Graduate Employability 2.0
Enhancing the connectedness of learners, programs and higher education institutions

Final report March 2018 Draft

NB. this draft report will be updated and finalised once phase 4 activities are complete (mid-2019)

National Senior Teaching Fellowship: ‘Graduate Employability 2.0: Digital capabilities for lifelong career development’

Queensland University of Technology
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While my name alone is on the front page of this report, this Australian Government Office for Learning and Teaching (OLT)\(^1\) National Senior Teaching Fellowship has actually drawn extensively upon the expertise of others, and I wish to acknowledge their contributions to the fellowship’s successes. Any mishaps and errors along the way were entirely mine. I would like to thank:

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\(^1\) The OLT ceased on 30 June 2016. The Australian Government Department of Education and Training continued to support the Fellowships Program.
List of acronyms

GE2.0: Graduate Employability 2.0
OLT: Office for Learning and Teaching
QUT: Queensland University of Technology
WAND: West Australian Network for Dissemination
WIL: Work-integrated learning

Glossary

**Connectedness**: the state of being linked with others via digital and/or analogue means. In the context of Graduate Employability 2.0 (GE2.0), connectedness pertains specifically to professional and career-related links with others, including those that are important to career development, problem-solving and innovation, and lifelong learning.

**Connectedness learning**: a range of capabilities, learning and teaching approaches, and enabling strategies that foster the development of connectedness and social network capabilities.

**Design thinking**: a human-centred, iterative, non-linear approach to idea generation and refinement commonly used by professional designers and now also used in many other disciplines.

**Graduate Employability 2.0**: an overarching approach to graduate employability that emphasises the relational and networked dimensions of learning, work and career.

**Mind hive**: a network of people with expertise and interest in a topic area, from whom ideas and feedback can be crowdsourced, and from which communities of practice and enquiry can grow.

**Program**: a coherent sequence of educational activities, whether associated with a formal award (e.g., a degree) or not.

**Social media**: computer-mediated technologies that allow for the creation and sharing of information, ideas, interests and other forms of expression via virtual communities and networks.

**Social network capabilities**: the skills and knowledge required to build, maintain and use personal and professional relationships with others for mutual work or career benefit.

**Strong ties**: high trust, reciprocal, multidimensional relationships associated with high interaction frequency, long relationship tenure and high investment of resources such as time and energy (e.g., friends, close colleagues).

**Weak ties**: low frequency and intensity, usually single-dimensional relationships associated with lower investment of resources (e.g., social media followers, acquaintances).
Executive summary

This fellowship, *Graduate Employability 2.0*, set out to support the Australian higher education sector to foster learners’ capabilities to capitalise upon the affordances of digital and analogue social networks for professional and career development. By recognising the centrality of social relationships to all aspects of learning and work in the networked economy and society (Bridgstock, 2016), the fellowship sought to take a different and complementary approach to graduate employability rather than the ‘individual skills development’ approach currently dominant in higher education. The fellowship established empirically the opportunity for connectedness learning in higher education—it asked which learning and teaching approaches are best suited to fostering these capabilities and networks, and which fundamental institutional-enabling strategies are required to support better networked learning and teaching. It also engaged with learning stakeholders across the higher education sector in Australia to increase understanding and adoption of connectedness learning, and provided capacity-building opportunities and resources to support this.

Fellowship activities and processes

The fellowship’s program of activities comprised three overlapping phases. **Phase 1** focused on a comprehensive literature, policy and environmental scan to establish the roles that digital and face-to-face relationships, networks and social capital play in graduate careers, and characterise current higher education practice relating to this. It also characterised the current ‘state of play’ in relation to the connectedness of learners, programs and higher education institutions through student surveys and interviews and case studies with educators, alumni and industry representatives. **Phase 2** focused on analysing and synthesising findings from phase 1, and culminated in the development of a Connectedness Learning Model, principles for connectedness, an educator’s toolkit and a range of supporting resources. **Phase 3** concentrated on disseminating and sharing of the outcomes of phases 1 and 2 across the higher education sector, and embedding connectedness learning responsively at different levels of educational practice and policy at 18 universities.

