<td>Initiative, self-reliant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintain industry connections</td>
<td>Co-designing assessment</td>
<td>Support staff, industry connections</td>
<td>Multidisciplinary skills</td>
<td>Tolerant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 7 : CROSS-CASE ANALYSIS

7.1 Introduction

Three case studies provided the framework for the data collection and analysis of this study. The case studies were the Chemical Engineering (CE), Occupational Therapy (OT), and Primary Education (PE) undergraduate degrees offered at an Australian university. This chapter provides a cross-case analysis, whereby findings from each case study are compared, and similarities and differences identified. A cross-case analysis is presented for each research question, identifying the similarities and diversities across cases. Firstly, the Domains and Dimensions emerging from the case studies were compared to identify where the similarities were and identify overarching themes through a collective view of the findings. The gaps in the skills and knowledge of graduates in workplace preparedness was then compared across the cases. This was followed by a comparison of the content analysis of the curriculum across cases. Stakeholder’s identification of partnerships characteristics were then compared. The cross-case analysis allowed in-depth investigation of the outcomes of each case. The cross-case analysis enabled the development of an overall schema through data consolidation, with acknowledgement of the nuances of each case study.

7.2 Comparison of Case Study Attributes

Each Case Study comprised an undergraduate degree aimed to prepare students for a professional occupation. The degrees were accredited against national industry standards on a regular cycle. While the focus and criteria on which the accreditation was based varied across each of the professional degrees, the process and intent were similar. Students in each of the three degrees studied a generic foundational program in the first year of their studies, the purpose of which was to provide broad exposure to the profession, and the foundational skills and knowledge required to progress into more complex content in later years of the degree. The duration of all degrees was four years full time or equivalent part time.

7.3 Important Components of a University Education that Supports the Development of Employability Capabilities

Graduate perceptions of their course experience varied across each of the Case Studies. OT graduates were more satisfied with their course experience, while CE graduates were least satisfied. The majority of items fell into the 60% to 80% category for PE graduates. CE graduates were moderately content with the skill development through the course, but showed high levels of disagreement with feedback on performance, clarity of expectations and standards, motivation, enthusiasm for further learning, and the efforts of staff. In contrast, OT graduates perceived that
their course experience developed workplace skills effectively, provided adequate feedback on progress, and instilled motivation. They were less satisfied with clarity of expectations and standards, and stimulation of enthusiasm for further learning afforded through their course. PE graduates considered that all aspects of their course experience could be improved aside from improved written communication skills. They were particularly critical of clarity of expectations and standards, motivation instilled by learning experiences, stimulation for further learning, and the development of confidence to tackle unfamiliar situations. These perceptions were reflected in overall satisfaction ratings, with OT graduates strongly agreeing that their course was of a high quality, whereas CE and PE graduates recorded a less satisfied outcome.

7.4 Domains and Dimensions

Across all case studies, the Domains of WIL and Workplace Relevance, Staff Quality and Expertise, Course Content and Structure, Assessment, Social Connections, Confidence/Skill Development, and Motivation emerged as the most important components of a university education that support the development of employability capabilities. Role Models and Mentors, Professionalism/Professional Identity, and Workplace Transition, occurred less frequently in the analysis of CEQ qualitative data, but were repetitive themes in stakeholder interviews. The Domains are not mutually exclusive as the analysis of interview data exposed inter-connections and strong cross-relationships. The similarities and differences of the case studies are highlighted for each Domain below.

Students and graduates unanimously agreed that the purpose of university studies was to increase the likelihood of securing challenging and rewarding employment, and to ensure a sustainable quality of life. Family and personal expectations were also drivers for attending university. In addition, OT and PE students were of the opinion that they could ‘make a difference’ in society with a professional qualification. Staff reaffirmed these as key purposes of a university education, articulating that their role as educators was to develop students on a personal and professional level, with competence to enter the workforce. Students and graduates attested that it was the qualification rather than the learning that provided the ‘ticket’ to make them employable. Stakeholders in all three case studies agreed that the learning happened upon entering the workforce, post-graduation. With the decline in employment opportunities, CE students and graduates questioned the value of investment in a university education, as sourcing employment had become increasingly competitive. PE graduates also expressed doubt about the benefits of the time, and financial commitment of a university degree.
7.4.1 Work-Integrated Learning (WIL) and Workplace Relevance Domain

**Similarities across Case Studies**

Participants in all case-studies expressed desire for more WIL experiences to be incorporated in their course. Where WIL involved a practical industry-based placement, graduates and students thought they should be of longer duration and more frequent. Engagement with industry which facilitated strong industry connections was perceived as integral to establishing networks that potentially enhanced opportunities for future employment, and helped to clarify career aspirations and personal vision. Authentic learning experiences were considered essential for workplace preparedness, being perceived as motivating, engaging, and useful. The need for WIL to be explicitly embedded in curriculum was highlighted by all stakeholders.

The authenticity of WIL learning experiences prepared students for the workforce, clarified employer expectations, and replicated real-world demands. Stakeholders believed WIL built resilience, encouraged reflection, illuminated personal strengths and weaknesses, enabled transferability and consolidation of skills in real world settings, and integrated practical and theoretical aspects. These characteristics were afforded through the social context and unpredictability of WIL, allowing students active participation and recognition of personal strengths and weaknesses. Workplace experiences in international settings were considered particularly beneficial for enhancing global mobility, cultural capabilities, and employability.

**Differences across Case Studies**

Perceptions of WIL varied, largely as a result of the diversity in WIL arrangements across each of the case studies, and the different labour markets for which students were preparing. CE stakeholders were critical of the 10 week internship, describing it as a ‘bolt-on’ experience that was not integrated with the theoretical components of the degree. There was a perception that students were inadequately supported and supervised. Furthermore, the mandated 480 hours exposure to industry was considered a constraint rather than a benefit, as it prevented graduation when students were unable to source an internship. Students and graduates described the internship as a superficial, ‘tick box’ exercise, while the employers viewed graduates as having unrealistic expectations of the workplace as a result of their minimal industry experience. PE students had WIL placements dispersed throughout the degree, but were critical of the organisation of placements. OT students and graduates felt there was a lack of preparation for interdisciplinary practice, which is of particular importance to health professionals. OT and PE stakeholders
perceived the WIL placement, and authentic activities embedded across the degree in preparation for the placement, as central to the student experience.

OT and PE stakeholders stressed the importance of quality supervision from both workplace and academic supervisors. However, given the growing student numbers and increasing demand for WIL placements, there was consensus across the OT and PE case studies that innovative models of WIL were required, where student outcomes are equitable and industry partners are involved, but less stress is placed on university and industry resources.

7.4.2 Staff Quality and Expertise Domain

Similarities across Case Studies

In all case studies, the knowledge, experience and expertise in contemporary workplace practices of teaching staff was identified as essential in preparing students for the workplace. Stakeholders agreed that teaching staff needed to maintain connections with the relevant profession (CE, OT, and PE) in order to provide relevant and authentic learning experiences that reflected real-world applications. It was suggested (and strongly endorsed by teaching staff), that staff professional development should incorporate regular, industry-based experiences, where staff are familiarised with workplace practices, build and maintain strong industry links, and extend personal, professional portfolios. However, staff interviewees countered this suggestion with challenges such as demands on time, workload, adequate resourcing, lack of recognition and acknowledgement, and greater incentives for research over teaching and learning activities. The enthusiasm of some teaching staff was considered engaging and motivating in all case studies.

Differences across Case Studies

OT and PE professional standards mandate that a percentage of staff are required to have recent workplace experience. Teaching staff in these case studies that had dual appointments with the University and the professional setting were highly commended and perceived as a conduit to industry. In contrast, CE stakeholders were more critical of staff capacity to demonstrate workplace skills and how best to teach those skills. The capability of staff to mentor and support students was questioned, with the suggestion staff needed to be mentored themselves to improve their repertoire of teaching skills and broaden the theory focus. CE staff expressed a sense of ‘academic isolation’ which compromised the relevance of their teaching and the course content.

With greater engagement in the WIL agenda and interest in improving implementation of it, OT and PE staff expressed a desire for professional development in establishing partnerships and interacting
with industry, designing a structured and cohesive WIL curriculum, implementing innovative assessment, and providing constructive feedback. Maintaining connections with the profession, pride in the quality of graduates, and contributing to the sustainability of their profession were deemed motivating factors. These staff had a commitment to improve the standards of their profession, and maintain a reputable profile in the broader community.

7.4.3 Course Content and Structure Domain

Similarities across Case Studies

The cohesiveness, connectedness and relevance of course content and structure was highlighted as important in all case studies. Embedding and scaffolding WIL experiences where students were exposed to real world problem-solving with relevance to the workplace was deemed essential. All case studies revealed a perception that course content focused on theoretical and academic components, to the detriment of the integration of theory and practice and more interactive approaches. The CE professional body representative was sceptical that the CE course provided content and learning experiences relevant to the working environment.

Differences across Case Studies

Respondents in the OT Case Study believed WIL placements needed to be scaffolded across the course, rather than concentrated in the fourth year. They also suggested more exposure to OT professionals and connection with the workplace, highlighting the irrelevance of course content and the disconnect between theory and practice. PE stakeholders agreed with this view, but also questioned the currency of the course content, believing that much of it did not reflect contemporary workplace practices. Diminishing contact hours at university was raised as a concern in both the OT and PE Case Studies, as limited contact time prevented establishing social connections and enculturing students into the profession. PE students and graduates were critical of the focus on the Australian context, expressing the desire to be more globally employable with exposure to international education frameworks. PE stakeholders also expressed the need for career development and preparation for employment to be embedded in the degree.

7.4.4 Assessment Domain

Similarities across Case Studies

Assessment profiles that enabled developmental progression of workplace skills was raised in all case studies as important. Regular and constructive feedback from multiple stakeholders was believed essential for holistic and inclusive outcomes. Co-designed assessments that were
implemented in partnership with industry were perceived as the most rigorous measure of student performance. Feedback on assessment outcomes and performance was deemed to need improvement, with agreement that robust feedback builds confidence, self-efficacy and personal motivation. Assessments that involved collaborative problem-solving of industry-driven issues were considered beneficial for improving employability skills, deepening learning, and retaining concepts. The notion of failure was raised in all case studies, on the premise that recognising failure and how it might be addressed builds resilience and prepares students for workplace dynamics. Staff concurred that their greatest challenge was implementing authentic assessments given barriers including staff capacity, lack of agility in university policies and procedures, and limited cost and time. Strict accreditation guidelines from professional bodies were also perceived as an obstacle to innovative and authentic assessment design. For these reasons, staff believed assessment was mainly theoretical, and was designed in such a way that students were driven by assessments and the grade, and less engaged with the actual learning experiences. Students and graduates described assessment as a ‘factory-like’ process which contributed negligibly to overall outcomes and employability. All agreed that the quality, design and rigour of assessment processes needed to improve.

**Differences across Case Studies**

There was also variance across the case studies in stakeholders’ perceptions of assessment, a consequence of the traditional approach in each discipline. OT and PE showed concern with the fairness, consistency and clarity of assessments, while CE was more focussed on plagiarism, workload, and easiness of the final exam. CE graduates and students lamented that assessments didn’t provide opportunities to showcase capabilities, and differentiate themselves from fellow students, potentially gaining a competitive edge. Feedback and support from workplace supervisors was considered important by OT and PE participants, as it challenged students and socialised them into the profession. This was not raised by CE participants, as there is no formal engagement with workplace supervisors during the internship. PE stakeholders did raise concerns about the capacity of mentor teachers to provide honest and constructive feedback to student teachers, which impacts on a systemic issue surrounding the quality of teachers.

### 7.4.5 Social Connections Domain

**Similarities across Case Studies**

A sense of belonging and social connectedness were identified as important factors, contributing to successful employability outcomes for graduates. Participants in all case studies agreed that social
and professional connections enabled a supportive network, identified mentors for intellectual and emotional support, enhanced commitment to studies, established relationships to support career development, supported collaborative learning, and made the university experience enjoyable and sociable. Connections with peers, teaching staff, and employers were considered pivotal to enacting real-world scenarios, and providing a holistic, educative experience. The WIL placements in each course were identified as the only existing opportunity to build professional networks, important for life-long career prospects.

*Differences across Case Studies*

With a high number of international students in the CE Case Study, cultural competence gleaned through connections with a culturally diverse student cohort was considered advantageous in preparation for a global workforce and catering for cultural differences. The lack of cohesiveness between the domestic and international students was identified by OT students and graduates as a missed opportunity for capitalising on the multi-cultural influence of the class dynamics. PE stakeholders made consistent reference to the importance of a positive relationship with the mentor teacher as it impacted greatly on the benefits of the WIL placements. The CE Case Study highlighted the importance of communities of practice made possible through extra-curricular activities, which partially substituted for the sparse workplace experiences during the degree. OT staff raised concerns about the impact of online delivery and reduced face to face time on the capacity to establish and maintain social connections for and with students.

*7.4.6 Confidence/Skill Development Domain*

*Similarities across Case Studies*

While the professional setting for each case study differed in focus and discipline, skills identified as important for inclusion in the course experience were of a similar vein. Skills such as self-reliance, learning to learn, conflict resolution, problem-solving, team work, critical thinking, research, communication and creativity, while enacted differently in each of the workplaces, were cited as important. Other attributes emerging from all case studies included initiative, enthusiasm, cultural capabilities, time-management, resilience, professionalism, confidence, ethical practice, and willingness to receive and respond to feedback. Reflective practice was determined to be important in all discipline areas, but CE participants acknowledged that reflection was not sufficiently embedded across the CE degree. The development of these skills, together with inclusive and comprehensive discipline knowledge appropriate for the profession, were thought to build confidence for workplace practice. Absence of these skills was perceived to lead to incompetence in
workplace settings, thereby reducing the value of authentic learning and industry networking opportunities. Embedding WIL in curriculum was considered the mechanism for facilitating the development of skills and building confidence.

**Differences across Case Studies**

While all participants reaffirmed the skills listed above, the nuances of the professional context for each case study saw the focus vary. PE employers rated nurturing, friendly, caring, compassionate, healthy self-esteem, integrity, dedication, passion, empathetic, tolerant, and happy disposition, as important for graduate teachers. OT participants stressed the importance of advocacy, empathy, emotional intelligence, and assertiveness, and their relevance to working in the health sector. Both OT and PE emphasised the affective domain in skill development, incorporating personal values, beliefs, and biases. PE teaching staff and employers believed PE graduates needed to be highly intelligent, and have the capacity to operate in complex environments. CE participants were more focussed on functional aspects, emphasising entrepreneurship and working with ambiguity, coupled with strong academic progress as important.

**7.4.7 Motivation Domain**

*Similarities across Case Studies*

The need for students to be proactive, show initiative and accept challenges was a consistent theme in all case studies. Stakeholders agreed that students needed to take responsibility for personal learning priorities, and actively pursue opportunities that built on personal strengths and addressed weaknesses. Personal drive and enthusiasm were considered integral to employability and career success. Staff agreed that student motivation was inspired by quality teaching staff who engaged students in learning experiences with real-world relevance which were mentally stimulating, challenging, and relevant to their future careers. Perceptions around motivation were consistent across the three case studies, with no notable discrepancies evident.

**7.4.8 Role Models and Mentors Domain**

*Similarities across Case Studies*

Role models and mentors were perceived as important for industry relevance, collaborative learning, career support and development, and affirmation of progress. Industry-based, peer and teaching staff mentors were considered equally beneficial in enhancing and consolidating student learning. Role models and mentors were thought to provide guidance and support; feedback on progress; build confidence; and role model attributes, attitudes and practices relevant to the
profession. The enthusiasm and capacity of the mentor impacted significantly on student success and the development of a professional identity. Teaching staff considered themselves to be mentors for students, although CE staff conceded that they did not always possess the capability to undertake this role.

**Differences across Case Studies**

Mentoring requirements differed across the case study disciplines in that the international students studying the CE degree were in need of support and guidance which catered to their specific needs. The OT profession regarded role modelling and mentoring as integral to career success and maintaining integrity of the profession. While providing mentoring support for students was a high priority, the OT profession also provided ongoing mentoring for new graduates. This approach facilitated a culture of encouragement and ensured graduate support to build workplace resilience. Experienced teaching staff who were passionate about their profession were considered the most valuable work-based and university mentors. High calibre teachers as mentors in the professional setting was perceived as fundamental to success for PE students and graduates.

**7.4.9 Professionalism/Professional Identity Domain**

**Similarities across Case Studies**

The Domain of Professionalism/Professional Identity encompassed interpersonal skills, confidence, values, ethics, personal awareness, personal responsibility, and work ethic. In all case studies, self-efficacy, self-identity, self-concept, and emotional intelligence aspects of professional identity were deemed to impact on employability. Stakeholders asserted that opportunities to develop these professional skills and build professional identity should be embedded across the course. Participants agreed that professional identity was nurtured and developed through the WIL experiences embedded across the course. Reflective practice was recognised as a mechanism for recognising failure, identifying strengths and areas for improvement, and ultimately building resilience, which in turn assisted in developing a professional identity. Social and professional networks, and a sense of belonging, were also identified as integral to professional identity and the development of professional skills, as personal and positive interactions with people were fundamental to a positive sense of self. Furthermore, participants in all case studies credited professional accreditation as impacting on professional identity, as the process gave greater credibility, status, prestige and profile to the profession. This Domain also directly connected with the Role Models and Mentors Domain, as professional identity was thought to be influenced by support and guidance from mentors.
Differences across Case Studies

CE employers and accrediting body representatives believed a professional identity was important, but emphasised that a chemical engineer needed to be agile to adopt multiple identities with the rapidly changing workforce. In contrast, OT and PE stakeholders perceived the professional identity of these roles to be more consistent. Participants attested that while societal influences may impact on the skills required for success, what it means to be an occupational therapist or primary educator essentially remains unchanged. PE teaching staff endorsed the use of a portfolio, where students showcase artefacts as evidence of skills and learning experiences, to be valuable for developing a professional identity.

7.4.10 Workplace Transition Domain

Similarities across Case Studies

The transition from student to graduate was identified as an issue in all case studies. Support in career development, preparation for the competitive job market, sourcing employment, and applying for positions were deemed a deficit in all courses. The lack of university support was evidenced by the GDS data, where respondents indicated a low percentage of jobs sourced via university support networks. In the latter part of their degree, students in all disciplines felt unprepared and uninformed about seeking employment, preparing the necessary documentation, and showcasing capabilities. Partnerships with industry were suggested as important for facilitating transition to the professional setting. Students in all case studies appeared to have minimal interaction with the professional accrediting body. Stakeholders across the three case studies resonated similar views on the Workplace Transition Domain.

7.5 Overarching Themes

The Domains above were identified as the important components of a university education that support the development of employability capabilities. Across all case studies, three themes emerged as impacting across all Domains: Partnerships; Professional Accreditation; and University Policies, Procedures, Protocols and Priorities. The centrality of these themes to actuating the Domains was synergistic across the case studies, with their efficiency and effectiveness emerging as catalysts for employability outcomes. The impact of these themes is outlined below.
7.5.1 Partnerships

Employers

Relationships with employers were instrumental in realising and enacting all of the Domains. Employers contribute to the employability of graduates and their workplace preparedness by providing WIL experiences; supporting teaching staff in maintaining industry currency; informing curriculum content, structure, and coherence; co-designing assessment and providing feedback to students; building social and professional connections with staff and students; providing authentic learning and real-world feedback that builds confidence and skills in students; motivating and engaging students; acting as role models and mentors; providing professional networks and experiences that facilitate the development of a professional identity; and assisting graduates with workplace transition.

While all stakeholders acknowledged the importance of industry-university partnerships, several challenges were identified. Firstly, increasing student numbers stretches industry resources and compromises their capacity to provide supervision and support for students. Secondly, brokering and maintaining robust partnerships with employers requires teaching staff to invest substantial time and resources, an activity which is not supported in traditional university workload models. Furthermore, while employers acknowledged the benefit of quality graduates and their contribution to economic sustainability, it is perceived to be the university’s responsibility to prepare graduates, and equip them with the skills industry needs. Employers expressed dismay in communicating with universities, claiming it was very difficult to make contact with the relevant person. Research participants believed partnership models need to embrace reciprocity, address challenges collaboratively, consult broadly, and provide more tangible outcomes. Stakeholders agreed that to address the challenges evident in each of the Domains, a new model of engagement is required, with solutions identified by stakeholders collaboratively.

Graduates and Students

Partnerships were conveyed as inclusive of graduates, students and professional accreditation bodies in all case studies. Alumni was suggested as a potentially valuable, but unexploited resource. The combination of recent university experience and foray into the labour market, provides graduates with invaluable ‘intelligence’ and insight into a quality education that enhances employability. Furthermore, graduates have established connections with employers and are ideally placed to role model practices and behaviours, and perform the role of mentor for both staff and students.
Students taking responsibility for their learning was a consistent theme resonating across all case studies. While many factors impact on student motivation and resilience, it was perceived that students have a major role to play in optimising learning outcomes. Student responsibility encompassed a commitment to their learning, actively sourcing mentors, responding to advice, and pursuing networks and social connections. Students were conveyed as integral partners to ensure a personalised approach to learning that caters to individual needs and personal aspirations, and facilitates motivation and engagement.

7.5.2 Professional Accreditation

Professional accreditation was a highly respected process and acknowledged as integral to a contemporary and quality university experience. Moreover, stakeholders perceived it as a mechanism for promoting the status and profile of the profession. However, teaching staff appeared to be passive in the process, and refer to it as a regulatory requirement or an ‘exam’, rather than a negotiation process where all stakeholders worked collaboratively to inform the course curriculum and assessments. Reference was frequently made to mandatory requirements which dictated the curriculum content and learning approaches. Rather than stimulate innovation and employer engagement, professional accreditation standards and processes emerged as a barrier. Accreditation was described as a powerful enabler which gives the course credibility. Stakeholders wanted a more collaborative approach to gain maximum benefit from the accreditation process. Students felt disconnected from the professional accreditation body, and staff were uncertain of processes and purposes. Familiarity with professional standards was considered essential for employability upon graduation, yet little attention was given to it during the course experience.

7.5.3 University Policies, Procedures, Protocols and Priorities

Operational functions of the university emerged as barriers to embedding real-world learning and authentic assessment design in the student experience. Competing demands on staff time, funding allocations, measures of student satisfaction, and priorities for staff performance manifested as obstacles for developing graduate employability. While staff recognised the importance of industry partnerships, they expressed concern about their capacity and capability to realise these partnerships. University leadership emerged as central to creating a culture of collaboration and cooperation through initiating review and reconfiguration of policies, procedures, protocols and priorities. Stakeholders perceived that the prescriptive policy and procedural framework, and inflexible and onerous processes, typical of a university, was a barrier to establishing partnerships. Prioritising research outcomes over teaching quality and success was a criticism that resonated with all stakeholders. Figure 7.1 provides a visual representation of findings for RQ1 with students at the
core as they are the primary beneficiaries of partnerships. However, the research outcomes show that all stakeholders will profit as a consequence of the collaboration and cooperation, and the evolving Domains.

7.6 Stakeholder Perceptions of the Gaps in the Skills and Knowledge of Graduates in Workplace Preparedness

Comparison of the opinions of graduates, employers and teaching staff of the gaps in graduates’ skills is provided, followed by the opinions of other stakeholders consulted throughout the data collection phase.

7.6.1 Graduates’ Perceptions of Gaps in Skill Development

Graduate perceptions of the gaps in their skill development in preparation for work-readiness were shown to differ across the three case studies. The variation in graduates’ perceptions are discernible in Figure 7.2 which shows graduates’ opinions of the gaps in skill development as a result of their course.

CE graduates reported gaps over 30% in the development of Writing, Speaking, Problem-Solving, Values and Ethics, Industry Awareness, and Social Contexts. OT grads appeared to think more positively about their skill development, with no perceived gaps greater than 30%. Gaps in skill
acquisition appeared most prominent in the PE graduates, with perceptions that Speaking, Teamwork, Intercultural Understanding, Problem-Solving, Community Engagement, Industry Awareness, and Social Contexts were underdeveloped through the degree. Graduates agreed that Independent Learning and Knowledge were sufficiently developed.

Figure 7.2: Comparison of CE (n=32), OT (n=26), and PE (n=30) graduate perceptions of the gaps in skill development

Graduate perceptions evident in Figure 7.2 can be linked to CEQ data where OT graduates reported high levels of satisfaction with their course experience, while CE and PE graduates were less satisfied. The large gap in the industry awareness skill for CE graduates is possibly a result of limited exposure to the workplace throughout their course. The divergent graduate perceptions of the gaps in skills and knowledge are the result of other influencing factors that impact on both their perceptions and actual skill and knowledge development for workplace preparedness.

7.6.2 Employer Perceptions of Gaps in Graduate Skills

Table 7.1 shows a comparison of employer perceptions of the gaps in graduate skill development across the three case studies. While there are only a small number of respondents for CE and PE employers, perceptions were validated via subsequent interviews with an employer from each case study. Where the gap between stakeholders’ perception of the importance of an employability capability and the extent the degree experience contributed to the development of the capability exceeded 30%, a ‘large gap’ was recorded. A gap that varies by less than 30% was assigned ‘gap’.
‘No gap’ was allocated when there was no difference in the level of importance and the development of the skill, ‘no gap’ was assigned.

Table 7.1

Employer Perceptions of Gaps in Graduate Skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Chemical Engineering (CE) 4 respondents</th>
<th>Occupational Therapy (OT) 37 respondents</th>
<th>Primary Education (PE) 10 respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>No gap</td>
<td>Large gap</td>
<td>Gap</td>
</tr>
<tr>
<td>Writing</td>
<td>Gap</td>
<td>Large gap</td>
<td>Gap</td>
</tr>
<tr>
<td>Speaking</td>
<td>Large gap</td>
<td>Large gap</td>
<td>Gap</td>
</tr>
<tr>
<td>Thinking</td>
<td>Large gap</td>
<td>Large gap</td>
<td>Large gap</td>
</tr>
<tr>
<td>Quantitative analysis of problems</td>
<td>No gap</td>
<td>Large gap</td>
<td>Gap</td>
</tr>
<tr>
<td>Using ICT</td>
<td>No gap</td>
<td>No gap</td>
<td>No gap</td>
</tr>
<tr>
<td>Teamwork</td>
<td>Gap</td>
<td>Gap</td>
<td>No gap</td>
</tr>
<tr>
<td>Independent learning</td>
<td>Large gap</td>
<td>Large gap</td>
<td>Large gap</td>
</tr>
<tr>
<td>Intercultural understanding</td>
<td>No gap</td>
<td>Gap</td>
<td>No gap</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>Large gap</td>
<td>Large gap</td>
<td>Large gap</td>
</tr>
<tr>
<td>Values and ethics</td>
<td>Large gap</td>
<td>Gap</td>
<td>No gap</td>
</tr>
<tr>
<td>Community engagement</td>
<td>No gap</td>
<td>Gap</td>
<td>Gap</td>
</tr>
<tr>
<td>Industry awareness</td>
<td>No gap</td>
<td>Large gap</td>
<td>Gap</td>
</tr>
<tr>
<td>Social contexts</td>
<td>Gap</td>
<td>Large gap</td>
<td>Large gap</td>
</tr>
</tbody>
</table>

Table 7.1 shows that employers in diverse industry areas perceive the gaps in skill development differently. While this in part is a consequence of the different behaviours and capabilities inherently important to the profession, it can also be linked to the quality of workplace experiences embedded in the degree, and the opportunities to connect with industry. The CE degree allows minimal exposure to industry, OT incorporates authentic learning experiences but work-based opportunities are restricted to the final year of the degree. Despite the PE degree comprising a workplace learning component across three years of the course, employers perceived there were
gaps in graduate capabilities. Employers in all three case studies conferred that Thinking, Independent Learning, and Problem-Solving were poorly developed. They were also in agreement that Using ICT was sufficiently developed for workplace purposes.

7.6.3 Teaching Staff Perceptions of Gaps in Graduate Skills

Teaching staff across the three case studies presented markedly similar perceptions on the gaps in graduates’ skills and knowledge. OT and PE staff were of the view that all skills were underdeveloped, with PE staff recording larger gaps than OT staff. In contrast, CE staff agreed that gaps were evident in most skills, but felt that Quantitative Analysis of Problems, Using ICT, Teamwork and Industry Awareness were sufficiently developed. Despite staff acknowledging the importance of these skills and being responsible for the design and implementation of the curriculum, they were dissatisfied with the skill acquisition demonstrated by graduates.

Staff expressed high levels of confidence in teaching and assessing all skills, with slightly lower levels of confidence apparent in assessing students’ proficiency. The skills which received lower levels of confidence for assessing varied for the three case studies. CE staff were less confident assessing Knowledge, Quantitative Analysis of Problems, Using ICT and Teamwork. OT staff also recorded reservations assessing Knowledge, Quantitative Analysis of Problems and Using ICT, with the inclusion of Independent Learning, Intercultural Understanding, Industry Awareness and Social Contexts. PE staff were less confident assessing Problem-solving, Community Engagement and Social Contexts. While these skills recorded lower levels of confidence, staff were confident in assessing all skills.

7.6.4 Additional Skills

Other skills mentioned by stakeholders, including Career Development, Professional Skills, and Resilience, were perceived as in need of improvement in all case studies. Collaboration and networking, and reflective practice skills were considered to be lacking in both CE and OT graduates. CE stakeholders highlighted technical skills, creativity, ability to work with diversity and ambiguity, and entrepreneurship as areas for improvement. OT stakeholders considered interdisciplinary practice, application of theory to practice, conflict negotiation, motivation and personal values and beliefs as needing further development. Interpersonal skills and global employability were an additional focus for PE graduates. The additional skills specific to each case study are reflective of the professional environments which graduates enter upon completion of their studies, and are also indicative of elements lacking in the course experience (See Appendix O for gaps in skill development for each Case Study)
7.7 Embedding Work-Integrated learning (WIL) in Curriculum Supports the Development of Graduate Employability

Stakeholders across all case studies agreed that WIL experiences develop employability skills. Applying the theoretical components in practical learning scenarios, enables students to connect theory and practice, and gain awareness of workplace functions and dynamics. Furthermore, WIL was considered fundamental for creating industry and professional networks, which ultimately supports the transition from student to professional. While OT and PE placed greater importance on inter-personal skills and attributes such as empathy, compassion, and integrity than CE, all participants agreed that WIL built self-efficacy, self-identity and confidence, which impacts positively on professional identity. In addition, the social context of WIL experiences was considered to support the development of emotional intelligence and a healthy self-concept, necessary for workplace success in all case studies.

Stakeholders agreed that authentic assessment profiles that evidence students’ acquisition of WIL learning outcomes, validates students’ proficiency, and provides the evidence and artefacts for students to showcase their capabilities. Connecting assessment profiles with graduate satisfaction and stakeholder qualitative data, provides tangible evidence that an authentic assessment profile which includes industry involvement, culminates in graduates who are better prepared for the rigours of the workplace. The connection between the authenticity of the assessment profile, workplace experiences, and graduate satisfaction is an indication of how WIL enhances graduate employability (See Appendix P). It is apparent that student satisfaction, motivation and engagement is heightened when WIL is embedded in curriculum. Assessments that required recall of facts, made up 55% of the CE assessment profile. Typically recall assessments lack industry input, have little connection to the workplace, and provide no opportunities to network. The CE graduates were the least satisfied with their course experience, believing it to lack industry relevance and engagement with the workplace. In contrast, OT showed a high percentage of assessments involving industry and recorded high levels of student satisfaction.

7.8 Characteristics of Partnerships that Facilitate Successful Outcomes in Preparing Work-Ready Graduates

Partnerships was a strong theme emanating from all phases of the study, but was a particular focus during interviews with employers, representatives of professional accreditation bodies, and teaching staff. The notion of partnerships broadened beyond a relationship between universities and employers, to a partnership that included students, graduates and professional accreditation bodies. Professional accreditation bodies were considered an under-utilised resource with the potential to
connect partners and improve the student experience. Stakeholders perceived that improved partnerships that embrace a more collaborative and inclusive approach between employers, professional accreditation bodies, universities, students and graduates, would improve the educative outcomes by ensuring industry influence in the student experience. Partnerships were perceived as essential for ensuring graduates’ global employability; realising benefits of working collaboratively; maintaining currency for teaching staff; enhancing the student experience; building student and staff networks; embedding industry-based learning experiences in curriculum; and providing an inclusive and holistic curriculum. University staff posited that professional standards prevent innovation, and creativity, while the perception from accreditation bodies was that universities don’t teach what and how they should, to ensure employable graduates. The Engineers Australia (EA) interviewee suggested accreditation bodies should be the driver and facilitator of partnerships, the conduit between all stakeholders. All case studies reported challenges in building and maintaining partnerships. Poor communication, diverse goals and different motives, lack of clarity around roles and responsibilities, and working in silos, were identified as barriers for building connections.

7.9 Conclusion

The cross-case analysis of the CE, OT and PE Case Studies described the similarities and differences across each of the cases. While cases varied in discipline focus, student demographics, and professional settings, findings were consistent. Ten Domains were identified as important components for employability, all of which were strongly endorsed through stakeholder interviews. The value of WIL in developing graduate employability, and the importance of staff with the capacity to design and enact a WIL curriculum were prioritised by all stakeholders. Research participants agreed that the design and relevance of the curriculum and the sequencing of content impacted on student engagement and ultimate outcomes. While there was variation in assessment design across the case studies, there was agreement that assessment was poorly constructed and lacked relevance to employability. In addition, teaching staff in all case studies felt assessment presented the greatest challenge. Social connections were highlighted as providing social, emotional and educational support essential for success. Skills deemed essential for confidence-building encompassed a broad range of attributes stakeholders perceived as critical for workplace relevance. Student agency was cited as fundamental to positive outcomes. The benefits of role models and mentors were consistent across the case studies, and considered central to the development of professional identity. In all case studies, support for workplace transition was reported as a deficit in the student experience.
There was consensus in all case studies that partnerships between the stakeholders were the impetus for embedding the Domains across the student experience. Partnerships were perceived to strengthen cogency and advocacy for driving change and innovation, and enable cross-fertilisation of ideas and strategies. Of particular concern to research participants was the process of professional accreditation. The potential to leverage from this relationship was perceived a missed opportunity. Professional accreditation bodies were considered catalysts for fortifying professional connections and building the capacity of all stakeholders. Finally, evidence from this research shows that university leadership have a crucial role in adapting institutional regulatory frameworks to promote and reward a culture of engagement and collaboration. The importance of universities moving away from traditional policy-driven ways of working to a more flexible and inclusive model echoed across all case studies.

Chapter 8 discusses the outcomes of this research and connects the findings through a ‘WIL Partnerships for Employability Framework’. Findings are validated through reference to contemporary literature in the relevant fields. Limitations are acknowledged and areas for further investigation suggested.
8.1 Introduction

This research examined the development of graduates’ workplace proficiency in preparation for unpredictable and rapidly changing labour force requirements. A multiple case study research design incorporating a mixed methods approach was deployed to ascertain characteristics of a university education that expedites the work-readiness of graduates. This chapter discusses the findings for each research question and the potential impact for the higher education sector. Domains and Dimensions emerging from each of the case studies are consolidated to develop an overarching schema of ‘How stakeholders can work together to prepare graduates for the future workplace’. With partnerships emerging as pivotal to graduate employability, teaching staff expertise, and quality outcomes for stakeholders, this chapter provides an overview of partnership characteristics and the roles of the various stakeholders. The ‘WIL Partnerships for Employability Framework’ is described with an explanation of how implementation of the Framework facilitates collaboration among stakeholders to prepare graduates for the future workplace. The importance of professional accreditation, its impact on the status and credibility of the profession, and how it informs curriculum is a key topic of the discussion, with suggestions for how professional accreditation could more effectively augment student outcomes and support graduates’ career transition. Students’ responsibility for steering personal directions as partners in their learning also emerges as a major theme. Through the comparison, assimilation and consolidation of data from the case studies, four recommendations are proposed that support collaborative and sustainable partnerships between all stakeholders which ultimately prepare graduates for the future workplace. The chapter concludes with the limitations of this research and recommended topics for further investigation.

8.2 Research Problem

This study explored how stakeholders from the professions of Chemical Engineering (CE), Occupational Therapy (OT), and Primary Education (PE) can work collaboratively to prepare graduates for future workplaces. There were four Research Questions:

RQ1: What are the important components of a university education that support the development of employability capabilities?

RQ2: What are stakeholders’ perceptions of the gaps in skills and knowledge of graduates in workplace preparedness?
RQ3: How does embedding Work-Integrated Learning in curriculum support the development of graduate employability?

RQ4: What are the partnership characteristics that facilitate successful outcomes in preparing work ready graduates?

Each of these research questions will now be answered with discussion relating to the literature.

8.3 Important Components of a University Education for Employability

This research revealed ten Domains as important aspects of a university education that facilitate work-ready graduates. Through the sequencing of data collection and analysis, the Domains were consolidated and reinforced progressively. All research participants reaffirmed the Domains through both quantitative and qualitative data. The Domains of:

- WIL and Workplace Relevance,
- Staff Quality and Expertise,
- Course Content and Structure,
- Assessment, Social Connections,
- Confidence/Skill Development,
- Motivation,
- Role Models and Mentors,
- Professionalism/Professional Identity, and
- Workplace Transition

These Domains emerged as important components of a university education for employability. The Domains are described, and the cache of Dimensions that collectively inter-relate within each Domain outlined below. Partners’ roles in realising the quality of each Domain and how it fits with other aspects of quality is explained. When the Domains are embedded and scaffolded across curriculum, a whole-of-person perspective is captured. The collective impact of the Domains on the development of holistic capabilities enhance employability. Capabilities incorporate cognitive skill development such as problem-solving, numeracy and literacy; personal attributes including creative thinking, curiosity, resilience, and interpersonal skills; which, according to Siraj (2017), collectively facilitates a constant renewal of knowledge. The Domains are inter-related and should not be considered as separate entities.
8.3.1 WIL and Workplace Relevance Domain

The WIL and Workplace Relevance Domain was the most dominant in terms of importance for ensuring work-readiness of graduates. Real-world learning experiences that enabled students to engage and network with employers and be immersed in industry settings were perceived as most beneficial for preparing students for the world of work. This is consistent with previous research where students valued WIL as a learning experience more than other aspects of their course (Karns, 2005). Unlike previous investigations into WIL, this research ascertained the dimensions that comprise WIL, thereby providing a quality context to inform the design and implementation of WIL. Participants in the current study reported that WIL built the capability of graduates for workplace productivity through a more holistic student experience, combining high-level intellectual capacity building with practice-based problem solving. Graduates and students in this study perceived workplace exposure and networking with employers as integral to developing entrepreneurial expertise and innovative approaches. Cunningham, Theilacker, Gahan, Callan, Rainnie (2016) cite problem-solving skills as pivotal to sustained economic growth and the foundation with which economies “leverage future competitiveness” (p. 22). Research findings showed that students had higher levels of engagement, motivation, and in-depth learning as a result of WIL activities. Furthermore, employers reaffirmed the value of WIL placements in workplace preparation, confirming that students who had participated in WIL placements were better prepared for employment.