The fellowship took a ‘mind hive’, socially networked approach to participant engagement, and also to developing and refining the tools and outputs. Through digitally based crowdsourcing processes, the mind hive approach makes the most of participants’ collective expertise, enthusiasm and professional contacts by involving participants in all aspects of the fellowship and offering multiple ways for them to engage and contribute.

Research findings

The fellowship’s phase 1 research findings offered a consistent picture of student, program and university connectedness. Despite a significant body of literature demonstrating that social capital and the navigation of social networks are central to many aspects of initial and ongoing employability (Granovetter, 1973; Jackson, 2014; Seibert et al., 2001), the
professional networks of undergraduate students and early graduates tend to be embryonic at best. Further, students tend to lack confidence in their social network-related capabilities, particularly when it comes to making and growing professional connections and negotiating networked behaviour online. Connectedness learning thus remains a tacit and largely post-graduation process. Although alumni and industry representatives both emphasised the importance of social networks and social network capabilities to professional life, connectedness learning is lacking or absent in many Australian higher education programs. In turn, teachers and higher education institutions frequently experience difficulty developing effective and sustainable networks and collaborations with industry and other learning and teaching stakeholders, in part because of strongly entrenched legacy organisational structures, processes, cultures and philosophies.

**Fellowship outputs**
The fellowship’s phase 1 literature scan and analysis of research data culminated in the development of a range of outputs, all of which are available for download from the fellowship website ([http://graduateemployability2.0.com](http://graduateemployability2.0.com)):

1) **a draft prototype model of connectedness learning.** The Connectedness Learning Model summarises (i) the connectedness capabilities that individuals require to make the most of professional networks; (ii) the main learning and teaching approaches that seem to be the most effective for developing student connectedness capabilities at the present time; and (iii) the institutional-enabling strategies that help to ensure the sustainable success of connectedness initiatives, and that the university itself is well ‘networked’.

2) **eighteen principles for effective implementation of connectedness learning.** These principles form the foundation for the evaluative and reflective tools included in the fellowship’s connectedness learning toolkit for educators.

3) **the connectedness learning toolkit for educators.** The toolkit comprises (i) reflective/evaluative tools to characterise and analyse the connectedness of students and programs, (ii) action-planning tools to prioritise and strategise the development of connectedness and (iii) supporting resources (capability frameworks, case studies of practice and links to external resources and references).

**Outcomes and impact**
During phase 3, I facilitated a total of 34 face-to-face engagement activities across 18 universities, including seminars, workshops, consultations and roundtables. At the time of writing, nearly 1,200 educators have joined the connectedness learning network (‘the GE2.0 mind hive’); 460 are active users of the community of practice; 486 attended a phase 3 presentation, seminar or roundtable; and 360 have participated in a workshop, with several further workshops and engagement activities booked over the coming months.

Phase 3 participants identified many opportunities to implement the connectedness learning approach in their practice, including through curriculum design, reflective processes and strategic planning. They found value in the toolkit, including the case studies and fact sheets. The most commonly mentioned types of additional support and resourcing
needed for implementation were additional time over an extended period to work on implementation, support from senior leadership and further input from me when needed.

The fellowship has provoked change in the higher education sector. A few months after phase 3 engagement, more than eight in 10 (81.5%) participants had implemented some element or elements of connectedness learning. Another 7.7% had not yet taken action, but were intending to do so. About 70% of participants surveyed wanted to enact systemic and curricular changes to adopt connectedness learning deeply, but required more time than the 12-month fellowship period to do so.

**Further activities**

Phase 4 of the fellowship will take place in 2017–18. This phase was proposed in response to direct requests from many participants indicating that they would appreciate the opportunity to work with the fellowship’s connectedness learning toolkit over a period of time in order to embed the approach into courses and programs and evaluate its impact.