The Dimensions of the WIL and Workplace Relevance Domain emerging from this research included:

- exposure to industry for greater industry awareness,
- networking with employers
- industry placements with quality supervision
- partnerships with industry
- hands-on-experience
- inter-professional/inter-disciplinary practice and
- exposure to professional accreditation standards.

The preference from all stakeholders was for the Dimensions of the WIL and Workplace Relevance Domain to be explicitly embedded in curriculum and integrated with all aspects of the course. These Dimensions were collectively perceived as motivating, engaging and confidence-building, and are strengthened when teaching staff have contemporary industry expertise. Embedding WIL in curriculum is discussed in more detail later in this chapter.
Previous research has confirmed that partnerships between employers and universities are fundamental to a WIL pedagogy (Cooper et al., 2010). This study built on this premise with further investigation into partnership dynamics and who the essential partners are in executing a WIL curriculum. Research outcomes established that the quality dimensions of WIL are reliant on a wider group of partners which includes students, graduates, teaching staff, and professional accreditation body representatives. Students, rarely conceived as ‘partners’ with the university, emerged as having a critical role in ensuring personal work-readiness outcomes. The personal learning afforded through WIL was emphasised, with the remit that students be fully immersed in the learning for optimal benefits. A recurring theme throughout the research was the value of workplace mentors in building students’ confidence and the development of work-readiness skills. While teaching staff were acknowledged as having responsibility for the design and implementation of an authentic curriculum, success was reliant on efficacious partnerships. Tran (2016) concurs that partnerships between higher education institutions and employers are crucial but is critical of the limited scope of partnerships, an issue this research addressed. This research also highlighted that the role of professional accreditation bodies is to provide the professional context in which students are supported to develop the competencies highly regarded in the profession and facilitate transferability across different professional contexts. Collaboration, cooperation and consultation among all stakeholders is a prerequisite for successful implementation.

8.3.2 Staff Quality and Expertise Domain

The quality and expertise of staff was perceived as pivotal to student engagement and graduates’ workplace preparedness. While teaching staff from all three case studies considered it their responsibility to produce quality graduates prepared with professional skills for workplace practice, the capacity of all teaching staff to successfully achieve this was questioned by stakeholders. Students verified that staff quality, including currency of industry knowledge, was integral to networking opportunities, motivation, clarity of expectations, relevant curriculum and assessment, constructive feedback, and guidance and support. Industry-based professional development was identified as imperative to the quality and industry expertise of staff by all stakeholders, and was highly sought after by staff, but not readily accessible. Staff cited university policies and priorities, student satisfaction metrics, workload, and greater recognition for research over teaching as barriers to fostering external partnership. Partnerships were perceived as an avenue for providing staff the connections that maintained relevance within a professional context. According to Reeve and Gallacher (2005), industry-university relationships have the potential to provide development opportunities for teaching staff, but partnerships are problematic and “limited and marginal” (p. 260).
220) in scope and impact. Bexley, James and Arkoudis (2011) received 5,525 responses to a survey administered to academic staff across 20 Australian universities. These authors reported that increased professional development opportunities and greater recognition for teaching staff was required. Staff quality and expertise impacts on all other Domains as staff have overall control of curriculum development, assessment design, and enactment of the curriculum.

8.3.3 Course Content and Structure Domain

This Domain attracted comments referring to how learning outcomes and experiences were horizontally and vertically connected. Students valued a cohesive curriculum design where learning is developmental and integrated. A curriculum that allows progressive development and reflective practice was thought to promote a commitment to lifelong learning and facilitate work-readiness. While authors attest to the importance of this from a curriculum design perspective (Bosco & Ferns, 2014), it is of particular concern that all stakeholders in this research cited it as an issue and a high priority for quality graduate outcomes. Foundational discipline skills development in the first year of the degree also emerged as important, as it established the fundamental skills required for more complex learning, facilitated social connections among students, and established a sense of belonging. An interdisciplinary, transdisciplinary, and international flavour in learning experiences were reported as enhancing global mobility, cultural appreciation, and preparation for the global workforce. Fung (2017) supports this perception, believing the inclusion of these components create a connected curriculum that enriches creative thinking. Students agreed that the most powerful learning occurred where WIL was embedded and scaffolded across the curriculum, enabling a developmental approach to skill acquisition and employability. Students also expressed an appetite for professional accreditation processes, competencies and connections to be more explicitly included in learning experiences.

Respondents in this research confirmed that curriculum design is pivotal to student engagement, motivation and retention, a view supported by Van Rooijen (2011). The consensus was that curriculum design should facilitate a heuristic approach to learning involving questioning, searching, and speculation, and support students’ career development and transition. Furthermore, it was agreed that partners working collaboratively to co-design curriculum is fundamental to developing and implementing curriculum with relevant and authentic content. While this approach is supported in contemporary literature, there is consensus that present partnership dynamics don’t allow for collaboration on curriculum design (FYA, 2017). Students and graduates argued that greater flexibility in course content would allow for personalised learning, where the learner guides focus and outcomes. An amalgamation of course content that builds intellectual capacity, enabling
complex problem-solving of real-world issues, was highly regarded. While academia was acknowledged as important in a university education, academic outcomes should be immersed in authentic learning experiences to ensure relevance. Students and graduates valued collaborative learning and social connections afforded through their learning experiences. This embraces the social constructivists’ ideologies where learning occurs in social situations by doing and experiencing (Eames & Cates, 2011). Staff skills in curriculum design was identified as a shortfall by staff participants who expressed a desire for professional development in designing logical and coherent curriculum which scaffolded student knowledge and skill development.

8.3.4 Assessment Domain

Students and graduates referred to assessment as a ‘factory-like process’, driven by marks rather than evidence of their capabilities. They considered assessment profiles to be disjointed, irrelevant and disconnected from industry practices. Staff were also critical of assessment processes and administration policies. The timing, organisation, and information for assessments were criticised and perceived to diminish the ‘learning’ afforded through rigorous and relevant assessment.

Students and graduates expressed dismay with ‘easy assessments’ believing that staff were more concerned with satisfied students, so geared assessments to increase the likelihood of good marks and allegedly more satisfied learners.

Assessment was perceived as disconnected from learning experiences and the theoretical course components. Brodie and Irving (2007, p. 14) attest that assessment should be an “integral part of the learning process”. Research participants ascertained that the opportunity to experience failure and how to improve future performance was lost in traditional assessment protocols. When ‘failure’ is an accepted part of the learning, it has a tendency to motivate students to improve and pass (Jassal & Clark, 2016). Diverse assessment tasks were highlighted as important by students to promote creative approaches to problem-solving. Supervision and feedback from both an academic and practice-based perspective were considered pivotal to workplace preparation. Partnerships were deemed particularly important for co-designing assessments for workplace relevance, providing professional, real-world feedback to students, and enabling access to quality role modelling and mentoring. Hodges (2009) believes assessment should “prepare students for life” (p. 190) stressing the importance of real-world assessment tasks which enhance students’ lifelong approach to learning. Regular and constructive feedback from a range of sources, was believed to support skill development, self-awareness, and build self-efficacy, confidence, motivation, and professional identity.
Several challenges were raised around designing and implementing authentic assessment. Staff expertise in assessment design was cited as a key challenge by all stakeholders. Staff expressed a need for professional development in the area of designing authentic assessments and providing feedback to students. Yorke (2011) argues that upskilling staff in the area of assessment design and implementation has been a priority for some time. A major barrier appeared to be restrictive university assessment policies that inhibited innovative assessment practices, thereby disempowering staff. The lack of agility in assessment policies and procedures deterred staff from creative approaches to assessing student proficiency. Assessment practices in a WIL context, resources to enact WIL assessments, and inflexible performance indicators need addressing to ensure quality assessment in higher education (Yorke & Vidovich, 2014). Staff also perceived (perhaps incorrectly) that professional accreditation standards mandated certain assessment methodologies and outcomes. Negotiation and discussion with professional accrediting bodies during the assessment design phase would potentially rectify this perceived barrier.

Stakeholders agreed that measuring outcomes from WIL experiences is incompatible with traditional grading approaches, due to the personal nuances which are characteristic of this type of assessment. Current assessment practices focus on overt and observable behaviour, ignoring the more subtle yet important learning inherent in the WIL sphere (Higgs, 2014). This aligns with “a shift in emphasis by employers from focussing on university grades to competencies” (AHEIA & PWC, 2017, p. 13), supporting a shift in how students’ proficiencies are evidenced and measured.

8.3.5 Social Connections Domain

Stakeholders in this research determined that communicative personal and positive interactions with people in the workplace are fundamental to a positive sense of self and professional identity. Learning through connections with staff, students and external partners was believed to support working with diversity, facilitate social connectedness, and provide intellectual and emotional support. Networking with employers in professional settings established strong industry-based connections which enabled students to source mentors and role-models and augment future employment opportunities. The importance of social connections and a sense of belonging as a part of learning experiences is highlighted in social learning theories (Vygotsky, 1978). Furthermore, social intelligence and working with diversity is a priority for the future workforce for collaborative problem-solving and learning (Manyika et al., 2017; Jassal & Clark, 2016), and should be an essential component of the university curriculum. Staff also raised concerns about diminishing face to face contact hours, as it was perceived that students’ connection with staff and the university culture was compromised.
8.3.6 Confidence/Skill Development Domain

Skill development was prioritised as key to employability. Research participants perceived skill development to be closely linked to confidence with the understanding that as skills strengthened, performance improved, and ultimately confidence grew. Increasing confidence in one’s ability to enact skills important for employability was instrumental to transferability of skills in diverse contexts, a particularly useful capability in preparation for the future employment market. While recognition of the importance of skill development for optimal workplace performance is a common theme in the literature (Chartered Accountants Australia and New Zealand, 2017), this research gathered consensus from multiple stakeholders within the milieu of changing workforce requirements. Graduates with some experience of workplace dynamics valued the incremental development of skills and the ability to undertake more complex problem-solving, operate more autonomously, and contribute more effectively as a team member. They were of the opinion that as skills strengthened, thinking skills broadened, enabling greater creativity and innovation, which in turn enhanced self-confidence, self-efficacy, and the self-assurance to be entrepreneurial and innovative. These skills are emphasised as particularly significant for successful career development (Cunningham et al., 2016).

While stakeholders highlighted a plethora of essential skills including problem-solving, communication, intercultural competency, and values and ethics; other skills perceived as vital for the contemporary industry sector were consistently reiterated. Additional skills such as resilience, enthusiasm, agility, creativity, social interaction, and reflective practice were deemed pivotal to workplace success. While these characteristics have always been important, this research showed that they are becoming more so as complexity and competition in the workplace becomes the norm. Employers are prioritising these advanced skills in place of the more conventional skills (Chartered Accountants Australia and New Zealand, 2017). Employers, teaching staff and professional accreditation body representatives were of the opinion that discipline knowledge and technical expertise are fundamental attributes, as the application of portable skills coupled with the foundational understanding of the profession facilitates complex intellectual inquiry and problem-solving.

Professional nuances across the three case studies were evident as the personal qualities required to function effectively in the workplace differed. OT and PE prioritised attributes such as nurturing, friendly, caring, compassionate, healthy self-esteem, happy, dedicated, tolerant, integrity and passionate. While these characteristics differ in how they are developed in comparison to more cognitive skills, they were deemed to be of equal importance and to be developed and refined across
one’s lifetime as a result of experience. It is the merging and consolidation of the affective domain attributes and the cognitive skills that contribute to employability (Manyika et al., 2017). In contrast, CE stakeholders emphasised innovation and entrepreneurship as highly-regarded skills in CE graduates.

WIL was consistently considered the mechanism by which skills were developed and reinforced, a perception that is evident in other research (Australian Workforce and Productivity Agency [AWPA], 2014). Stakeholders agreed that feedback on performance for authentic tasks from academic and workplace supervisors, and support from mentors, was central to the development of skills for the future workplace. The input and participation of partners was considered fundamental to skill development. Staff attested that institutional policies and priorities around curriculum, assessment and staff responsibilities, should highlight the primacy of skill development and its importance for graduate employability. Co-designed curriculum and assessment must encompass the development of employability skills integrated with intellectual capacity-building. Feedback, role modelling and mentoring by employers and teaching staff was perceived as paramount to building student efficacy and encouraging reflection on strengths, areas for improvement, and recognising how to address deficits in skill development. Staff believed that student agency, active engagement in the learning, and response to constructive feedback, was fundamental to skill development. Billett (2015) argues fervently on the need for students to take ownership of their learning. However, this research espouses that traditional university approaches derail attempts to engage students as partners in their learning journey at university.

8.3.7 Motivation Domain

Maintaining the drive, commitment and motivation to seek and immerse oneself in new experiences, and optimise opportunities facilitated by others, emerged as a key factor in work-readiness for the future. A commitment to lifelong learning and the ability to adapt to new and emerging situations, distil information and think critically, tackle challenges with confidence, and question uncertainties, require motivation, enthusiasm and self-regulation. Siraj (2017) argues that an obligation to lifelong learning has become more pressing with rapid technological developments impacting on all aspects of life. Students and graduates reported being motivated by industry engagement and networking, authentic learning experiences, and connecting with future career aspirations. Furthermore, motivation and enthusiasm exhibited by teaching staff was perceived to impact on student motivation. Students and graduates cited that enthusiastic teaching staff had the greatest influence on their engagement, and instilled a commitment to work hard. Constructive feedback from all partners, whether positive or negative, was considered motivating as it provided
the impetus to improve. The value-add of feedback from stakeholders is dependent on communication strategies, clarity of expectations, and partnership arrangements between the university and the employer (Williams, 2004). Professional accreditation bodies were considered as valuable sources of motivation for all stakeholders through providing the backdrop to professional expectations, ambitions, and career development.

8.3.8 Role Models and Mentors Domain

The findings from this study highlighted the importance of positive relationships with mentors to optimise student learning. Participants deemed important qualities of mentors were confidence, interpersonal skills, enthusiasm, communication, and knowledgeable. Specifically, graduates and students valued an effective communicator who listened attentively and encouraged students to persevere in the face of adversity. This is supported by Williams (2004) who described influential mentors as approachable, personable, accessible, and knowledgeable about the discipline. In addition, mentors empower students to be active in the learning process, and confident to make decisions and judgements (Milne, 2008). Effective and values-based role-modelling moulds students’ behaviours appropriate for professional settings. Furthermore, access to “academic, corporate, and peer mentors [maximises students’] support networks” (BHEF, 2013, p. 6). Participants valued the support from role models and mentors as a mechanism for nurturing professional skills, reinforcing a professional identity, affirming progress, and assisting with career development and transition. Industry-based mentors were highly-valued and perceived to build confidence, and facilitate the development of appropriate workplace attitudes and practises, through providing industry-relevant mentoring and clarifying workplace expectations. Students, graduates and employers expressed concern about the capacity of employers to provide quality mentoring for students, with suggestions that greater support from university staff is required to upskill work-based mentors. Mentoring by peers and teaching staff was mentioned as beneficial for providing intellectual and social support, and aligning discipline knowledge with practice-based learning. Helyer (2015) attests to the value of peers as mentors suggesting “peers have a definite role to play in helping and supporting each other” (p. 23). Martin, Rees, Edwards and Paku (2012) agree that mentoring for students is key to student learning and skill development.

Students valued peers, staff and industry representatives as mentors, while teaching staff and industry representatives cited benefits from reciprocal role modelling and mentoring. Professional accreditation bodies were suggested as a nexus for facilitating mentoring programs, whereby stakeholders benefit from the expertise of others, and establish nodes of collaborative learning. Given the importance of role models and mentors across the lifespan, sustainable and enduring
partnerships emerged as catalysts for ongoing mentoring for new graduates, and adapting mentor capabilities as developmental needs changed.

### 8.3.9 Professionalism/Professional Identity Domain

Participants in this research highlighted the multifaceted nature of professional identity and emphasised its importance for employability. Several factors were deemed to impact on and inculcate the development of a professional identity. A cohesive and well-constructed WIL curriculum that encompasses industry input; rigorous assessment and feedback approaches; social connections with fellow students, staff and industry; mentoring and guidance from both industry and university staff; and extensive skill development that focuses on professional capabilities were collectively considered vital for an agile professional identity. Additionally, these approaches were reported to heighten learner engagement, build workplace resilience, and stimulate motivation and lifelong learning. According to Campbell and Zegwaard (2011), professional identity can only be achieved through a “conscious educative process” (p. 214) where curriculum is deliberately designed and intentionally actioned.

Role models and mentors, and professional accreditation bodies were perceived as influential in the development of a professional identity. In addition, strategically designed assessment profiles that incorporate self- and peer-assessment were mentioned as important for professional identity development as it encourages autonomy, decision-making and professionalism. An electronic professional portfolio was proposed as a valuable collation of artefacts that highlights experiences and successes, and encourages self-reflection, thus constructively building self-efficacy and professional identity. This approach allows the student to be a co-creator of their learning, establish ownership of personal directions, and ultimately build a professional identity.

The transferability of skills to different professional contexts requires personal and professional confidence, and self-awareness. Professional identity incorporates confidence, initiative, knowledge, self-efficacy, self-concept and resilience – all of which transform values, beliefs, and inspirations, and are imperatives for successful workplace transition (McRae & Johnston, 2016). Furthermore, professional identity builds and sustains a lifelong learning approach to growing and learning. WIL experiences underpinned by role modelling and mentoring, enables students transformative adaptation of their skill set as their professional identity grows and develops (AHEIA & PWC, 2016). The findings from this research validate that a strong link exists between WIL, industry engagement, reflective practice, professional identity, and ultimately student agency.
8.3.10 Workplace Transition Domain

Graduates and students in all case studies expressed concern with a lack of preparedness, dearth of information, and an absence of support from the university in sourcing potential employment and preparing for recruitment processes. While university-based careers centres are integral departments of the university, the focus tends to be on offering workshops, on-demand advice, and occasional support (Anderson & Mitchell, 2006). This research highlighted strategies for addressing workplace transition for graduates/students in the ephemeral future workplace. Stakeholders agreed that the development of preparation and support programs for transitioning from university students to workplace professionals is needed.

Research outcomes strongly support that career development learning, sourcing employment, approaches to marketing oneself in a competitive job market, and applying for positions, should be embedded in curriculum, and realised through collaborative partnerships arrangements. Partnerships are integral to supporting the workplace transition as all stakeholders have a part in supporting workplace readiness and ongoing graduate proficiency. Embedding industry networks and career development in curriculum is realised through staff and employer engagement activities (Manyika et al., 2017). Graduates and students need to proactively seek and respond to opportunities for navigating the transition to emerging professional. A professional accreditation body is well-placed to facilitate a smooth transition to a professional context given their responsibility focuses on readiness for entry into the profession.

“There is insufficient emphasis in sector [higher education] resources on making the case for using technology in employability and the importance of student digital literacy as an employability capability in its own right” (Chatterton & Rebbeck, 2015, p. 20). Sourcing employment is no longer a lengthy recruitment process, the digital world and online presence of potential applicants has prompted more immediate connections and decisions (Jassal & Clark, 2016). For this reason, the development of skills for self-promotion and showcasing attributes and experiences that validate competence, are essential. The creation of a ‘personal brand’ throughout university studies, has the potential to ease the transition to professional through equipping students to reflect on their abilities and “articulate what they know in a way that employers and others can relate to” (Anderson & Mitchell, 2006, p. 7).

8.3.11 Connecting the Domains

The Domains perceived by stakeholders as important for graduate work-readiness, are inter-related and co-dependent. Figure 8.1 shows how the inter-connectedness of the Domains plays out to
produce graduates with the skills and attributes highly regarded for workplace proficiency. This research shows that partnerships incorporating all stakeholders are central to eliciting and embedding the Domains in the student experience. Input from all stakeholders ensures currency of curriculum, a connection with industry, and a strong link with the professional context. Furthermore, communication and collaboration implicit in robust partnerships, facilitates responsiveness and agility around roles, responsibilities and priorities, catering to the impact of relentless change.

Research outcomes show that WIL positions the foundation of all other important components. Staff Quality and Expertise is developed through the external partnerships fundamental to a WIL curriculum. When modelled on a developmental WIL construct, Course Design and Structure is cohesive, inclusive and authentic, and assessment reflects real-world problems. Collaboration, cooperation and consultation with employer and community partners, fundamental to WIL, enables students to build social networks, and focus on skill development which enhances confidence. An authentic WIL curriculum is a key motivator for student engagement, and employer networks a ready source of role models and mentors, all of which contributes to professionalism, a professional identity, workplace transition, and graduate employability.

8.4 Identifying Gaps in Graduate Employability

In addressing RQ2, variation was evident in stakeholders’ perceptions of the gaps in graduates’ skills across the case studies and between different stakeholders. Several factors impacted on student and graduate perceptions. In addition to the unique variables of each case study, further confounding implications were revealed through this research. Participants with a higher number of work-based experiences throughout their degree, perceived a greater discrepancy in skill development. This suggests, that as exposure to the workplace and industry engagement increased, so did the awareness of strengths and weaknesses in skill acquisition. Such a proposition is supported by Smith et al. (2014) who conducted a study involving over 3000 students across 14 Australian universities, and found that students with no workplace experience over-stated their capabilities when self-appraising employability skills.

Employers highlighted the lack of students’/graduates’ skills in problem-solving as problematic, perceiving it to be a key graduate skill for employability (FYA, 2017). Aside from problem-solving, employers showed little agreement in gaps in skill development across the different disciplines. While this in part can be attributed to unique discipline foci, course design, and experience of participants, the divide in perceptions across stakeholder groups is cause for concern. The development of skills such as industry awareness and independent learning recorded divergent
perceptions across stakeholder groups. Employers perceived independent learning to be poorly
developed whereas graduates were satisfied with their ability to work independently. Teaching staff
were critical about the development of most skills, with perceptions that contrasted to employer
observations. Despite the perceived gaps in skill development, teaching staff felt confident to teach
and assess the skills (although confidence levels were slightly lower for assessment). This presents
an intriguing dilemma given that staff have the responsibility for curriculum and assessment design
and delivery, yet agree that skills are insufficiently developed.

Attributes such as career development, professional skills, creativity, lifelong learning, and
resilience, collectively termed ‘enterprise skills’, were regarded as important but consistently
recorded a perceived gap in graduates’ development, despite variations in the case study
characteristics. While self-confidence, autonomy, agility, adaptability, and student agency were
cited as important but lacking, these characteristics reside within a resilience construct (Humburg et
al., 2013). Entrepreneurship emerged as a priority in the CE Case Study only, but warrants further
explanation given the widespread focus on entrepreneurship in the business community (FYA,
2017). The ability to influence, inspire and encourage decision-making was also identified as
important. Stakeholders interpreted this as the ability to persuade colleagues and clients. Research
participants emphasised the importance of interpersonal qualities including empathy, passion,
integrity, and self-reflection, with the belief that these attributes could be enhanced if they were
more explicitly practised and assessed. A focus on exploring and developing personal attributes
rarely features in university curriculum (Productivity Commission, 2017). These characteristics are
termed ‘attributes’ in preference to ‘skills’ as they relate more to personal qualities that develop and
morph over time, alongside the acquisition of traditional skills which are developed through
embedding the Domains across the students’ learning experiences. Other attributes identified as
requiring further development include working with diversity and ambiguity, conflict negotiation,
initiative, inter-disciplinary practice, and global employability. These attributes are discussed in
greater detail below.

Participatory involvement of all stakeholders in curriculum and assessment design and
implementation, mentoring students, and reciprocal professional development, enables a
consultative approach to determining priorities for, and strengths and gaps of, the student
experience. In a period of accelerating skill obsolescence (Manyika et al., 2017), collaboration and
negotiation between partners facilitates identification of emerging trends for skill development as
the workforce is increasingly shaped by automation, globalisation, and digital technologies
(Productivity Commission, 2017).
8.4.1 Gaps in Graduate Employability

The attributes that emerged in RQ2 as important but insufficiently evidenced in graduate capabilities are described below.

Career Development

The initiative to research job markets, source opportunities, grow global networks, collate artefacts that showcase skills, and create an engaging digital presence, all of which are essential for sustaining a lifelong career, were identified as inadequate in all case studies, resulting in a gap in graduate capabilities. Career development learning is a vital component of the student experience for career satisfaction and success (Dacre Pool & Sewell, 2007), and should be embedded within a university experience. Graduates and students expressed the need to be prepared for the emerging freelancing and short term contracts marketplace, as opposed to salaried employment. Indeed, this type of ‘employment’ is perceived advantageous for expanding skills, building networks, broadening exposure, and creating flexibility in lifestyle, all of which enhances employability for the future, creates evidence for showcasing, and establishes a personal branding. However, it signals a shift in traditional narratives around career development and what it entails (Bakhshi et al., 2017).

Professional Skills

Professional skills were identified as a priority for employers and an important component of a university education. However, exposure to opportunities where students might develop and explore professional skills were deemed insufficient by stakeholders. Furthermore, the type of skills that entail professional competence are shifting as the employment landscape changes (Humburg et al., 2013), signalling the importance of industry engagement and real-world learning experiences across a degree program. Traditional skills remain important for the profile of a ‘professional’, but other capabilities are becoming more prominent (Manyika et al., 2017). A quality educative experience which develops professional skills and ultimately informs a professional identity were perceived as a high priority by all stakeholders. The power of education, specifically WIL, is such that it triggers “a new picture of oneself through critical dialogue with others, it is inherently about developing one’s own identity, voice and story” (Fung, 2017, p. 62).

Creativity

Employers and professional accreditation body representatives consulted through this research attested that, as industry confronts more complex challenges, creative employees with the
confidence and initiative to explore innovative solutions are in greater demand. They were of the opinion that graduates lacked the confidence and problem-solving skills to explore solutions, trial innovations, and approach challenges with a creative mind-set. Creativity is a high-order skill that evolves with experience and the development of complex thinking and problem-solving skills (FYA, 2015). Creativity is incumbent on a combination of theoretical knowledge and practical experience, whereby solutions are trialled in real-world settings and inspired through progressive experiences, heightened self-awareness, collaborative association, and opportunities to learn through exploration. “Imagination, creativity and innovation are placed at the core of the knowledge economy and represent key conditions to design new sustainable solutions for an uncertain future” (Popenici, 2015). As automation replaces routine jobs, there will be an increased demand for employees the capacity to think critically and creatively to solve complex problems (ATN, 2018).

**Working with Diversity and Ambiguity**

In all case studies, minimal exposure to international contexts and the focus on local (Australian) settings, was considered a disadvantage when preparing graduates for diverse and ambiguous workplace settings. Employers stressed that global connectivity and the intercultural edifice of many workplaces requires people with the capacity to operate in diverse and multi-cultural settings. Students expressed a desire to work within different cultural environments to enhance global employability and accommodate cultural nuances. Stakeholders commented on the uncertainty and diversity inherent in modern day workplaces which requires the confidence, motivation and expertise to work with ambiguity.

**Conflict Negotiation**

Conflict negotiation skills emerged as particularly important in Case Study Two – OT, where the ability to negotiate conflict was considered pivotal to workplace success. Working with diversity, acknowledging others’ perspectives, dealing with anger, intuitive interpersonal skills, compassion, and empathy, synonymous with conflict negotiation, were perceived as requiring greater development in graduates. Conflict negotiation skills were deemed important in all case studies but was less prominent in the CE Case Study.

**Initiative**

Initiative is an attribute that resonated with the employers and professional accreditation body representatives. These stakeholders described initiative as reliant on confidence, expertise, personal qualities, enthusiasm and motivation, attributes which emerged as gaps in graduate capabilities. Initiative was considered important for workplace success, and industry productivity.
**Resilience**

The lack of resilience portrayed by both students and graduates was identified as a concern by all stakeholders, but was of particular concern to teaching staff. They espoused the personalised and unpredictable learning experiences afforded through a WIL curriculum, describing it as augmenting students’ ability to respond to adverse situations and reflect on their performance. Practice, feedback, and mentoring, were suggested as boosting attributes such as flexibility, self-assurance, confidence, persistence, and adaptability. While resilience remains a contested concept in the literature (Britt, Shen, Sinclair, Grossman & Klieger, 2016), there is agreement that these attributes are indicative characteristics of resilience. Resilience is a personal quality that is fundamental to future workplace success (Jassal & Clark, 2016). As volatility, uncertainty, complexity, and ambiguity become more prominent features of the labour market, the need to be resilient will be of greater significance.

**Entrepreneurship**

Employers and professional accreditation body representatives from Case Study One – CE, expressed concern with the decline in graduate employment opportunities. They predicted that a greater proportion of graduates will be self-employed early in their future careers. With entrepreneurship increasingly recognised as a career choice in engineering, they identified a scarcity of opportunities for students to develop enterprise skills through their university experience. Further development of entrepreneurship was deemed necessary to ensure graduates are equipped with the array of skills required to be entrepreneurial. Entrepreneurship is increasingly featured as a skill required for a lifelong approach to employability (Wilson, 2012).

**Inter-Disciplinary Practice**

While the lack of graduates’ experience in inter-disciplinary practice was more prominent in Case Study Two – OT, the need to be competent across multiple discipline contexts resonated across all case studies. Cross-disciplinary functionality was deemed a pre-requisite for employability in all professional settings, with the perception that it is imperative that graduates are able to work in teams encompassing multiple disciplines and accommodate different perspectives. The requirement to appreciate the contribution of diverse disciplines in professional settings is imperative for the future workforce (Bakhshi et al., 2017).
Global Employability

Students and graduates in all case studies valued international experiences as a way of enriching skill development, through exposure to different workplace environments and diverse cultural contexts, thereby providing a competitive edge in the job market. Proficiency in global mobility enables ‘crossing boundaries’ and experiencing different cultural, social and political systems (Tan et al., 2016). Stakeholders in this research believed the impact of students being out of their ‘comfort zone’ built resilience through experiences in different cultural and language settings. Global awareness and intercultural competencies were valued by employers and highly regarded by both students and staff. Adaptability, inclusivity, and flexibility, considered powerful skills in a global world, are encouraged through international experiences. It is imperative that students gain the skills to function in a global setting, understand global contexts, and advocate on global issues (Agbaria, 2011).

Globalisation refers to the “array of connections between economies, cities, communities and institutions around the world” (Ruby, 2016, para. 13). Ruby believes there are numerous benefits for educational institutions to promote and engage international collaboration, and cites “pedagogical benefits” (para. 15) where by students are exposed to a diversity of student cohorts, and curriculum tends to encompass broader cultural perspectives. He also believes that engaging with alumni around the world, enables greater international reach for current students.

Stakeholders agreed that these attributes, together with discipline knowledge and traditional skills such as problem-solving, communication and teamwork, are fundamental to employability, but inadequately demonstrated by graduates. Learning experiences through university programs should be designed to build on foundational skills and nurture these attributes. The following section explicitly discusses the benefits of WIL, which emerged as a high priority by all research participants.

8.5 Embedding WIL to Enhance Graduate Employability

RQ3 explored how embedding WIL in curriculum enhances graduate employability. The advantages of WIL were identified as a priority by all stakeholders involved in this research, emerging as the most frequently occurring Domain in the important components of a university education (RQ1). WIL was perceived as a mechanism for a developmental approach to acquiring employability capabilities and preparing graduates for the future workplace. Evidence gathered in this research affirms that embedding WIL in curriculum culminates in enhanced graduate employability. Stakeholders cited WIL as the strategy by which a professional identity, determined
as pivotal to employability, develops and adapts according to the context, giving graduates greater flexibility in sourcing employment. The importance of working collaboratively to enact a WIL curriculum is highlighted below along with an insight into designing WIL curriculum and authentic assessment.

WIL is globally recognised as an educational approach to facilitating graduates’ work-readiness (Ferns et al., 2014). As university students increase in both number and diversity, the complexity of the labour market intensifies, and the mandate for work-ready graduates heightens, WIL has become a strategic priority for universities, industry, and government (Garnett, 2012). In essence, WIL addresses the social, economic and political demands of society. This research showed that a range of authentic learning experiences fit within the sphere of WIL, but all are specifically designed to enhance workplace awareness, develop employability skills, and enable the application of theory to practice. Stakeholders reported that this shaped professional identity, nurtured industry networks, and supported workplace transition. Students who experienced WIL-based curricula throughout their studies, felt better prepared for the workplace. Evidence also shows that graduates who had exposure to workplace practices and real-world problem-solving throughout their studies, sourced employment more readily (Orrell, 2011).

8.5.1 Professional Identity and WIL

The notion that professional identity is fundamental to professionalism and employability was strongly articulated by research participants. Employers in each of the case studies believed that, with the employment landscape shifting from a traditionally stable environment to one which is unpredictable and dynamic, procuring skills to manage multiple careers over one’s lifetime was imperative. The inherently social construct of a WIL curriculum was described as enhancing professional identity through the development of self-efficacy, self-identity, emotional intelligence and confidence. Professional identity develops over time and through immersion in experiences which enable self-reflection and incremental development (Dobrow & Higgins, 2005). These attributes were deemed essential for employability by all stakeholders. Participants in this research emphasised the substantial link between intellectual capacity building and self-efficacy which ultimately contributes to professional identity.

8.5.2 Designing WIL Curriculum

A quality WIL curriculum is grounded in educational theories and intentionally structured to facilitate learning (Coll & Zegwaard, 2011; Stirling, Kerr, Banwell, MacPherson & Heron, 2016). This research highlighted the importance of a curriculum that caters to individual students’
backgrounds and promotes self-directed learning, facilitating personalised and transformative outcomes. A WIL curriculum affords students the opportunity to ‘take control’ of their learning experiences (Smigiel, MacLeod & Stephenson, 2015). Kolb (1984, p. 38) describes experience (as opposed to passive learning) as “the process whereby knowledge is created through transformation of experience”. WIL is not only grounded in an exploratory approach, learning experiences are insightfully designed and sequenced, allowing latitude for students to direct the learning, reflect on performance, and make adjustments to their approach. Experiential learning encompasses personal involvement and tactile engagement with the learning experience in which students are actively immersed. “WIL curricula have been found to improve performance and satisfaction, improve professional competencies, and enhance instructor confidence” (BHEF, 2013, p. 5).

Learning outcomes are written from the perspective of what the student will do rather than what they are taught (Stirling et al., 2016). This research showed that a quality WIL curriculum encompasses broad outcomes, incorporating an amalgam of the cognitive, psychomotor and affective dimensions of learning, and is negotiated with students, graduates, employers, professional accreditation body, and university personnel to inform learning tasks. This allows the flexibility for students to articulate personalised outcomes that align to the broader outcome. Curriculum design is premised on a progressive continuum of complexity, initiating with fundamental knowledge and skills to the more complex as learning deepens. Workplace settings are positioned as extensions of the educational setting. The integration of theory and practice and realism of the learning experience is a shared responsibility of staff, students, graduates, employers and professional accrediting body representatives.

However, university staff involved in this research cited several challenges with realising and implementing a WIL curriculum which reflects these characteristics. Balancing the nexus between academic requirements with the practice-based components of WIL was identified as a key issue. According to Stirling et al. (2016), this is arguably one of the greatest challenges for teaching staff and institutions. Staff also acknowledged that designing and implementing a WIL curriculum requires time and expertise, both of which they perceived many teaching staff lacked. Involvement of workplace practitioners was considered paramount to a quality WIL curriculum. Employers’ commitment to inspiring potential professionals in the field; being responsive and flexible in working with students; mentoring and guiding students; and monitoring, evaluating and revising the process was reported as critical to success. Co-designing a WIL curriculum was thought to enable holistic and relevant experiences with outcomes that encompass the collective perspectives of all stakeholders. In a tight fiscal market with limited resources, working collaboratively to implement innovative, sustainable, and scalable models of WIL, was reported as the way forward. However, in
order to achieve this aspiration, all stakeholders involved in this study required support and enhanced capacity.

8.5.3 Designing and Implementing Authentic Assessment

This research revealed discontent among graduates and students with assessment design and implementation. Teaching staff and employers also showed palpable cynicism about the value and authenticity of assessment. Yorke (2011) agrees that assessment needs to be reconsidered in light of the purpose of university studies and the growing discontent with university outcomes. Stakeholders concurred that clearly articulated learning outcomes aligned to meaningful and relevant assessments, and learning experiences that enable constructive and useful feedback to students on their performance, ensure more tangible outcomes for students. Assessment tasks that result in real-world artefacts were perceived as more relevant and a more accurate validation of students’ proficiency. Furthermore, clearly expressed, performance-based assessment criteria, measured by categories or bands of proficiency, are a more realistic justification of student aptitude in an authentic learning environment. Participants felt that assessment should encourage autonomy and decision-making on the students’ part with a focus on process, rather than product. Approaching assessment design with these features in mind was thought to facilitate self-reflection and the recognition of personal strengths and areas of weakness. In addition, research participants perceived that such an approach to assessment enabled the learner to ‘alter behaviour based on recognising where they went wrong’ (learn from failure). Early career graduates are a valuable source for designing assessment and informing workplace proficiencies that should be incorporated into learning outcomes and assessment (Scott, 2016). An additional benefit of authentic assessments is the propensity to reduce issues such as plagiarism and cheating, as they rely on performance and problem-solving rather than exam-like interrogation (Knight & Banks, 2003; Scott, 2016).

Electronic portfolios (eportfolios) were suggested by teaching staff as allowing students to compile evidence of their capabilities from a developmental perspective. Eportfolios enable reflection on personal development, and recognition of where improvement is required (Association for Sandwich Education and Training [ASET], 2009; Brodie & Irving, 2007; Williams et al., 2012). In addition, eportfolios promote a lifelong approach to learning, provide a repository for showcasing capabilities upon graduation, afford graduates the competitive edge during career transitions, and build professional identity (Ferns & Comfort, 2014).
8.6 Partnership Characteristics to Facilitate Successful Outcomes for Graduates

The research outcomes extol partnerships as pivotal to providing authentic learning experiences, constructive feedback to students on their performance, capacity building opportunities for all stakeholders, and a shared responsibility in the work-readiness of graduates. This resonated strongly with all stakeholders involved in the research and was a recurring theme across all phases of the research design. In addition, partnerships were deemed to address perceived gaps in graduate employability, inform curriculum design, implement quality assessment practices, build social and professional networks, motivate and engage students, provide role models and mentors, and facilitate the development of professional identity for all stakeholders. Research outcomes showed that these features in turn impact markedly on organisational functionality, through enhancing research potential, building social capital, sharing knowledge, and co-branding for greater marketability. Figure 8.2 highlights the key partners that form the partnership.

In addressing RQ4, institutional leaders and teaching staff, employers, students, graduates, and professional accreditation body representatives, working collaboratively to enable cross-fertilisation, emerged as instrumental to enacting a real-world curriculum. The roles and responsibilities of partners are outlined below. Equally important, is the dynamics of the partnership arrangements and the ‘rules of operandis’ within the Framework. Contemporary literature espouses the value of partnerships (Tran, 2016) but tends to limit the scope to employers/industry.