Phase 4 will involve inviting educational teams of different types from a range of higher education institutions to participate in extended work. These teams will take part in a six-month program of mentoring to embed the connectedness learning approach into their programs and organisational areas. It is anticipated that they will also become champions and mentors within their schools, faculties and institutions, and continue to disseminate the connectedness learning approach beyond their programs. The chief output of this phase will be an edited and published resource for wide distribution.
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Chapter 1: Introduction and fellowship context

In 2015, the Australian Government Office for Learning and Teaching (OLT)\(^2\) funded a National Senior Teaching Fellowship entitled Graduate Employability 2.0 (GE2.0). The fellowship explicitly sought to highlight and explore the impact of digital networks and online interconnectedness on professional life. Its overall aim was to support the Australian higher education sector in fostering learners’ capabilities to capitalise on the affordances of social networks for professional and career development.

Why Graduate Employability 2.0?

Graduate employability has increasingly become a central concern of higher education institutions. Higher education is tasked with preparing students as far as possible for the world of professional work, an enterprise that has become much more difficult in recent years due to widespread labour market uncertainty and massification of the higher education system (Tomlinson, 2012). In contrast to the previous era, in which ongoing professional work was virtually guaranteed for university-qualified individuals, contemporary graduates must be proactive and flexible, and adapt to a job market with continually shifting requirements (Clarke, 2008). Rather than seeking security in employment, graduates must now seek security in employability.

Universities work to enhance graduate employability through developing their students’ employability skills to prepare them for the challenges of gaining and maintaining employment. Indeed, for many scholars, employability has become synonymous with individual skills and capabilities. For instance, Yorke (2006) defines employability as “the skills, understandings and personal attributes that make [graduates] more likely to secure employment and be successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy” (p. 8). Employability skills are most commonly categorised into discipline-specific skills and knowledge (skills and knowledge for specific jobs), and generic/transferable skills (skills and knowledge that can be transferred from one employment context to another).

Recently, higher education scholars and teachers have begun to explore ‘learnable’ and otherwise ‘developable’ influences on graduate employability beyond disciplinary and generic skills (Vilapakkam Nagarajan & Edwards, 2014). Career self-management and career development learning represents one such set of learnable influences (Bridgstock, 2009); identity and psychological influences also fall into this category (Holmes, 2013). Another set of underexplored influences on graduate employability is social and network capital and, by extension, social network capabilities (Bridgstock, 2016).

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\(^2\) The OLT ceased on 30 June 2016. The Australian Government Department of Educatoin and Training continued to support the Fellowships Program.
There is empirical evidence of the effect social capital has on graduate career outcomes in Australia. Through logistic regression analysis of Australian National Graduate Destinations data, Jackson (2014) demonstrated that use of social network-based strategies to acquire work increased the probability of a positive graduate early-career outcome by 51%. However, my research indicates that advanced undergraduate students tend to possess nascent professional networks at best, and that on average, their social network capabilities are very underdeveloped.

At the individual level, social network capabilities are the skills and knowledge required to build, maintain and use personal and professional relationships with others for mutual work or career benefit (Forret & Dougherty, 2001). Professional relationships, networks and social capital have always been important to career success (Duncan & Dunifon, 2012; Seibert, 2001). In 2001, Seibert et al. described empirically the positive effects of social capital on career outcomes as relating to accessing career resources and information, and obtaining career sponsorship. In turn, they found that strong rather than weak ties were of value in providing information, social support and assistance. They further suggested that people should invest in weak ties to increase the level of social resources embedded in their networks, but then invest selectively in tie-strengthening as needed to increase direct career benefits (Seibert et al., 2001). This process of weak tie acquisition and selective strengthening and use for career development is commonly known as networking (de Janasz & Forret, 2008), and has been repeatedly demonstrated to have positive effects on promotions, salary, perceived employability and career satisfaction (Wolff & Moser, 2009). Forrier and Sels (2003) point out that weak ties can provide important career-enhancing insights into the labour market, such as knowledge of transition possibilities, of available jobs and the channels leading to those jobs and of mechanisms that promote transition.