While the benefits and prospective outcomes of partnerships were echoed by all stakeholders, numerous challenges in forming partnerships were raised. Participants for the case studies referred to existing partnerships as “dysfunctional” (IChemE, 2015) “broken” (Primary Education [PE] teaching staff, 2015), and “a storm brewing” (Occupational Therapy [OT] teaching staff, 2015), with a general consensus that a new model of engagement was required to maximise mutual benefits and achieve reciprocal and tangible outcomes. Variable approaches, inadequate communication, a paucity of information, an absence of clear roles and responsibilities, and diverse management and leadership structures across organisations were identified as challenges. “Partnerships imply an equal relationship” (Williamson & Jones, 2015, p. 8) where parties share common goals, interests and motives. The proposed benefits, responsibilities, and challenges for each of the partners as shown in Figure 8.1 are discussed below.
As shown in Figure 8.1, the university perspective encompasses two elements – institutional leaders (decision-makers) and teaching staff. While teaching staff benefit from a ‘personal’ connection with external partners, stakeholders felt that institutional policies, procedures, protocols and priorities, directly impact on the propensity and capability of staff to engage. The many benefits gained through external engagement were acknowledged in the university context, however, operational factors and competing agendas were reported as impeding the formation of collaborative and cooperative partnerships.

**Institutional Leaders**

Teaching staff posited that to embrace the notion of industry and community engagement, contemporary institutional policies, procedures, protocols and priorities required a rethink. “Deep radical and urgent transformation is required” (Barber et al., 2013, p. 5) for universities to cater to the changing educational needs of society. All stakeholders affirmed that changes to policy frameworks centred on staff rewards and promotion, workload allocation, emphasis on research outcomes over teaching, quality metrics, and curriculum and assessment protocols are a priority. Moreover, for universities to meet future demands, “the way in which their staff workforces are structured, engaged and developed” (AHEIA & PWC, 2017, p. 4) requires realignment.
Currently, promotion, recognition and reward for teaching staff is weighted heavily towards research outcomes and publications (Devlin, Smeal, Cummings & Mazzolini., 2012; Gunn & Fisk, 2013; Probert, 2015), an issue raised consistently by research participants. Actively fostering dynamic partnerships external to the university is not overtly valued nor acknowledged. As evident through this research, partnerships that potentially culminate in research collaborations, curriculum renewal, networking opportunities for students and staff, and improved student outcomes and satisfaction, take time, energy and expertise to develop, yet are not formally recognised nor factored into workload allocations. University leaders should support, reward, recognise, inspire and allocate workload for staff to engage in brokering and sustaining external partnerships. The need for change in universities has been echoed by authors for several decades. Escalating student fees (Wang, 1981), lack of diversity and difference across institutions (Ernst & Young, 2018), inadequate graduate employability skills (Evans-Greenwood et al., 2015), and outdated curriculum (Ewan, 2016) are cited as reasons for change. Findings from this research provide direction for change and innovation in universities.

Furthermore, research participants highlighted that the currency of staff industry expertise is fundamental to ensuring focus and content of curriculum; and that the style of delivery promotes the development of students’ employability skills. Investment from university leaders in building staff capacity to ensure teaching encompasses up-to-date industry standards and practices was deemed essential. Partnerships emerged as an effective mechanism for providing relevant professional learning for staff, and building their confidence to incorporate real-world content in curriculum.

Policy frameworks around assessment, and teaching and learning, were reported to inhibit innovation in delivery and assessment. Teaching and learning and advocating the students as partners in their learning, should be valued, prioritised, and accommodated in policies and procedures. Healey, Flint, and Harrington (2014) refer to ‘learning communities’ which help “guide and sustain” (p. 12) student engagement. Assessment strategies were identified as particularly problematic as assessment in a WIL context needs to be personalised and developmental with unpredictable outcomes. Yorke and Vidovich (2014) attest the difficulties surrounding the assurance of quality and standards in a WIL context. Participants agreed that a real-world approach to assessment was not accommodated in rigid assessment policies defined by stand-alone assessments with grades allocated that don’t reflect the depth or breadth of the skill development. Inspirational university leaders with vision, understanding, courage and adaptability are required to drive these change agendas (Fullan & Scott, 2009; Shields, 2016).
While these suggested modifications will in part address the perceived lack of alignment between curriculum and industry needs, issues such as inflexible scheduling, out-dated technologies, and rigid degree structures, were cited as barriers to adopting a ‘learning for life’ model of education, an opinion supported by Ewan (2016). Moreover, the typically inflexible and bureaucratic infrastructure of universities was thought to hinder working closely with external partners. An ethos of working collaboratively and mutual proactivity must be embedded within the institution (Healey et al., 2014). Research participants considered Alumni to be a valuable source of industry connections and student support, but are largely under-utilised. Institutional benefits of engaging with external parties include improved relationships with the potential to enrich both teaching and research activities; contribute to economic development and productivity through addressing workforce needs; enhance global competitiveness; and meet students’ expectations (McRae & Johnston, 2016).

*University Teaching Staff*

Staff benefit in several ways from collaborating with external partners. Firstly, the connection enables them to maintain currency with the professional context of their discipline, a strategy supported by Probert (2015). This has a two-fold impact: ensures the content and delivery of learning material is relevant to the discipline, and secondly, potentially opens up research and broadens career opportunities (Devlin et al., 2012). In addition, reciprocal mentoring was identified as a potential benefit of partnerships and conducive to shared motivations and ways of working. Teaching staff commented on the professional development prospects made possible through brokering and maintaining bonds with industry. Opportunities for spending time in an industry setting were considered valuable experiences that could both inform teaching approaches and research activities. Community engagement was also identified as important for connecting with the “most pressing social, civic and ethical problems” globally (McEwen & O’Connor, 2013), and ensuring a holistic and wholesome university culture.

However, teaching staff identified several challenges with realising these opportunities. In the contemporary university context, staff expressed doubt about the possibility to undertake professional development situated in industry due to a “lack of mobility … between the university sector and industry” (AHEIA & PWC, 2017, p. 16). Furthermore, staff lamented that workload allocation does not allow for the time-consuming role of industry engagement. In addition, there is no explicit reward and recognition from an institutional perspective for developing strong industry partnerships, which ultimately benefit the university. Staff also acknowledged that professional
inexperience and long-term university positions, compromised the skills required for industry liaison and partnership negotiation.

Teaching staff participants in this research were mindful of the need to prepare students for the future workforce and recognised the value and importance of working with students as partners. However, allowing students ownership of their education requires a particular curriculum design and assessment process. Long term teaching staff are familiar with the didactic teaching models typical of universities, inflexible assessment processes, and a ‘control’ over student outcomes, in contrast to empowering student to be actively engaged in how they learn and develop (Cooper et al., 2010). Consequently, students are positioned “as passive consumers for, rather than active participants in, their education” (Healey et al., 2014, p. 7). While staff espoused the value of incorporating skill development in the learning experiences, they were doubtful that traditional approaches enabled students an exploratory and authentic way to nurture skills such as values and ethics, social contexts, and collaborative problem-solving. “The challenge for educators is to provide opportunities for learners to become independent thinkers who are self-aware, critically reflective and conscious of their role in the broader social and cultural contexts in which they live” (Krause et al. 2003, p. 118). This is reflected in staff claiming high confidence levels in teaching and assessing these skills, yet their perceptions showed substantial gaps in graduate capabilities.

Stakeholders in this research determined that teaching staff play a primary role in initiating and sustaining the partnership. Responsibilities include leading the design and implementation of a curriculum that affords authentic learning experiences and incorporates opportunities for students to network and engage with employers. Where WIL placements are a part of the curriculum, teaching staff are obliged to oversee the relevant governance procedures to ensure the safety and well-being of students. The preparation and support for students while in the workplace, and managing the assessment process in collaboration with other stakeholders, resides with teaching staff. Teaching staff also have a responsibility to retain a connection with Alumni, maintain currency of their discipline, ensure an evidence-based approach to practice, and adopt an enduring attitude to professional learning. An encouraging and supportive institutional operational infrastructure is paramount to actualising these responsibilities (Probert, 2015).

8.6.2 Employers

Employers endorsed the need to assist with student education and graduate preparation as a commitment to their profession. While there is mounting pressure on universities to rethink the way they do business, stakeholders suggested that industry organisations also need to adapt in the face of ongoing change. Employers expressed willingness to collaborate on the design and implementation
of the curriculum, contribute to authentic student learning experiences, and provide opportunities for students to engage with, and learn in, the workplace. Employers reported that while they benefit from the enthusiasm, creativity and currency of knowledge students bring to the workplace, they perceived that candidates lacked soft skills such as problem-solving, interpersonal skills, communication and teamwork. Research participants agreed that a constructive way to address these perceived gaps is for employers to be actively engaged in student learning through partnering with key stakeholders.

Employers also have a crucial role in supporting new graduates once they enter the workforce. Flexibility in ways of working, ongoing mentoring, promoting lifelong learning, and providing opportunities for employees to grow and be challenged, helps to continue building the Australian workforce (Chartered Accountants of Australian and New Zealand, 2017). The OT employer interview exemplified this approach with the provision of ongoing support and mentoring for new graduates entering the OT profession. Employers valued the role of mentor for both staff and students, but, as with teaching staff, expressed the need for support and training to undertake these roles adequately.

8.6.3 Students

The need for students to be partners in their learning, have the foresight to recognise gaps and strengths in their skill sets, and take the necessary action to optimise strengths and address gaps resonated with all stakeholders. Research outcomes indicated that personal agency afforded students through self-directed learning, prepares them well for the rigours of the future workplace, augments learning experiences, promotes lifelong learning, and establishes them as valid partners in their learning journey. This was affirmed by Stirling et al. (2016) with the tenet that “students should be adequately prepared to be pro-active learners” (p. 92). In Helyer’s (2010) advice to students, she stresses the importance of active student engagement for optimising learning outcomes. With greater ownership of their learning experience, students felt empowered to create and maximise opportunities for networking and establishing contacts that succour career directions, employability, and work-readiness. Partnering with students was thought to enable a “sophisticated and effective approach to student engagement” (Healey et al., 2014, p. 7). McRae and Johnston, (2016) cite direct learner involvement as a key attribute of WIL. Billett, (2015) agrees that it is incumbent on students in a WIL learning context, to “engage independently and direct and manage their own learning” (p. 29). With personal responsibility for their educative experiences, students stressed the importance for clarity in expectations and standards. Students were identified as having unique needs, aspirations, and backgrounds, which teaching staff are expected to accommodate in a flexible and
inclusive curriculum. While teaching staff were in agreement, they countered this opinion believing that students need to be engaged, informed, self-driven, enthusiastic, and communicative to optimise opportunities from a personalised approach.

Students and graduates deemed it essential to market themselves competitively so they ‘stand out’ with evidence of their skills and aptitudes. While the implementation of curriculum and innovative assessment profile creates opportunities for students to showcase their abilities, students recognised that they need to take responsibility to create a strong digital presence which highlights strengths, provides evidence of capabilities, and is the interface between the student and external partners. A systematic collection of evidence of skills was considered a valuable source of ‘intelligence’ for the unknown.

8.6.4 Graduates

Graduates lie in the hiatus somewhere between students and industry partners. Research participants agreed on the benefits from becoming active Alumni and remaining connected with the university, while simultaneously building and strengthening industry connections. Alumni were perceived as a valuable source of mentors and workplace networks for institutions, teaching staff, employers and current students. Nurturing “a lifelong connection among Alumni is beneficial to the individual, the university, the company, and the sector” (Van Rooijen, 2011, p. 9). Alumni were also considered an avenue for employers and community partners to connect with the university.

8.6.5 Professional Accreditation Bodies

In all three cases, the process of professional accreditation was highly valued by the institution, teaching staff and students, as it instils status, profile and respect for the profession. Additionally, professional accreditation enabled national benchmarking and a critical review of curriculum, with potential for subsequent curriculum renewal. In essence, it was considered a respected quality assurance process (Beehler and Luethge, 2012). Despite acknowledging that partnerships are a critical component of teaching institutions, stakeholders in this research did not consider professional accreditation bodies as partners, and nor did the accreditation bodies perceive themselves as equal partners in executing a quality student experience. Professional accreditation bodies were regarded as compliance-driven ‘regulators’. There was, however, a discernible intent by the professional accreditation interviewees to engage with institutional representatives in the compilation of standards and the accreditation process.

A key outcome of this research was the notion that greater connections between professional accreditation bodies, teaching staff, employers, students and graduates has the potential to enhance
networking with experienced industry partners, provide support for new graduates in transitioning to the workplace, and establish communication channels that address the varying intentions, priorities and foci of organisations. Teaching staff should be closely involved in the accreditation process through a more consultative approach where professional language and frameworks are shared. Students viewed professional accreditation as confirming the academic rigour of a program of study, and increasing the likelihood of securing employment post-graduation. Carrivick (2011) concedes that “the issues of employability appear to be quite deeply rooted” (p. 483) and suggests that professional accreditation is potentially a useful process for ensuring academic rigour, work-based learning, and national benchmarking. While student and graduate participants in this study were aware of the professional accreditation bestowed upon their course of study, they reported minimal engagement with the professional accreditors.

8.6.6 Strategies for Tangible Partnerships

Dialogue on partnerships between higher education and industry is prevalent in global literature over the previous two decades (BHEF, 2013), with increased emphasis in an Australian context in the last five years (ACEN, 2015). A partnership philosophy underpins the National WIL Strategy (See Section 1.4.3), which is designed to increase and improve WIL offerings across Australian universities, through strengthening university-industry partnerships. However, OECD reports that Australia performs poorly on inter-organisational collaboration in comparison to other nations (Glover, 2016). Discourse on partnerships in Australia focuses mostly on the educational/industry relationship, with little reference to a more inclusive model of partnerships as outlined in this research. Furthermore, for long-term impact, a more integrated approach to partnerships is required, rather than a ‘transactional’ model where engagement is superficial and ‘light-touch’. This research identified a series of strategies for establishing tangible and influential partnerships which are outlined below.

This study showed high level strategic plans for all organisations: educational institutions, industry, and professional accreditation bodies, should prioritise establishing partnerships, including a clear vision and mission negotiated with both internal and external stakeholders. The development of attainable and realistic goals and actions which align to the vision and mission serve several purposes. Firstly, employees gain a sense of how they can contribute and ‘make it happen’. Secondly, communication on strategic developments both within and external to the organisation, are more credible and feasible. In addition, in properly executed strategic operations, strategies and priorities are cascaded throughout the organisation. Departments reframe the priorities for specific contexts while maintaining direct links to the overarching strategic imperative (Reeve & Gallacher,
2005). With inspirational leadership, this approach encourages partnership building to permeate across the organisation, and infuses a culture of collaboration and cooperation.

Government, corporate and academic policies and procedures should be sufficiently flexible and inclusive to embrace the strategies for realising tangible partnerships. Shared leadership whereby educational, industry, student, recent graduate, and professional body representatives reside on governance and operational committees to drive collaborative decision-making, facilitates a ‘deep’ partnership model. Co-locating employees from various organisations builds collegiality, cooperation, and sustains common aspirations. Co-location also prompts informal mentoring, thereby building the capacity of all stakeholders. Staff dual appointments where different organisations share the cost of employment, instils a multi-perspective approach to decision-making, course design, and assessment implementation. Ideally, organisations need a single contact point to ensure efficient access and communication (National Centre for Vocational Education Research [NCVER], 2017). Furthermore, this streamlines the process of negotiating real-world problems to be embedded in the student experience, encompassing input from all partners.

The current partnership models tend to be siloed where the negotiation is centred on a single aspect of collaboration. When negotiating partnerships, a comprehensive perspective is required comprising philanthropy, research, student learning and staff capacity-building where appropriate. Regular evaluation is paramount to successful partnerships as it mitigates potential risks, addresses emerging issues in a timely manner, ensures transparency, and prevents the demise of the relationship.

Communities of practice “aim to help students develop a sense of coherence and community” (Healey et al., 2014, p. 27) thereby enabling social learning, facilitating success, enhancing student engagement, and increasing student satisfaction (BHEF, 2013). Inclusive partnerships provide the basis for building communities of practice as they are premised on collaboration, collegiality, and shared expertise.

8.6.7 Overcoming Challenges

The outcomes from this research verify that partnerships between stakeholders make a palpable contribution to providing students with experiences that prepare them for the workplace. Cooperation among stakeholders is a prerequisite for a common understanding and to allay challenges (Reeve & Gallacher, 2005). Operational functionalities for ensuring scalable and sustainable management and staffing processes to accommodate growing student numbers will be required. With a tight fiscal market, allocating resources will stretch available funds. Consideration
of the ensuing strategic benefits and long term efficiencies are crucial to success. Partnership connections will need to take into account the different motives and workplace operations characteristic of each stakeholder, effective communication channels, and explore new models of engagement (Smith & Betts, 2000). The constant and rapid shift in economic and technological innovations will mean ongoing discussions, collaboration and evaluation of models to reassess in light of evolving requirements. Alumni are a valuable and largely under-utilised source for addressing these challenges.

8.7 The ‘WIL Partnerships for Employability Framework’

The compilation of evidence in this research supports that an innovative and inclusive approach to partnerships is required. As a result, the ‘WIL Partnerships for Employability Framework’ is proposed as a way of addressing challenges and working collaboratively to prepare graduates for the future workplace. University leadership, university teaching staff, employers, professional accreditation bodies, students and graduates all have a significant role in the partnership framework. It is evident that negotiation between stakeholders needs to occur where roles and responsibilities are clearly defined, communication channels identified, and a vision and mission articulated, thereby establishing a collaborative, consultative and cooperative partnership.

Figure 8.2 provides a visual overview of the ‘WIL Partnerships for Employability Framework’ developed as an outcome of this research. Figure 8.2 displays a summary of the benefits and characteristics of partnerships, and recommended stakeholder roles. A more detailed version of the ‘WIL Partnerships for Employability Framework’ can be found in Appendix Q. Figure 8.2 emphasises the characteristics of partnerships in order to achieve desired outcomes and benefits for all stakeholders.

The ‘WIL Partnerships for Employability Framework’ supports a more inclusive model where involvement of stakeholders is of equal priority. The inclusion of professional accreditation bodies as partners to support student learning is intended to inspire a more co-operative approach to the professional accreditation process which informs the student experience and outcomes, supports workplace transition, and enables students a connection with professional accreditation representatives. Evidence supports that embedding WIL in curriculum enhances graduate employability through industry engagement, authentic learning experiences, and real-world assessments. Ultimately, successful outcomes in preparing work-ready graduates through WIL pedagogy is reliant on partnerships which are communicative, consultative, cooperative, and collaborative.
Figure 8.2: ‘WIL Partnerships for Employability Framework’: Simple version
In distilling the information gathered through this research, the perceived role of each stakeholder was consistent across all case studies. Industry was considered responsible for facilitating in-depth skill acquisition, the realities of the working world, working in a team environment, dealing with workload pressure, negotiating, and advocating. Establishing expectations for students, instilling professional behaviours, and leading curriculum and assessment design was thought to reside with university staff. Students are responsible for their own learning journey, and the recognition of personal strengths and gaps. Graduates, given their recent university experience, were perceived as a valuable source of ‘intelligence’ for informing curriculum in partnership with teaching staff. In addition, graduates potentially facilitated links with industry organisations. Graduates were perceived as providing a nexus between the higher education institution and industry with recent experience in both sectors. The role of the professional accreditation body, while valued, has potential for greater involvement in university and industry activities. Collegial partnerships were considered preferential to a mandatory, regulatory approach where expectations are unrealistic and unsustainable.

This research culminated in a more inclusive Framework for collaboration where partnerships extend beyond the realms of industry demands. The Framework establishes an ethos of shared responsibility and cooperation. Roles and responsibilities of each stakeholder are clearly articulated, and the characteristics of partnerships to optimise outcomes documented, culminating in benefits for all partners. The connections and learning experiences made possible through the Framework, builds students’ self-efficacy, self-identity, self-esteem and self-concept, all of which support the development of an agile professional identity appropriate for the future workplace.