In the era of GE2.0, social networks continue to have a strong impact on how careers unfold; however, the shape, functioning and use of social networks have all shifted under the influence of digital tools and social media. Digital tools mean that the reach of career development activities can be significantly larger than before. Individual branding, digital networking and platforms for online portfolios and resumes (such as LinkedIn) have become accepted, and indeed expected, ways to enhance careers (Nikitkov & Sainty, 2014; Roman, 2014), and digital networks have also become important sources of career information (Hooley, 2012). Employers and recruiters now routinely screen potential employees using social media and search engines; talent analytics-based ‘big data’ approaches to job recruitment are increasingly common (Isson & Harriott, 2016).

As many of the world’s advanced economies have shifted from industrial to innovation-based economies—that is, economies that emphasise the value of new knowledge production based on the creation of knowledge, information and innovation (e.g., Australian Government, 2015)—the roles that digital social networks play in innovation, complex problem-solving and ongoing professional learning have also been emphasised (Bridgstock,
Online modes of social, informal learning tend to take on a ‘distributed learning network’ pattern that complements face-to-face communities of practice and enquiry, where on-demand, ‘just-in-time’, quick-turnaround information and skills are obtained via social networking sites. Collective intelligence and crowdsourced approaches to learning (Leimeister, 2010) are also becoming ubiquitous.

GE2.0 explored the digital and analogue individual and collective capabilities that learners will need in order to make the most of our socially networked economy and society. It asked which learning and teaching approaches are best suited to fostering these capabilities, and which fundamental institutional-enabling strategies are required to support ‘connected’ learning and teaching. I worked with learning stakeholders across the higher education sector to increase understanding of, and engagement with, connectedness learning, and provided capacity-building opportunities and resources to support this. The fellowship also established a professional network for educators designed to enhance the sustainability of connectedness learning practices.

**Fellowship outcomes and deliverables**

GE2.0 was concerned with how higher education can support and enable students to develop social network capabilities for lifelong career development, employability and professional learning. Digital capabilities were identified in the fellowship as representing a particular opportunity for investigation and development, but through phase 1 data collection it became apparent that analogue social network capabilities were also underdeveloped among learners, teaching programs, and institutions of higher education, and that both could be tackled concurrently. Further, it became clear that for the purposes of the fellowship, a demarcation between analogue and digital networks was unhelpful and artificial. As one participant at the September GE2.0 Forum stated,

> My network is made up of the people I know. Some in my network I know very well and others not so well. Some I interact with in person, some online and some both. Learning how to interact with them in different places and on different platforms is all part of becoming a professional.

The fellowship set out to increase sectoral awareness of the importance of social network capabilities to graduate employability; increase knowledge of effective ways to develop these skills; and increase inclusion of social network capability development in higher education learning and teaching.

The specific fellowship deliverables outlined in the proposal were:

- developing, implementing and refining, through practice and enquiry, a connectedness learning ‘toolkit’, including a capability framework, strategies for curricular and co-curricular implementation, case vignettes of exemplary practice and graduate and industry exemplars, all featuring integrated industry input
- establishing an international community of practice and learning network that includes members (academic staff, careers education staff, library staff, students, graduates, professional bodies and industry representatives) who participated in the fellowship
• hosting a GE2.0 national forum comprising an extended seminar, industry panels, capacity-building workshops and intensive collaborative case study workshops
• presentations and practice-sharing panels/roundtables at a range of national/international fora
• producing formal written outputs, including interim and final reports and scholarly articles
• hosting a final national symposium that shared fellowship learnings, launched the final version of the connectedness learning toolkit and envisioned ‘where to from here?’ strategies to inform transferability and sustainability.

This final report documents how the fellowship unfolded, including the phases of activity undertaken, the key findings and outputs and the dissemination activities. It presents evidence of engagement and impact through the fellowship activities. The report concludes with a discussion of the fellowship’s broader implications and outcomes for higher education, and a preview of future endeavours for the connectedness learning approach to graduate employability.
Chapter 2: Program of activities

The fellowship’s program of activities comprised three overlapping phases (see Figure 1):

**Phase 1** was undertaken primarily between March and August 2016, and focused on (i) a comprehensive literature, policy and environmental scan relating to the roles of digital and face-to-face relationships, networks and social capital in graduate success (see Bridgstock, 2016), and current higher education practice relating to this; (ii) characterising the current ‘state of play’ in relation to the connectedness of learners, programs and universities in Australia through interviews and questionnaires; and (iii) uncovering and exploring cases of innovative and exemplary connectedness teaching practice, and also cases of recent graduates who have learned to build professional networks and make the most of their connections in various ways. Ethical clearance for all phases was obtained before any data collection was undertaken. Phase 1 activities continued throughout the fellowship as more cases were uncovered.