This research validates that the ‘WIL Partnerships for Employability Framework’ provides a pathway for universities to navigate the tumultuous time ahead. Working collaboratively enables a focus on active student engagement in their learning and interaction with external stakeholders, whereby students are afforded an authentic university experience that ensures workplace preparedness. The research endorses strategies specifically designed to facilitate collaboration, experimentation, self-reflection, and connections with multiple stakeholders. The philosophy underpinning this approach is exemplified by the words of Albert Einstein when he said “I never teach my pupils; I only attempt to provide the conditions in which they can learn.” This research espouses that learning and working should occur simultaneously and incorporate a combination of institutional and workplace experiences, where learning in the workplace is merged with formal learning in an educational institution. Input and support from all stakeholders is necessary to achieve this aspiration. This ‘whole of person’ approach to learning instils a lifelong attitude to career development and extends one’s repertoire of knowledge and skills. The proposed ‘WIL
Partnerships for Employability Framework’ exemplifies a culture of support, role modelling and mentoring for all stakeholders. The shared vision and reciprocal trust inherent in the Framework, augers well for the establishment of support networks via mentoring programs, deemed critical to success.

The ‘WIL Partnerships for Employability Framework’ is the catalyst for actuating the important Domains for employability identified in this research, and the cohesion for maintaining a shared vision and common goals for all partners. This represents a dynamic and fluid construct as Domains can be reshaped and attributes reconfigured as the employment landscape transforms over time. The ‘WIL Partnerships for Employability Framework’ is a constant although roles and responsibilities will shift as the partnerships mature and evolve. The ‘WIL Partnerships for Employability Framework’ as represented in Figure 8.2, provides an ideal back drop for realising the Domains, while also addressing the contradictory stakeholder perceptions and discipline nuances.

8.8 The Future of Education

A revolutionary approach to a university education is warranted, given the compelling evidence that the world of work will look very different in the future (McEwen & O’Connor, 2013; FYA, 2017). Trends confirm that work experience is more highly valued as evidence of work-readiness than a degree. The traditional “episodic” (Jassal & Clark, 2016, p. 16) approach to education, where ‘formal learning’ is restricted to specific periods in one’s life, is no longer relevant. Learning for life integrates academic, social, professional, and self-awareness dimensions (Productivity Commission, 2017). In preparation for a volatile future, a commitment to learning across the lifespan is a priority.

Many authors in recent years have bemoaned the inability of universities to prepare work-ready graduates (AWPA, 2014; Humburg et al., 2013) and advocated that partnerships between industry and universities are paramount. While in principle, this is a part of the solution, this research highlights the barriers to working in partnership to address graduate employability, and suggests strategies for overcoming those barriers. Furthermore, the findings show that the panacea requires a broadening of the partnership debate. Partnerships are the key to promoting a borderless education and reinventing the ‘learning economy’. A sustainable and innovative education system is essential for Australia to remain globally competitive. Reconceptualising how education is enacted is imperative for global well-being and economic productivity (Blessenger, 2016; van Rooijen, 2011).

8.9 The Recommendations

Four recommendations have evolved through this research. The recommendations relate to the four categories of: Building Partnerships, Shared Responsibility, Staff Support, and The Curriculum.
The recommendations align to, and build on, the key areas enabling approaches and actions in the National WIL Strategy (See Section 1.4.3), specifically ‘Develop university resources, processes and systems to grow WIL and engage business and community partners’. The National WIL Strategy advocates the value of partnerships in preparing work-ready graduates with a focus on industry-university partnerships. The recommendations emerging from this research broaden the partnership arrangements and provide specific direction on changes in policy and process for genuine partnerships. Furthermore, the recommendations support compliance with the Higher Education Standards Framework (Threshold Standards) (TEQSA, 2015) which stipulate standards relating to “foster[ing] progressive and coherent achievement of expected learning outcomes” (Section 3.1, p. 8), “staff knowledge of contemporary developments in the discipline or field” (Section 3.2, p. 8), and standards relating to the quality of WIL.

8.9.1 Building Partnerships

The Building Partnerships Recommendation focuses on actions and responsibilities requisite for establishing robust partnership arrangements.

Recommendation One

Universities should prioritise partnerships to inform curriculum, support student learning, and maintain industry currency.

This recommendation entails universities initiating discussions with employers, professional accreditation bodies, graduates (alumni), and student representatives, to negotiate partnerships modelled on the ‘WIL Partnerships for Employability Framework’. The recommendation incorporates collaborative conversations with professional accreditation body representatives to rethink the process of professional accreditation whereby it supports students’ learning and transition with quantifiable outcomes for all stakeholders. A central contact point to facilitate external engagement is required to achieve this recommendation. Importantly, the university experience should position students as partners in their learning, with flexibility to accommodate personalised learning. Specifically, strategies and initiatives that involve Alumni in WIL opportunities need to be implemented.
8.9.2 Shared Responsibilities

The recommendation relating to Shared Responsibilities refers to strategic priorities that drive partnerships for which all stakeholders have a shared responsibility.

Recommendation Two

Promote active engagement and social and professional connections through a sense of belonging and a community of practice.

This recommendation encompasses the development and implementation of reciprocal mentoring programs to instil capacity building for all stakeholders. Underpinning this recommendation is partners working collaboratively to design and implement contemporary curriculum, innovative models of WIL, and authentic assessment.

8.9.3 Supporting Staff

The Supporting Staff Recommendation targets strategies that ensure teaching staff are equipped with the time, skills and resources to engage in partnership development.

Recommendation Three

Universities should recognise, reward and support teaching staff to engage with external partners.

This recommendation requires universities to invest in staff development activities that build staff capacity to prepare students for the future workplace. Opportunities for teaching staff to engage in industry-based project activities as a form of professional development should be encouraged and rewarded. Policies, protocols, procedures and priorities will require reframing to accommodate this recommendation and the changing demands on universities.

8.9.4 The Curriculum

The Curriculum Recommendation pertains to quality elements of a WIL curriculum and authentic assessment.

Recommendation Four

Universities should strengthen the employability of graduates through broadening content and learning experiences that prepare students for the global context.

This recommendation highlights WIL as a core component of curriculum design to ensure skills and knowledge for workplace readiness are addressed. This recommendation involves embedding career
development across the curriculum, culminating in targeted support for students transitioning from university to the workplace. All WIL activities that incorporate work placements should be credit-bearing and formally assessed. Furthermore, the recommendation supports authentic, scaffolded assessment profiles that facilitate robust feedback and student progression. In addition, the development of a professional identity should explicitly feature in students’ learning experiences.

8.10 Limitations

While every effort was made to mitigate risks to the legitimacy of the research findings, several limitations are identified. Limitations fell into three key areas: Sample size, data collection instruments, and environmental factors. The small number of CE employers (4) and teaching staff (6) who responded to the GEI surveys was a limitation in the data collection as it compromised the validity of data triangulation across the three case studies. This was countered by gathering qualitative data through interviews with stakeholders which reaffirmed findings. The GEI surveys were administered across case studies over a three-year period in which time the employment market shifted considerably from being very buoyant to a decline in employment rates. This factor potentially impacted on respondents’ perspectives. In addition, data sources were based on stakeholders’ perceptions rather than factual information. Perceptions are what respondents perceive to be the truth in contrast to factual information. This bias in participants’ perceptions was minimised by the triangulation of multiple data sets to validate research outcomes. Seven of the nine CE students interviewed were international on-shore students, perceptions of whom may differ from a domestic cohort. While interviewees comprised a small sample size, research outcomes were not solely based on interviewee responses, but served to validate and expand on data gathered through the survey instruments.

In terms of data collection instruments, the CEQ questions are potentially phrased in such a way to illicit responses relating to themes common across all disciplines. In addition, the capabilities in the GEI survey, where stakeholders determined priorities, are not an inclusive list of skills reflective of capabilities required of employees in the contemporary workplace. Both limitations were mitigated by interviews where stakeholders expanded on emerging themes and consolidated findings.

Environmental factors included the gender dominance in each of the case studies potentially resulting in gender bias. However, the respondents’ gender ratio reflected the enrolled cohort. Interviewed teaching staff were personally known to the researcher. To mitigate the risk of compromising the integrity of responses, interviews were conducted with adherence to protocols including a professional setting as the venue, providing a copy of the questions prior to interview,
and adherence to appropriate ethical procedures. Finally, gathering the perspective of institutional leadership representatives would have strengthened the findings.

8.11 Implications for Policy and Practice

This research addresses a gap in current research with a spotlight on institutional policies and practices. The majority of work has previously focused on more specific and smaller scale projects and initiatives at a course/program level. The scale of this study provides robust evidence for informing the implications of policy and practices in universities. Staff cited university policies and priorities around student satisfaction metrics, workload, and recognition for research over teaching as barriers to fostering external partnership. The research outcomes highlight the need for universities to transform how business is operationalised.

While policies need to incorporate quality frameworks, flexibility is required to attain greater agility and responsiveness to dynamics external to the university. Prescriptive requirements around curriculum design, assessment protocols, measures of course quality, and approval processes inhibit innovation, creativity, student ownership, and input from external partners. While involvement with industry is evident in policies, processes do not reflect the need for ‘deep and transformational’ partnerships where curriculum and assessment are designed, implemented and evaluated collaboratively. Policies that support the ‘WIL Partnerships for Employability Framework’ are required to actualise the Domains fundamental to graduate work-readiness identified in this research.

This research has also highlighted the need to review and adapt the process of professional accreditation and revisit how universities engage with these organisations. Stakeholders concurred that there were numerous benefits of professional accreditation. However, there was a perception that there was potential to optimise student learning, enhance graduate work-readiness, and leverage university-industry partnerships through an improved professional accreditation charter. Policies and practices that supported and encouraged a professional accreditation process modelled on the ‘WIL Partnerships for Employability Framework’ may enhance optimum outcomes for all stakeholders.

To design and enact a WIL curriculum that affords students employability outcomes, a shift in staff profiles, perceptions of staff quality, and the roles and responsibilities of staff is required. Policy development on staffing should incorporate workload for engaging with external partners, professional development activities that include industry-based practice, and recognition of the time and expertise required to design and implement a curriculum where WIL is embedded and
scaffolded to facilitate the development of work-readiness skills and attributes. A distributed leadership model is required which empowers staff to make decisions and to pursue a career that embraces both industry relevance and teaching capability. Reconceptualising traditional policies on promotional pathways for teaching staff is essential.

Overarching these requirements is the need for a policy context that priorities partnership arrangements that are inclusive of partners in the ‘WIL Partnerships for Employability Framework’. This requires strategic planning approaches that gather input from all stakeholders, and embraces philosophies of shared leadership, working collaboratively, and cooperative decision-making. The broader, inclusive and comprehensive notion of partnerships is paramount to changing the policy environment within higher education institutions.

8.12 Opportunities for further research

Three main areas of further research are suggested. Research on how the application of theory learned in an educational setting is applied in workplace practices, and how that knowledge and experience transforms a person’s capabilities and perspectives is a priority. An evaluation of different styles of workplace mentoring and support is also in need of investigation. Identifying the features of high-impact mentoring models has the potential to significantly improve workplace development for students, new graduates, and established employees. The importance of professional identity and ethical behaviour was highlighted through this research. However, there is an opportunity to further explore values inherent in various professional contexts, the multiple dimensions of professional identity, and how these influence the development of a student’s moral code, and as a consequence, their professional identity.

The scope for further research into assessment in a WIL context is expansive. Approaches to designing authentic assessment profiles at both a whole-of-program and subject level impact substantially on WIL outcomes, yet there is limited empirical research providing justification and guidance on optimal approaches. The challenge of validating student proficiency while enabling personal outcomes, and simultaneously meeting professional and academic standards, all in a scalable and sustainable way, is in need of investigation. In addition, there is a lack of evidence on the efficacy of WIL programs and criteria of a quality program. Further to this, there is little research exploring students’ roles, responsibilities, and outcomes as valid partners in their learning with ownership of personal directions. Additionally, an evaluation of the ‘WIL Partnerships for Employability Framework’, an outcome of this research, has the potential to enhance the credibility of the Framework.
Finally, conducting research into staff placements in industry settings could provide valuable evidence for designing, implementing and disseminating the innovation further afield. This would be best deployed as a collaborative undertaking, where projected outcomes were identified, and roles and responsibilities clarified. An evaluation of a pilot program would expose the impact of this activity on staff approaches to teaching and learning, their confidence in teaching workplace skills, and their general sense of well-being and professional legitimacy.

8.13 Conclusion

The evolving nature of work and a capricious future labour market requires graduates to be flexible, agile, creative and resilient to be employable in a globalised world. The skills and attributes required for professional and personal accomplishments across the lifespan of employment are changing. The process of knowledge acquisition and skill development has evolved into a lifelong commitment which adapts as the employment landscape reshapes with advancing global impacts, and is no longer considered an activity that is restricted to formal education institutions. Rather, it now is a central component which connects and integrates the ‘whole’ person: socially, politically, academically, and emotionally. Historically, experiential learning has been considered an important element of human learning with the value of experience perceived as outweighing academic prowess. Experiential learning, under the auspices of WIL, has emerged as a high priority for the Australian economy and an essential component of an educational experience. Partnerships are fundamental to the implementation of WIL. The ‘WIL Partnerships for Employability Framework’ is a blueprint for collaborative ways of working. This research presents compelling evidence that improved financial, personnel, and organisational investment by all parties is imperative for realising graduate work-readiness and a sustainable and scalable higher education system that meets the needs of a buoyant and dynamic economy.
Chapter 9: REFERENCES


302


http://www.waceinc.org/papers/A%20Model%20for%20Work%20Integrated%20Lea


318


### APPENDIX A: Demographics and equivalent full time student load for Bachelor of Engineering (Chemical Engineering) 2012-2015

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Note: EFTSL = Equivalent full time student load
### APPENDIX B: Demographics and equivalent full time student load for Bachelor of Science (Occupational Therapy) 2012-2015

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*Note: EFTSL = Equivalent full time student load*
## APPENDIX C : Demographics and equivalent full time student load for Bachelor of Education (Primary Education) 2012-2015

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<td>15 to 19</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
<td>1</td>
<td>1.1</td>
<td>1</td>
<td>1.2</td>
<td>2</td>
<td>1.4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>20 to 29</td>
<td>2</td>
<td>1.6</td>
<td>2</td>
<td>2.1</td>
<td>1.0</td>
<td>0.9</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>30 to 34</td>
<td>1.0</td>
<td>0.3</td>
<td>1.0</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Female</td>
<td>Non-Indigenous</td>
<td></td>
<td>15 to 19</td>
<td>160.0</td>
<td>139.8</td>
<td>149.0</td>
<td>126.4</td>
<td>172.0</td>
<td>134.4</td>
<td>162.0</td>
<td>130.0</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>20 to 29</td>
<td>172.0</td>
<td>138.3</td>
<td>205.0</td>
<td>148.9</td>
<td>201.0</td>
<td>151.1</td>
<td>197.0</td>
<td>142.0</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&gt;30</td>
<td>68.0</td>
<td>41.8</td>
<td>58.0</td>
<td>38.6</td>
<td>49</td>
<td>29.0</td>
<td>43.0</td>
<td>24.1</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Not Defined</td>
<td></td>
<td>15 to 19</td>
<td>2.0</td>
<td>1.1</td>
<td>4.0</td>
<td>2.5</td>
<td>7.0</td>
<td>5.3</td>
<td>7.0</td>
<td>5.3</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>20 to 29</td>
<td>14.0</td>
<td>8.8</td>
<td>3.0</td>
<td>1.5</td>
<td>4.0</td>
<td>2.8</td>
<td>2.0</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&gt;30</td>
<td>8.0</td>
<td>4.3</td>
<td>5.0</td>
<td>1.4</td>
<td>4.0</td>
<td>1.9</td>
<td>1.0</td>
<td>0.4</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Torres Strait Islander</td>
<td></td>
<td>25 to 29</td>
<td>8.0</td>
<td>4.3</td>
<td>5.0</td>
<td>1.4</td>
<td>4.0</td>
<td>1.9</td>
<td>1.0</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Aboriginal</td>
<td></td>
<td>20 to 29</td>
<td>29.0</td>
<td>23.6</td>
<td>31.0</td>
<td>22.9</td>
<td>30.0</td>
<td>23.5</td>
<td>27.0</td>
<td>19.9</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>25 to 29</td>
<td>8.0</td>
<td>1.0</td>
<td>6.0</td>
<td>4.9</td>
<td>5.0</td>
<td>2.9</td>
<td>7.0</td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Non-Indigenous</td>
<td></td>
<td>15 to 19</td>
<td>20.0</td>
<td>1.5</td>
<td>1.0</td>
<td>0.5</td>
<td>1.0</td>
<td>0.5</td>
<td>1.0</td>
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<td></td>
<td>20 to 29</td>
<td>2.0</td>
<td>1.5</td>
<td>1.0</td>
<td>0.5</td>
<td>1.0</td>
<td>0.5</td>
<td>1.0</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Female</td>
<td>Not Defined</td>
<td></td>
<td>15 to 19</td>
<td>2.0</td>
<td>2</td>
<td>10</td>
<td>8</td>
<td>4.0</td>
<td>7</td>
<td>4</td>
<td>3.5</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>20 to 24</td>
<td>7.0</td>
<td>4.9</td>
<td>7.0</td>
<td>4.9</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Subtotal</td>
<td></td>
<td></td>
<td>513.0</td>
<td>404.2</td>
<td>512.0</td>
<td>386.1</td>
<td>516.0</td>
<td>395.6</td>
<td>499.0</td>
<td>361.9</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note: EFTSL = Equivalent full time student load
APPENDIX D: Australian Graduate Survey

Course Experience Questionnaire (CEQ) and Graduate Destination Survey (GDS)

Your Qualifications

1. What is the FULL TITLE of the qualification you have completed?

2. What were the major fields of education in your qualification?

3. What was the level of your highest qualification listed above?
   - Bachelor degree (not honours or graduate entry)
   - Bachelor degree (honours)
   - Bachelor degree (graduate entry)
   - Graduate Certificate
   - Graduate/Postgraduate diploma
   - Graduate qualifying or preliminary
   - Master degree by coursework
   - Doctorate by Course work
   - Associate degree
   - Advanced diploma or diploma
   - Other award course

4. In what year did you commence your qualification(s) listed above?

5. Did you complete your qualification(s) as part of a combined/double degree?
   - YES   - NO

6. Were you mainly enrolled full time or part time?
   - Full time  - Part time

7. What was your main mode of study?
   - Internal (on–campus)
   - External (distance)
   - Mixed mode (internal and external)
8. For the qualification(s) you have just completed, were you wholly or mainly:
   - □ A HECS students and deferred some or all of the HECS debt?
   - □ A HECS students and paid all of the HECS upfront?
   - □ An international fee-paying student?
   - □ An Australian fee-paying student?

9. Did you receive any credit or advanced standing towards your qualification(s)?
   - □ YES    □ NO

About You

1. What was your age in years on 31st October 2014?
   - □

2. What is your sex?
   - □ Female    □ male

3. Were you in Australia on 31st October 2014?
   - □ YES    □ NO

4. Would you describe yourself as having a disability?
   - □ YES    □ NO

5. Are you of Aboriginal or Torres Strait islander origin?
   - □ No
   - □ Yes, Aboriginal
   - □ Yes, Torres Strait Islander
   - □ Yes, Aboriginal and Torres Strait Islander

6. What is the main language spoken at your home?
   - □ English    □ Other

7. Were you born in Australia?
   - □ YES    □ NO

8. If you were born overseas, in what year did you first arrive in Australia?
   - □

9. Are you a citizen or permanent resident of Australia?
   - □ YES    □ NO

327
9a. If yes, what is your home postcode?