**Phase 2** focused on analysing and synthesising the phase 1 findings, and culminated in the development of the prototype Connectedness Learning Model, the principles for connectedness, the educator’s toolkit and the supporting resources. Prototypical versions of the model and toolkit were workshopped and refined by participants at the Connectedness Learning Forum on 16 September 2016, and through input from the GE2.0 community of practice. Phase 2 was undertaken primarily between the beginning of August 2016 and the end of September 2016, although refinements to the model and toolkit continued throughout phase 3 as subsequent iterations of workshop participants interacted with the toolkit and provided feedback.

**Phase 3** commenced in early October 2016, and nominally concluded\(^3\) in February 2017 with the final Connectedness Learning Symposium. This phase concentrated on disseminating and sharing the outcomes of phases 1 and 2 across the sector, and embedding connectedness learning at different levels of educational practice and policy at a number of

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\(^3\) Further fellowship-related activities occurred in 2017.
universities. This phase also included mechanisms for participant and community feedback and input, such that the Connectedness Learning Model, toolkit and resources were continually developed and refined throughout the fellowship program.

Phase 3, in particular, diverged from original fellowship activities proposed, although its overall outcomes and deliverables were still achieved. The proposal described working intensively with four university programs to embed connectedness into curricula. There were two reasons for this divergence: first, the timelines for the fellowship activities and the participant universities’ program development milestones proved quite different. The relatively extended and inflexible lead times in university curriculum development and approval processes meant that the fellowship timeline for curricular integration and evaluation was not workable. Second, the findings from phase 1 indicated that a multi-level, multi-program and multi-stakeholder approach to embedding connectedness was preferable. This approach would ideally involve curricular, co-curricular and pedagogic interventions and also, critically, supporting institutional structural, process and policy changes. An intensive curriculum-embedding phase will now occur, albeit in a different way, in phase 4 (‘connectedness learning mentoring’), discussed in Chapter 5.

In consultation with the fellowship’s critical friends and network, I planned and embarked on a nationwide ‘roadshow’, visiting 18 universities and working responsively with stakeholders at different levels and in different ways at each university to help them enhance connectedness learning in their institutional and programmatic contexts. In doing this, I took an authentic ‘networked approach’ to phase 3. I prepared a range of connectedness learning workshop, consultation and seminar materials, and negotiated with contacts at each university to develop and deliver a program that suited their target participants and institutional needs. At some institutions, I met with senior staff for policy consultations; at others I facilitated practical workshops with frontline staff and curricular/co-curricular program leaders; I provided support and advice to educators who were leading initiatives in various kinds of connectedness learning; and I presented seminars and keynote speeches to wide audiences. At each institution, I worked to identify and promote connectedness learning champions, and to foster the development of a connectedness community of practice that would link with others and progress the agenda within that institution.

The culmination of phase 3 was the Graduate Employability 2.0 Symposium, held on 10 February 2017 at Queensland University’s (QUT) Kelvin Grove campus. The symposium was an opportunity to share the fellowship’s outputs and achievements, discuss with participants where the fellowship’s work might extend beyond its funded life and to test and refine the ideas for phase 4 in 2017–18 (see Chapter 5 for details of phase 4).
An integrated approach to activities

Despite this chapter’s phased presentation of the fellowship activities, the fellowship took an integrated approach to development, stakeholder engagement, dissemination and evaluation. While each phase had a distinctive emphasis, all fellowship activities contributed to developing and refining the Connectedness Learning Model, the 18 connectedness principles and the educators’ toolkit; all activities were also opportunities for engagement, dissemination and evaluation. I continue to receive invitations to disseminate fellowship findings and facilitate engagement activities, and am accommodating these as best I can.

Making the most of social networks: The ‘mind hive’ approach

The fellowship sought to harness the power of social networks in a continuous, integrated cycle of development, engagement and evaluation. I refer to this as the ‘mind hive’ approach, as opposed to a ‘hive mind’ approach, which has become synonymous with uncritical group thinking and conformity. The mind hive makes the most of participants’ collective expertise, enthusiasm and professional contacts, while embracing the diversity of the network. Participants from early phases were folded into later phases. For example, some interviewees from phase 1 became case studies, and then shared their cases at the forum; interviewees and forum participants became institutional contacts in phase 3, and championed the fellowship and its implementation in their home institutions in different ways. In turn, phase 3 participants workshoped, tested and provided ongoing feedback on the model, tools and resources. Key to the mind hive approach was using a master email contact list, regularly sending participants email updates, developing a fellowship website with a blog and participant forum and, most importantly, maintaining significant and ongoing personal contact and conversations.
Chapter 3: Fellowship findings and outputs

The fellowship data collection, largely undertaken during phase 1 between March and August 2016, comprised:

- One hundred and ninety-two student questionnaires
- Fifty-one interviews with higher education staff
- Thirteen interviews with graduates of humanities, arts and social sciences programs
- Seven interviews with industry representatives and recruiters
- Twenty-five brief case studies of exemplary practice.

Outputs included:

- A Connectedness Learning Model comprising capabilities, learning and teaching approaches and institutional-enabling strategies for connectedness
- Eighteen principles for effective connectedness learning
- A toolkit for educators, comprising individual and group evaluative and action-planning tools, supporting resources and exemplary practice cases.

Student questionnaires

The first piece of empirical work within the fellowship sought to characterise and benchmark the professional connectedness and connectedness capabilities of current undergraduate students. A total of 192 second- and third-year undergraduate students from multiple disciplines across two Australian universities were surveyed in a two-week period in April 2016, with a response rate of 9.6% (based on 2,000 invitations to participate). Based on previous literature, including my own research into individual professional social network and connectedness capability (Benson, Morgan, & Filippaios, 2014; Bridgstock, 2016; Lancaster, 2014), questions addressed the following topics:

- Professional connectedness (including the extent of the students’ professional connections, and their use of these connections)
- Connectedness capabilities (including digital and face-to-face social and network-based capabilities for career development, innovation and complex problem-solving, and professional learning)
- The extent to which, and ways in which, connectedness capabilities and pedagogies were included in the students’ university learning experiences, and where else they had developed professional connectedness and connectedness capabilities.

4 The questionnaire data collection stayed open beyond April 2016, and active recruitment (including text message reminders) continued until October 2016. By this time, a total of 455 participants had responded to the survey. In April 2017, a follow-up questionnaire will be sent to the students who completed their courses in semester 2, 2016 to quantitatively explore the value of social capital, professional networks and connectedness capabilities to initial post-graduation job search and work generation.
The questionnaire also collected demographic and background data such as disciplinary area/s of current study, socioeconomic status, cultural identification, gender identification, age, workforce experience and previous education and training history.

The disciplinary clusters represented included arts and humanities (25.9%); law (23.5%); science, information technology and engineering (7.8%); business (21.4%) education (16.9%); and health (4.5%). There were 65.3% female and 34.4% male participants, 73.4% single-degree and 26.6% double-degree participants, 30.7% penultimate-year (second or third) undergraduate participants and 69.3% ultimate-year (third or fourth) undergraduate participants. Nine in 10 (94%) were domestic students. A total of 101 participants were enrolled in courses at university 1, and 91 were enrolled in courses at university 2. Key top-level findings are presented below.

**Professional connectedness**
The majority of students reported that they possessed very small, immature professional networks.