9b. If no, what is your country of permanent residence?

10. Prior to the qualification you have just completed, what was your previous highset educational qualification? Please give full title.

11. What is the level of this highest previous qualification?

- [ ] Completed secondary education
- [ ] Undergraduate diploma
- [ ] Bachelor (pass or honours)
- [ ] Postgraduate degree or diploma
- [ ] Other
- [ ] No previous qualification
Your Course Experience

Please tell us about your course experience. The term ‘course’ in the questions below refers to the major fields(s) of education or programs(s) of study that made up your qualification(s).

<table>
<thead>
<tr>
<th>CEQ Item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The staff put a lot of time into commenting on my work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teaching staff normally gave me helpful feedback on how I was going</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The course helped me develop my ability to work as a team member</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It was always easy to know the standard of work expected</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The teaching staff of this course motivated me to do my best work</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The course provided me with a broad overview of my field of knowledge</td>
<td></td>
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<tr>
<td>The course sharpened my analytic skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>My lecturers were extremely good at explaining things</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teaching staff worked hard to make their subjects interesting</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The course developed my confidence to investigate new ideas</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The course developed my problem-solving skills</td>
<td></td>
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</tr>
<tr>
<td>The staff made a real effort to understand difficulties I might be having with my work</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I usually had a clear idea of where I was going and what was expected of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University stimulated my enthusiasm for further learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The course improved my skills in written communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I learned to apply principles form this course to new situations</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>It was often hard to discover what was expected of me in this course</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I consider what I learned valuable for my future</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>As a result of my course, I feel confident about tackling unfamiliar problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>My course helped me to develop the ability to plan my own work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The staff made it clear right from the start what they expected from students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My university experience encouraged me to value perspectives other than my own</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over, all I was satisfied with the quality of this course</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

What were the best aspects of your course?

What aspects of your course were most in need of improvement?
Work in your final year of study

Did you do any kind of paid work during your final year of study?

☐ YES  ☐ NO

What was your main type of work?

☐ Full-time work  ☐ part-time work

Did your primary employer give you time off work for your study?

☐ Never  ☐ sometimes  ☐ often

Did your primary employer support your study financially?

☐ Not at all  ☐ sometimes  ☐ often

Were you still with that employer on 30th April (year of survey)?

☐ YES  ☐ NO

What was your position regarding paid work (including permanent, contract, casual and self-employment) on 30th April (year of survey)?

☐ In full-time work, or had accepted an offer of full-time work
☐ In part-time work or had accepted an offer of part-time work
☐ Not working

Were you seeking work on 30th April (year of survey)?

☐ YES  ☐ NO

Your main paid work

If you were working on 30th April (year of survey)

What was your employer’s business name? __________________________

What was your employer’s main business? __________________________

In what sector were you wholly or mainly employed? __________________________

Were you self-employed? __________________________

What was the full title of your occupation? __________________________

Which of the following best describes the type of employment in your main paid work?

☐ Permanent or open-ended contract
☐ Fixed-term contract more than 12 months
☐ Fixed-term contract up to 12 months
☐ Temporary or casual.
Your job search strategies

Have you actively sought employment with in the last year?

☐ YES  ☐ NO

If yes, which of the following methods did you use to actively seek employment with the last year? (Tick all that apply)

☐ University or college careers service
☐ Careers fair or information session
☐ Other university or college source (such as faculties or lecturers)
☐ Advertisement in a newspaper or other print media
☐ Advertisement on the internet
☐ Resume posted on the internet
☐ Family or friends
☐ Approached employer directly
☐ Employment agency
☐ Work contacts or networks
☐ Other, please specify:
# APPENDIX E: Graduate Employability Indicator Suite of Surveys

## Graduate Survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is your gender?</td>
<td>Male, Female</td>
</tr>
<tr>
<td>2. What is your age group?</td>
<td>25 or younger, 26-35, 36-45, More than 45</td>
</tr>
<tr>
<td>3. How many years ago did you graduate from this degree?</td>
<td>1, 2, 3, 4, 5</td>
</tr>
<tr>
<td>4. Were you enrolled mainly as</td>
<td>An Australian domestic student, An International student</td>
</tr>
<tr>
<td>5. Were you enrolled mainly to study</td>
<td>On campus, By Distance Education</td>
</tr>
<tr>
<td>6. Were you enrolled mainly through</td>
<td>A campus in Australia, A campus or institution outside Australia</td>
</tr>
<tr>
<td></td>
<td>Please specify:</td>
</tr>
<tr>
<td>7. Are you currently employed?</td>
<td>Yes, full-time, Yes, part-time, No</td>
</tr>
<tr>
<td>8. If you answered yes to question 7, is your current employment</td>
<td>Yes, No</td>
</tr>
<tr>
<td>specifically linked to your degree? For example, if you graduate with a</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Pharmacy, are you currently enrolled in a pharmacy-related</td>
<td></td>
</tr>
<tr>
<td>field?</td>
<td></td>
</tr>
<tr>
<td>9. If you answered yes to question 7, where are you currently employed?</td>
<td>Australia or New Zealand, Asia, Africa, North America, South America,</td>
</tr>
<tr>
<td></td>
<td>Europe</td>
</tr>
<tr>
<td>10. If you answered no to question 7, since graduation, have you</td>
<td>Yes, No</td>
</tr>
<tr>
<td>worked in an area related to this degree?</td>
<td></td>
</tr>
<tr>
<td>11. If you did a major or double major as part of this degree, what is</td>
<td></td>
</tr>
<tr>
<td>the name of the major?</td>
<td></td>
</tr>
</tbody>
</table>
12. This question is about your perceptions of the extent your degree helped you achieve specific work-related skills, attributes and personal qualities, and the importance of each to success in employment. For each of the following, please register one answer in section A and one answer in section B.

<table>
<thead>
<tr>
<th>Work-related knowledge and skills</th>
<th>A. To what extent did your experience during this degree contribute to your development in the following areas?</th>
<th>B. How important do you think each of the following is to the employment success of new graduates of this degree?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very little</td>
<td>Some</td>
</tr>
<tr>
<td>Work-related knowledge and skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing clearly and effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking clearly and effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking critically and analytically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysing quantitative problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using computers and information technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working effectively with others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning effectively on your own</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solving complex, real-world problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing a personal code of values and ethics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributing to the welfare of your community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing general industry awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding different social contexts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall work-readiness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. What were the best aspects of this degree in developing your skills for employment?

14. How could the degree be changed to improve your skills for employment?
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is your position within the organisation?</td>
<td>Executive Manager</td>
</tr>
<tr>
<td></td>
<td>Middle Manager</td>
</tr>
<tr>
<td></td>
<td>Owner of a small to medium enterprise</td>
</tr>
<tr>
<td></td>
<td>Human Resources Officer</td>
</tr>
<tr>
<td></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td>2. What type of organisation do you work in?</td>
<td>Small to medium enterprise</td>
</tr>
<tr>
<td></td>
<td>Public sector</td>
</tr>
<tr>
<td></td>
<td>Large private sector enterprise</td>
</tr>
<tr>
<td>3. Is your organisation located in</td>
<td>Australia or New Zealand</td>
</tr>
<tr>
<td></td>
<td>Asia</td>
</tr>
<tr>
<td></td>
<td>Africa</td>
</tr>
<tr>
<td></td>
<td>North America</td>
</tr>
<tr>
<td></td>
<td>South America</td>
</tr>
<tr>
<td></td>
<td>Europe</td>
</tr>
<tr>
<td>4. What sector do you work in?</td>
<td>Agriculture, Forestry and Fishing</td>
</tr>
<tr>
<td></td>
<td>Mining</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
</tr>
<tr>
<td></td>
<td>Electricity, Gas and Water supply</td>
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<tr>
<td></td>
<td>Construction</td>
</tr>
<tr>
<td></td>
<td>Wholesale Trade</td>
</tr>
<tr>
<td></td>
<td>Retail Trade</td>
</tr>
<tr>
<td></td>
<td>Accommodation, Cafes and Restaurants</td>
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<tr>
<td></td>
<td>Transport and Storage</td>
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<tr>
<td></td>
<td>Communication Services</td>
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<td></td>
<td>Finance and Insurance</td>
</tr>
<tr>
<td></td>
<td>Property and Business Services</td>
</tr>
<tr>
<td></td>
<td>Government Administration and Defence</td>
</tr>
<tr>
<td></td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>Health and Community Services</td>
</tr>
<tr>
<td></td>
<td>Cultural and Recreational Services</td>
</tr>
<tr>
<td></td>
<td>Personal and Other Services</td>
</tr>
<tr>
<td>5. What is your gender?</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Female</td>
</tr>
<tr>
<td>6. What skills, attributes and personal qualities do you consider to be the most useful for new graduates in this field?</td>
<td></td>
</tr>
<tr>
<td>7. Which (if any) skills, attributes and personal qualities of new graduate attributes would you prioritise for improvement?</td>
<td></td>
</tr>
</tbody>
</table>
8. This question is about your perceptions of new graduates’ achievement of specific work-related skills, attributes and personal qualities, and the importance of each to new graduates’ success. For each of the following, please register one answer in section A and one answer in section B.

<table>
<thead>
<tr>
<th>A. To what extent do new graduates generally demonstrate each of the following?</th>
<th>B. How important do you think each of the following is to the employment success of new graduates of this degree?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very little</td>
<td>Some</td>
</tr>
<tr>
<td>Work-related knowledge and skills</td>
<td></td>
</tr>
<tr>
<td>Writing clearly and effectively</td>
<td></td>
</tr>
<tr>
<td>Speaking clearly and effectively</td>
<td></td>
</tr>
<tr>
<td>Thinking critically and analytically</td>
<td></td>
</tr>
<tr>
<td>Analysing quantitative problems</td>
<td></td>
</tr>
<tr>
<td>Using computers and information technology</td>
<td></td>
</tr>
<tr>
<td>Working effectively with others</td>
<td></td>
</tr>
<tr>
<td>Learning effectively on your own</td>
<td></td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td></td>
</tr>
<tr>
<td>Solving complex, real-world problems</td>
<td></td>
</tr>
<tr>
<td>Developing a personal code of values and ethics</td>
<td></td>
</tr>
<tr>
<td>Contributing to the welfare of your community</td>
<td></td>
</tr>
<tr>
<td>Developing general industry awareness</td>
<td></td>
</tr>
<tr>
<td>Understanding different social contexts</td>
<td></td>
</tr>
<tr>
<td>Overall work-readiness</td>
<td></td>
</tr>
</tbody>
</table>

9. What skills, attributes and personal qualities do you consider to be the most useful for new graduates in this field?

10. Which (if any) skills, attributes and personal qualities of new graduates would you prioritise for improvement?
## Teaching Team Survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
</table>
| 1. Are you employed on a                                                | Full-time continuing contract  
Full-time fixed term contract  
Part-time continuing contract  
Part-time fixed term contract  
Sessional/casual contract                                                                 |
| 2. How many years have you been teaching at university?                 | 3 years or less  
Between 4 and 7 years  
More than 7 years                                                                 |
| 3. How extensive is your experience in industries related to this degree? | More extensive (during my career, I have been a full-time or part-time worker, researcher or consultant in industries related to this degree for more than 5 years)  
Moderately extensive (during my career, I have been a full-time or part-time worker, researcher or consultant in industries related to this degree between 1 and 5 years)  
Less extensive (during my career, I have been a full-time or part-time worker, researcher or consultant in industries related to this degree for less than 1 year) |
| 4. How recently have you been a full-time or part-time worker, researcher or consultant in industries related to this degree? | More recently (my most recent experience was in the past year)  
Moderately recently (my most recent experience was between 2 and 5 years ago)  
Less recently (my most recent experience was between 6 and 10 years ago) |
| 5. What do you see as the main incentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities? |                                                                                                                                                  |
| 6. What do you see as the main disincentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities? |                                                                                                                                                  |
| 7. What do you see as your role in assisting students to develop these attributes, skills and personal qualities? |                                                                                                                                                  |
| 8. What is your gender?                                                 | Male  
Female                                                                                                                                 |

336
9. This question is about your perceptions of new graduates’ achievement of specific work-related skills, attributes and personal qualities, and the importance of each to new graduates’ success. For each of the following, please register one answer for section A and one answer for section B.

<table>
<thead>
<tr>
<th></th>
<th>A. To what extent do new graduates generally demonstrate each of the following?</th>
<th>B. How important do you think each of the following is to the employment success of new graduates of this degree?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very little</td>
<td>Some</td>
</tr>
<tr>
<td>Work-related knowledge and skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing clearly and effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking clearly and effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking critically and analytically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysing quantitative problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using computers and information technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working effectively with others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning effectively on your own</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solving complex, real-world problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing a personal code of values and ethics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributing to the welfare of your community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing general industry awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding different social contexts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall work-readiness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This question is about your confidence in teaching and assessing specific work-related skills, attributes and personal qualities. For each of the following, please register one answer in Section A and one answer in Section B.

<table>
<thead>
<tr>
<th>Work-related knowledge and skills</th>
<th>A. How confident are you in teaching each of the following?</th>
<th>B. How confident are you in assessing each of the following?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very little confidence</td>
<td>Some confidence</td>
</tr>
<tr>
<td>Writing clearly and effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking clearly and effectively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking critically and analytically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysing quantitative problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using computers and information technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working effectively with others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning effectively on your own</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solving complex, real-world problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing a personal code of values and ethics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributing to the welfare of your community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing general industry awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding different social contexts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall work-readiness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. What do you see as the main incentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?

12. What do you see as the main disincentives for teaching staff to assist students to develop work-related skills, attributes and personal qualities?

13. What do you see as your role in assisting students to develop these attributes, skills and personal qualities?

14. What sort of staff development opportunities would increase your confidence to teach and assess work-related skills, attributes and personal qualities?
### Graduate demographics: CE

<table>
<thead>
<tr>
<th>Question</th>
<th>Possible Responses</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>22</td>
<td>68.8%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>10</td>
<td>31.3%</td>
</tr>
<tr>
<td>Age</td>
<td>25 or younger</td>
<td>17</td>
<td>53.1%</td>
</tr>
<tr>
<td></td>
<td>26-35</td>
<td>15</td>
<td>46.9%</td>
</tr>
<tr>
<td></td>
<td>36-45</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>45 or older</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Years since graduation</td>
<td>1</td>
<td>7</td>
<td>21.9%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>18.8%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>6</td>
<td>18.8%</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>6</td>
<td>18.8%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>7</td>
<td>21.9%</td>
</tr>
<tr>
<td>Enrolled mainly as</td>
<td>Australian domestic student</td>
<td>16</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>International student</td>
<td>16</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Enrolled mainly to study</td>
<td>On campus</td>
<td>31</td>
<td>96.9%</td>
</tr>
<tr>
<td></td>
<td>By Distance Education or online</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>1</td>
<td>3.1%</td>
</tr>
<tr>
<td>Enrolled mainly through</td>
<td>Campus in Australia</td>
<td>20</td>
<td>62.5%</td>
</tr>
<tr>
<td></td>
<td>Campus/institution outside Australia</td>
<td>12</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Not employed</td>
<td>8</td>
<td>25.0%</td>
</tr>
<tr>
<td>Total Respondents</td>
<td></td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>
### Employer Demographics: CE

<table>
<thead>
<tr>
<th>Question</th>
<th>Possible responses</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position in organisation</strong></td>
<td>Executive Manager</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Middle Manager</td>
<td>4</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Owner of a small-medium enterprise</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Human Resources Officer</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Type of organisation</strong></td>
<td>Small-medium enterprise</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Public sector</td>
<td>2</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>Large private sector enterprise</td>
<td>2</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Organisation located in</strong></td>
<td>Australia or New Zealand</td>
<td>4</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Asia</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Africa</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>North America</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Europe</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td>Accommodation, Cafes and Restaurants</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Agriculture, Forestry and Fishing</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Communication Services</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Cultural and Recreational Services</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Electricity, Gas and Water supply</td>
<td>3</td>
<td>75.0%</td>
</tr>
<tr>
<td></td>
<td>Finance and Insurance</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Government Administration and Defence</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Health and Community Services</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Manufacturing</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Mining</td>
<td>1</td>
<td>25.0%</td>
</tr>
<tr>
<td></td>
<td>Personal and Other Services</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Property and Business Services</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Retail Trade</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Transport and Storage</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Wholesale Trade</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>Male</td>
<td>3</td>
<td>75.0%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>1</td>
<td>25.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
### Teaching Staff Demographics: CE

<table>
<thead>
<tr>
<th>Question</th>
<th>Possible responses</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of contract</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time continuing contract</td>
<td>2</td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>Part-time continuing contract</td>
<td>0</td>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td>Full-time fixed contract</td>
<td>3</td>
<td></td>
<td>50.0%</td>
</tr>
<tr>
<td>Part-time fixed contract</td>
<td>1</td>
<td></td>
<td>16.7%</td>
</tr>
<tr>
<td>Sessional/casual contract</td>
<td>0</td>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td>Years teaching at university</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 years or less</td>
<td>3</td>
<td></td>
<td>50.0%</td>
</tr>
<tr>
<td>Between 4 and 7</td>
<td>1</td>
<td></td>
<td>16.7%</td>
</tr>
<tr>
<td>More than 7</td>
<td>2</td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>Extent of industry experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More extensive</td>
<td>4</td>
<td></td>
<td>66.7%</td>
</tr>
<tr>
<td>Moderately extensive</td>
<td>2</td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>Less extensive</td>
<td>0</td>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td>Recency of industry experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More recently</td>
<td>3</td>
<td></td>
<td>50.0%</td>
</tr>
<tr>
<td>Moderately recently</td>
<td>2</td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>Less recently</td>
<td>1</td>
<td></td>
<td>16.7%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>5</td>
<td></td>
<td>83.3%</td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td></td>
<td>16.7%</td>
</tr>
<tr>
<td>Total Respondents</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX G: Graduate Employability Indicator Survey: Demographic of OT Respondents

### Graduate Demographics: OT

<table>
<thead>
<tr>
<th>Question</th>
<th>Possible Responses</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td>92.3%</td>
</tr>
<tr>
<td>Age</td>
<td>25 or younger</td>
<td>17</td>
<td>65.4%</td>
</tr>
<tr>
<td></td>
<td>26-35</td>
<td>8</td>
<td>30.8%</td>
</tr>
<tr>
<td></td>
<td>36-45</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>45 or older</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>Years since graduation</td>
<td>1</td>
<td>7</td>
<td>26.9%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>30.8%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
<td>15.4%</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>19.2%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td>Enrolled mainly as</td>
<td>Australian domestic student</td>
<td>23</td>
<td>88.5%</td>
</tr>
<tr>
<td></td>
<td>International student</td>
<td>3</td>
<td>11.5%</td>
</tr>
<tr>
<td>Enrolled mainly to study</td>
<td>On campus</td>
<td>26</td>
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</tr>
<tr>
<td></td>
<td>By Distance Education or online</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Enrolled mainly through</td>
<td>Campus in Australia</td>
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<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Campus/institution outside Australia</td>
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<td>17</td>
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</tr>
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<td>17</td>
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<tr>
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</tr>
<tr>
<td></td>
<td>Asia</td>
<td>2</td>
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</tr>
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<td>Africa</td>
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<td>0.0%</td>
</tr>
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<td></td>
<td>North America</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td>0</td>
<td>0.0%</td>
</tr>
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<td></td>
<td>Europe</td>
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<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>No answer</td>
<td>7</td>
<td>NA</td>
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<tr>
<td>If not employed, ever worked in an area related to this degree? (percentage relates only to number who indicated they were not employed in previous question)</td>
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<td>6</td>
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**Employer demographics: OT**