- The participants most commonly indicated that they had met one employer in their ‘field or fields of career interest’ in person (31.3%), with 30.2% having met zero such employers. Students in their ultimate year of study most commonly reported that they had met two employers in their field/s of career interest in person (26.3%), with 24.1% having met zero such employers.
- Most often, the students had met employers through a work-integrated learning (WIL) experience such as an internship or industry project, or through industry guest teaching. Less often, they had engaged in paid work for employers.
- The participants most commonly indicated that they had met two professionals in their ‘field or fields of career interest’ in person (19.8%). Students in their ultimate year of study most commonly reported that they had met three professionals in the field/s of career interest in person (19.6%).
- A total of 11 participants (5.7%) had an industry-active career mentor (through university-based schemes, external schemes or informally).
- Six in 10 (60.9%) did not think of any of their university teachers as industry-active; of these, with prompting, 56.03% thought that at least one of their teachers was industry-active, but 20.69% said that none were; 23.3% said that they didn’t know.
- Eight in 10 did not have an up-to-date LinkedIn profile; 51.0% had no LinkedIn profile at all. The majority (81.3%) did not possess an online outward-facing professional portfolio of work.
- While 81.8% of the students were on Facebook every day, and 62.5% were on Instagram at least once per week, only 12.0% used social media more than once per month for professional purposes such as networking or professional learning (most commonly Facebook and LinkedIn), and nearly eight in 10 (78.1%) said that they never used social media for professional purposes.
Figure 2: Fact sheet excerpts—student questionnaire summary findings

Connectedness capabilities

The questionnaires also asked about the students’ levels of confidence in developing and using social connections for a variety of professional purposes.

- Overall, students assigned themselves confidence ratings ranging from ‘not very confident’ to ‘neutral’ to ‘reasonably confident’ (see Table 1). On average, students were most confident about arranging an internship or work experience placement for themselves, and using social media to build their professional identities and connect with others (mean ratings of 3.41, 3.36 and 3.26 respectively, corresponding with ‘neutral’ to ‘reasonably confident’).
- Students were least confident about networking at industry events and finding professional collaborators using social networks, crowdfunding and crowdsourcing resources, ideas or solutions (mean ratings of 2.9, 2.9, 2.3 and 2.3 respectively, corresponding with ‘not very confident’ to ‘neutral’).
- For certain items, fairly high percentages of students indicated that these activities were not relevant to them, including networking at industry events (7.8%), crowdsourcing and crowdfunding (10.9%).
- More than nine in 10 (93.3%) wanted to know more about networks and to develop their networking skills for professional purposes.
Table 1: Mean confidence ratings: Connectedness capabilities, student questionnaire

<table>
<thead>
<tr>
<th>How confident are you that you could...</th>
<th>Mean 1–5 rating</th>
<th>'Not relevant to me'</th>
</tr>
</thead>
<tbody>
<tr>
<td>prepare an effective CV and cover letter for a position in your field*</td>
<td>3.8</td>
<td>1.0%</td>
</tr>
<tr>
<td>arrange an internship or work experience for yourself</td>
<td>3.4</td>
<td>1.6%</td>
</tr>
<tr>
<td>use social media to build your online professional identity</td>
<td>3.4</td>
<td>1.6%</td>
</tr>
<tr>
<td>use social media to connect with people professionally</td>
<td>3.3</td>
<td>0.5%</td>
</tr>
<tr>
<td>get a professional mentor in your field</td>
<td>3.2</td>
<td>1.0%</td>
</tr>
<tr>
<td>use online networks to learn professionally</td>
<td>3.1</td>
<td>2.1%</td>
</tr>
<tr>
<td>create an effective LinkedIn profile</td>
<td>3.0</td>
<td>1.6%</td>
</tr>
<tr>
<td>network at an industry event</td>
<td>2.9</td>
<td>7.8%</td>
</tr>
<tr>
<td>find professional collaborators using social networks</td>
<td>2.9</td>
<td>0.00%</td>
</tr>
<tr>
<td>crowdsource resources, ideas and problem solutions</td>
<td>2.3</td>
<td>10.9%</td>
</tr>
<tr>
<td>crowdsource a project idea</td>
<td>2.3</td>
<td>10.9%</td>
</tr>
</tbody>
</table>

n = 192, scale 1 = not at all confident, 2 = not very confident, 3 = neutral, 4 = reasonably confident, 5 = very confident.