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<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td><strong>Position in organisation</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Executive Manager</td>
<td>1</td>
<td>2.8%</td>
<td></td>
</tr>
<tr>
<td>Middle Manager</td>
<td>22</td>
<td>61.1%</td>
<td></td>
</tr>
<tr>
<td>Owner of a small-medium enterprise</td>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>Human Resources Officer</td>
<td>0</td>
<td>0.0%</td>
<td></td>
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<tr>
<td>Other</td>
<td>13</td>
<td>36.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Type of organisation</strong></td>
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<tr>
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<td>2</td>
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<tr>
<td>Large private sector enterprise</td>
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</tr>
<tr>
<td><strong>Organisation located in</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Australia or New Zealand</td>
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<td>0.0%</td>
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</tr>
<tr>
<td>Africa</td>
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<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>0</td>
<td>0.0%</td>
<td></td>
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<tr>
<td>South America</td>
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<td>0.0%</td>
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<td>Europe</td>
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<td><strong>Sector</strong></td>
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<td>Agriculture, Forestry and Fishing</td>
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<td>0.0%</td>
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<td>Electricity, Gas and Water supply</td>
<td>0</td>
<td>0.0%</td>
<td></td>
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<td>Construction</td>
<td>0</td>
<td>0.0%</td>
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<td>Wholesale Trade</td>
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<td>Retail Trade</td>
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<td>0.0%</td>
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<td>Accommodation, Cafes and Restaurants</td>
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<td>0.0%</td>
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<tr>
<td>Transport and Storage</td>
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<td>0.0%</td>
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<td>Communication Services</td>
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<td>0.0%</td>
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<tr>
<td>Finance and Insurance</td>
<td>0</td>
<td>0.0%</td>
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</tr>
<tr>
<td>Property and Business Services</td>
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<td>0.0%</td>
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<tr>
<td>Government Administration and Defence</td>
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<td>Education</td>
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<td>Cultural and Recreational Services</td>
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<tr>
<td>Personal and Other Services</td>
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<td>0.0%</td>
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</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>11.0%</td>
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<tr>
<td>Female</td>
<td>32</td>
<td>89.0%</td>
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### Teaching Staff Demographics: OT

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<th>N</th>
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<tbody>
<tr>
<td><strong>Type of contract</strong></td>
<td>Full-time continuing contract</td>
<td>11</td>
<td>64.7%</td>
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<tr>
<td></td>
<td>Part-time continuing contract</td>
<td>4</td>
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<tr>
<td></td>
<td>Full-time fixed contract</td>
<td>1</td>
<td>5.9%</td>
</tr>
<tr>
<td></td>
<td>Part-time fixed contract</td>
<td>1</td>
<td>5.9%</td>
</tr>
<tr>
<td></td>
<td>Sessional/casual contract</td>
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<td>0</td>
</tr>
<tr>
<td><strong>Years teaching at university</strong></td>
<td>3 years or less</td>
<td>4</td>
<td>23.5%</td>
</tr>
<tr>
<td></td>
<td>Between 4 and 7</td>
<td>6</td>
<td>35.3%</td>
</tr>
<tr>
<td></td>
<td>More than 7</td>
<td>7</td>
<td>41.2%</td>
</tr>
<tr>
<td><strong>Extent of industry experience</strong></td>
<td>More extensive</td>
<td>16</td>
<td>94.1%</td>
</tr>
<tr>
<td></td>
<td>Moderately extensive</td>
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<td></td>
<td>Less extensive</td>
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<td>More recently</td>
<td>13</td>
<td>76.6%</td>
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<td>Moderately recently</td>
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</tr>
<tr>
<td></td>
<td>Less recently</td>
<td>2</td>
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### Graduate Demographics: PE

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<tr>
<td></td>
<td>Female</td>
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</tr>
<tr>
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<td>No answer</td>
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<tr>
<td><strong>Age</strong></td>
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<tr>
<td></td>
<td>26-35</td>
<td>9</td>
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<td></td>
<td>36-45</td>
<td>12</td>
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<td>45 or older</td>
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</tr>
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<td><strong>Years since graduation</strong></td>
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<td></td>
<td>2</td>
<td>6</td>
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<tr>
<td></td>
<td>3</td>
<td>2</td>
<td>6.7%</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td>3.3%</td>
</tr>
<tr>
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<td>Australian domestic student</td>
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<td></td>
<td>International student</td>
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</tr>
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<td>3.3%</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
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<td>No answer</td>
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<td>3.3%</td>
</tr>
<tr>
<td><strong>Enrolled mainly through</strong></td>
<td>Campus in Australia</td>
<td>29</td>
<td>96.7%</td>
</tr>
<tr>
<td></td>
<td>Campus/institution outside Australia</td>
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<td>3.3%</td>
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<td></td>
<td>Part-time</td>
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</tr>
<tr>
<td></td>
<td>Not employed</td>
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<td>20.0%</td>
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<tr>
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<td>No answer</td>
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<tr>
<td>If employed, employment is related to this degree (percentage relates only to number who indicated they were employed in previous question)</td>
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<td>23</td>
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<tr>
<td>If employed, where? (percentage relates only to number who indicated they were employed in previous question)</td>
<td>Australia or New Zealand</td>
<td>24</td>
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</tr>
<tr>
<td></td>
<td>Asia</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Africa</td>
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<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>North America</td>
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<td>0.0%</td>
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<td></td>
<td>South America</td>
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<tr>
<td></td>
<td>Europe</td>
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<tr>
<td></td>
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<td>6</td>
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<tr>
<td>If not employed, ever worked in an area related to this degree? (percentage relates only to number who indicated they were not employed in previous question)</td>
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### Employer Demographics: PE

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<tr>
<td><strong>Position in organisation</strong></td>
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<td></td>
</tr>
<tr>
<td>Executive Manager</td>
<td>3</td>
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</tr>
<tr>
<td>Middle Manager</td>
<td>1</td>
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<tr>
<td>Owner of a small-medium enterprise</td>
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<td>0.0%</td>
</tr>
<tr>
<td>Human Resources Officer</td>
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<tr>
<td>Public sector</td>
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<td>8</td>
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<tr>
<td>Large private sector enterprise</td>
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<td>0.0%</td>
</tr>
<tr>
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<td>0</td>
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<td>0.0%</td>
</tr>
<tr>
<td><strong>Organisation located in</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Australia or New Zealand</td>
<td>10</td>
<td>10</td>
<td>100.0%</td>
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<tr>
<td>Asia</td>
<td>0</td>
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</tr>
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<td>Africa</td>
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<td>0.0%</td>
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<td>0.0%</td>
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<tr>
<td>Communication Services</td>
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<td>0</td>
<td>0.0%</td>
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<tr>
<td>Construction</td>
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<td>0.0%</td>
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<tr>
<td>Cultural and Recreational Services</td>
<td>0</td>
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<td>Education</td>
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<td>Electricity, Gas and Water supply</td>
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<td>Government Administration and Defence</td>
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<td>Health and Community Services</td>
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<td>Mining</td>
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<td>Personal and Other Services</td>
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<td>Wholesale Trade</td>
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<td>2</td>
<td>20.0%</td>
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<tr>
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<td>8</td>
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<td><strong>Total Respondents</strong></td>
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### Teaching Staff Demographics: PE

<table>
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<th>Question</th>
<th>Possible responses</th>
<th>n</th>
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<tr>
<td><strong>Type of contract</strong></td>
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<tr>
<td>Full-time continuing contract</td>
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<td></td>
</tr>
<tr>
<td>Part-time continuing contract</td>
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<td>0.0%</td>
<td></td>
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<tr>
<td>Full-time fixed contract</td>
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<td>33.3%</td>
<td></td>
</tr>
<tr>
<td>Part-time fixed contract</td>
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<td>0.0%</td>
<td></td>
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<tr>
<td>Sessional/casual contract</td>
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<td>44.4%</td>
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<tr>
<td><strong>Years teaching at university</strong></td>
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</tr>
<tr>
<td>3 years or less</td>
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</tr>
<tr>
<td>Between 4 and 7</td>
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<td>22.2%</td>
<td></td>
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<td>More than 7</td>
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<tr>
<td><strong>Extent of industry experience</strong></td>
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<td>Less extensive</td>
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<td>0.0%</td>
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<tr>
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<td>0</td>
<td>0.0%</td>
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<tr>
<td><strong>Recency of industry experience</strong></td>
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<td></td>
<td></td>
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<tr>
<td>More recently</td>
<td>3</td>
<td>33.3%</td>
<td></td>
</tr>
<tr>
<td>Moderately recently</td>
<td>4</td>
<td>44.4%</td>
<td></td>
</tr>
<tr>
<td>Less recently</td>
<td>2</td>
<td>22.2%</td>
<td></td>
</tr>
<tr>
<td>No answer</td>
<td>0</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>22.2%</td>
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<tr>
<td>Female</td>
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<td>66.7%</td>
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</tr>
<tr>
<td>No answer</td>
<td>1</td>
<td>11.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
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</tr>
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</table>
APPENDIX I: Individual and Focus Group Student Interview Questions

1. What is your primary reason for studying a university degree?

2. What do you perceive as the strengths of the course you are studying?

3. What do you think are the gaps in the course content and experience?

4. Is the overall course experience to date relevant to your employment and future career development?

5. How do you think the course meets the needs of your intended profession?

6. Do you think the course is preparing you for the demands of future employment?

7. Is the assessment in the course authentic and relevant?

8. In your view, how could the course experience be enhanced?

9. How do you think your sense of self-efficacy and self-identity contributes to your effectiveness in the workplace?

10. Does the course contribute to building a strong sense of professional identity? If so, how?

11. What is the role of the professional accrediting body?
APPENDIX J: Employer and professional body representative interview questions

Employers

1. What do you consider to be important employee attributes (skills and knowledge) in the Primary Education profession?

2. From your perspective, what are the strengths and skill gaps in University Primary Education Graduates?

3. How important are practical work-based experiences (authentic learning experiences) in ensuring quality graduates?

4. What is the role of the:
   a. University in ensuring quality work-based experiences for students?
   b. Employers/professional setting in ensuring quality work-based experiences for students?

5. What are the important components of a university education/role of a University?

6. How can a university and industry work collaboratively to facilitate a quality student experience and result in skilled graduates prepared for the work force?

7. In your profession, what are the important elements of professional identity? What are the important components of the student experience which may facilitate the emergence of professional identity?

8. Describe the recruitment process of your organisation.
**Professional Accreditation Bodies**

1. What do you perceive as the role of [Professional body] in ensuring quality graduates?

2. Describe the relationship/partnership between university and [Professional Body].

3. What do you consider to be important attributes in university graduates to ensure work readiness?

4. What do you consider are the strengths and skill gaps in university graduates?

5. How could university curriculum be improved to enhance graduate employability?

6. What do you perceive as industry’s role in preparing university students for future employment?

7. Describe the connection between discipline knowledge and employability capabilities. How can this connection be incorporated into a university curriculum?

8. What are some of the challenges in providing authentic learning experiences and assessments from an industry perspective?

9. How important is a Professional Identity (self-efficacy and self-identity) to success in the workplace?

10. How can universities and industry work collaboratively to facilitate a quality student experience resulting in skilled graduates prepared for the work force?

11. Suggest some strategies for improving a university education and enhancing graduate employability/outcomes.
APPENDIX K : University Teaching Staff Interview Questions

1. What do you consider to be important attributes in university graduates?

2. What do you consider are the strengths and gaps in university curriculum?

3. Describe the skills and knowledge university curriculum should address.

4. Describe the skills and knowledge essential for employable graduates.

5. How could university curriculum be improved to enhance the student experience?

6. What do you perceive as industry’s role in preparing university students for future employment?

7. Describe the connection between discipline knowledge and employability capabilities. How can this connection be incorporated into a university curriculum?

8. How important are practical, authentic learning experiences which reflect the workplace, to student outcomes and overall experience?

9. What are some of the challenges in providing authentic learning experiences and assessments?

10. How important is self-efficacy and self-identity to success at university?

11. How can a university staff and industry representatives work collaboratively to facilitate a quality student experience and result in skilled graduates prepared for the work force?

12. Suggest some strategies for improving a university education and enhancing student outcomes.

13. Describe the role of the professional accrediting body and the enablers and barriers it presents in designing and implementing curriculum.

14. Do you feel confident in teaching and assessing the professional capabilities required of OT students?
Project title: Developing a professional identity: work-integrated learning as a mechanism for enhancing professional capacity

Dear Participants,

My name is Sonia Ferns. I am a student in the Doctor of Philosophy at The University of Western Australia (UWA). You are invited to attend a focus group of 45 minutes duration at a mutually convenient time to discuss your perceptions of the impact of your university experience on professional identity and graduate employability.

Purpose of the Research

Emphasis on graduate employability to ensure sustained economic and knowledge growth for Australia is gaining momentum in the higher education sector. The expectation is for universities to prepare graduates for the global economy through capacity building and authentic learning experiences. Developing curricula which incorporates work-integrated learning (WIL) is seen as a mechanism for nurturing employability skills thereby optimising the student experience and increasing the likelihood of securing employment through the establishment of industry networks and acquisition of employability capabilities. WIL has significant benefits for students. However, employers continue to express dissatisfaction with the quality of university graduates and their capacity to fulfil the requirements of an entry level professional. This study explores the variables that impact on employability outcomes for university graduates.

Consent to Participate

Your involvement in the research is entirely voluntary. You have the right to withdraw at any stage without it affecting your rights or my responsibilities. By signing the consent form, your agreement to participate and allow me to use your data in this research will be assumed. Results from this study may be published in scholarly journals or presented at conferences.

Confidentiality

The information you provide will be kept separate from your personal details and only myself and my supervisor will have access. The interview or focus group transcript will not contain your name or any other identifying information and in adherence to university policy, the interview tapes and transcribed information will be kept in a locked cabinet for at least five years at which time a decision will be made as to whether it should be destroyed.
Further information

This research has clearance from the Human Research Ethics Committee (approval reference: RA/4/1/7288). Should you have any enquiries regarding the ethics of this research, you may contact Sonia Ferns on 92662435 or S.Ferns@curtin.edu.au or Vaille Dawson on 6488 2470 or Vaille.Dawson@uwa.edu.au

Thank you for your involvement in this research. Your participation is greatly appreciated.
APPENDIX M : Participant Consent Form

CONSENT FORM

Project title: Developing a professional identity: work-integrated learning as a mechanism for enhancing professional capacity

- I understand the purpose and procedures of the study.

- I have been provided with the participation information sheet.

- I understand that the procedure itself may not benefit me.

- I understand that my involvement is voluntary and I can withdraw at any time without problem.

- I understand that no personal identifying information such as my name and address will be used in any published materials.

- I understand that all information will be securely stored for at least 5 years before a decision is made as to whether it should be destroyed or not.

- I have been given the opportunity to ask questions about this research.

- I agree to participate in the study outlined to me.

Name: ____________________________________________________________

Signature: __________________________________________________________

Date: __________________________
Figure N1: Comparison of CE employer perceptions (n=4) of the extent the degree experience contributed to capability development with the importance of those capabilities

Figure N2: Comparison of CE staff perceptions (n=6) of the extent the degree experience contributed to capability development with the importance of those capabilities
Figure N3: Comparison of CE staff confidence (n=6) in teaching and assessing each capability
APPENDIX O : Gaps in Skill Development Identified in Interviews (Cross-case Analysis)

<table>
<thead>
<tr>
<th>Skill/Attribute</th>
<th>Chemical Engineering (CE)</th>
<th>Occupational Therapy (OT)</th>
<th>Primary Education (PE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration and networking</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Technical skills</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Ability to work with diversity/ambiguity</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Career development</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Professional skills</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reflective practice</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Resilience</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Inter-disciplinary practice</td>
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<td></td>
<td>✓</td>
</tr>
<tr>
<td>Application of theory to practice</td>
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<td></td>
<td>✓</td>
</tr>
<tr>
<td>Conflict negotiation</td>
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<td></td>
<td>✓</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Personal values and beliefs</td>
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<td>✓</td>
</tr>
<tr>
<td>Interpersonal skills</td>
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<tr>
<td>Global employability</td>
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## APPENDIX P: Comparison of Overall Satisfaction with Course Assessment Profiles

### Table P1

*Comparison of Overall Satisfaction with Course Assessment Profiles*

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Weighting of knowledge recall assessments</th>
<th>Weighting of assessments with industry involvement</th>
<th>Description of Workplace assessments</th>
<th>Weighted mean: Overall satisfaction (CEQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering (CE)</td>
<td>55.0</td>
<td>3.7</td>
<td>10 week placement, not assessed.</td>
<td>65.51</td>
</tr>
<tr>
<td>Occupational Therapy (OT)</td>
<td>27.7</td>
<td>39.0</td>
<td>Frequent engagement with the workplace across 2nd and 3rd year. Placement throughout most of 4th year. Assessed but not weighted.</td>
<td>92.72</td>
</tr>
<tr>
<td>Primary Education (PE)</td>
<td>11.7</td>
<td>18.0</td>
<td>Three practical placements, 2nd year, 3rd year and 10 week internship in 4th year. Assessed but not weighted.</td>
<td>71.73</td>
</tr>
</tbody>
</table>

### Figure P1: Comparison of overall satisfaction with course assessment profiles
APPENDIX Q: ‘WIL Partnerships for Employability Framework’

INSTITUTIONAL LEADERS
- Support staff
- Develop policies and procedures that encourages engagement and partnerships
- Rethink workforce structure
- Enable flexibility in course administration
- Invest in developing staff and building capacity
- Maintain connection with Alumni
- Evaluate and monitor partnership arrangements

PROFESSIONAL ACCREDITATION BODIES
- Maintain profile of profession
- Co-design curriculum and assessment
- Facilitate partnership arrangements
- Provide and promote mentoring for students
- Consult broadly re professional standards and competencies
- Create networking opportunities for students
- Engage with students throughout their studies
- Support workplace transition for graduates
- Evaluate and monitor partnership arrangements

GRADUATES
- Stay connected
- Strengthen industry connections
- Mentor staff and students
- Co-design curriculum and assessment
- Evaluate and monitor partnership arrangements

STUDENTS
- Take responsibility for their learning
- Co-create networking opportunities
- Create a strong digital presence to showcase skills
- Be motivated and enthusiastic
- Commit to lifelong learning
- Co-design curriculum and assessment
- Evaluate and monitor partnership arrangements

UNIVERSITY STAFF
- Lead curriculum renewal
- Provide student feedback
- Oversee governance processes
- Maintain industry currency
- Develop innovative assessment profiles
- Connect with Alumni
- Adopt an evidence-based approach
- Provide clear standards and expectations for students
- Evaluate and monitor partnership arrangements

EMPLOYERS
- Co-design curriculum and assessment
- Provide student feedback
- Promote profile of profession
- Provide workplace learning for students
- Active engagement in students’ learning
- Support graduates in workplace transition
- Provide ongoing mentoring for new employees
- Evaluate and monitor partnership arrangements

Characteristics of Partnerships:
- Based on trust
- Streamlined and open communication
- Reciprocal and tangible outcomes
- Balance of autonomy and support
- Clear roles and responsibilities
- Regular evaluation and refinement
- Consultative and collaborative
- Shared vision and agreed goals

Benefits for stakeholders:
- Builds social capital
- Maintains contemporary knowledge and skills
- Co-branding opportunities
- Creates research opportunities
- Improves graduate employability
- Provides social and professional networks
- Builds capacity
- Motivates and engages
- Enhances professional identity
- Promotes lifelong learning
- Promotes economic productivity
- Encourages lifelong learning
- Clarifies roles and expectations

Figure Q1: WIL Partnerships for Employability Framework