*the item about CVs and cover letters is not a question about connectedness, but a ‘control question’—that is, an indicator of students’ confidence with a commonly recognised and taught employability-related activity.

Interviews
A total of 71 one- to one-and-a-half-hour interviews were conducted with higher education staff (51 interviews), alumni of undergraduate humanities, arts and social sciences degree programs (13 interviews) and employers/recruiters (seven interviews).

Higher education interviews
From an initial email list of 206 educators generated from online university contact pages, 51 audio-recorded phone and Skype interviews were conducted with higher education staff across 34 Australian universities between May and August 2016. The initial list included senior educational leadership, leaders and managers of curricular and co-curricular educational programs, and frontline staff involved in the delivery of courses and programs. Where relevant, initial searches focused on humanities, arts and social sciences disciplines. Some of the people initially contacted forwarded the invitation to others within their universities that they thought would be interested in participating.

Interview participants included staff who had ‘frontline’ educational interactions with students, such as lecturers, tutors and careers educators (13 interviews); senior management, including deputy vice-chancellors or provosts, pro-vice-chancellors and directors of educational innovation and employability (six interviews); management and leadership of organisational areas such as faculties and divisions (nine interviews); leaders
of courses/programs (six interviews) and of other curricular (five interviews) or co-curricular educational initiatives (five interviews); and other staff concerned with learning and teaching, such as library staff, educational developers and learning designers (seven interviews).

Topics addressed in the higher education staff interviews included:

- the connectedness of their students, educational programs and institutional areas
- the strategies, programs and actions used to enhance the connectedness of their students, educational programs and organisational areas.

Key findings from the higher education interviews were:

1) Recently, there has been widespread institutional adoption of policy and strategies to enhance student employability, including an emphasis on developing students’ generic/transferable skills, career development learning initiatives and WIL programs (such as internships or industry projects).

2) Graduate employability was most commonly described by participants in terms of the individual graduate’s disciplinary, generic and career self-management capabilities, and also their ability to articulate and demonstrate links between learning experiences and capabilities.

3) The various roles that social capital, social connectedness and networks can play in graduate employability (e.g., though professional learning, collaborative innovation and problem-solving and career development processes—see Bridgstock, 2016) were mentioned by very few interviewees. Once prompted, many participants were able to articulate multiple ways in which connectedness (and their own capabilities to connect with others professionally) had enhanced their careers.

4) When asked how students’ professional connections and connectedness capabilities were fostered through their learning experiences, participants most commonly mentioned WIL programs (such as internships or industry projects); a few mentioned alumni engagement initiatives, industry guest teaching, LinkedIn profiles and co-curricular leadership and recognition programs.

5) The interviews unearthed a few cases of exemplary connectedness learning practice, but this was not widespread for any participants in their universities, let alone systematic or integrated.

6) The main reasons cited for the prevailing ‘disconnected’ approaches to learning and teaching were (i) a lack of top-of-mind awareness of the value of social networks to graduate success, including the absence of related concepts from institutional and course learning outcome lists; (ii) acknowledgement that teaching involving industry/community partnerships and connections beyond the university tends to be resource-intensive and associated with higher risk than classroom-based teaching; and (iii) because of legacy and large bureaucratic organisational structures, universities are generally not set up to connect effectively with external or internal stakeholders for learning and teaching.

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6 Many participants recognised that it is important for universities to ‘silo bust’ and ‘break down organisational walls’ in response to institutional imperatives around process and resource efficiency, and also new teaching strategic plans that mandate WIL experiences for all, or nearly all, enrolled students.
7) Participants often described these challenges in terms of two metaphors: the university as a ‘walled garden’, with teachers, learners and learning on the inside, and work, career and life on the outside; and the university as a series of ‘silos’, with minimal exchange of knowledge or ideas and limited collaboration between organisational areas.

8) In contrast with university research and commercialisation activities, for learning and teaching there seems to be remarkably little strategic or systematic development and management of external engagement and partnerships, such as client relationship management approaches.

**Industry and alumni interviews**

Thirteen interviews were conducted with alumni of humanities, arts and social sciences undergraduate and postgraduate degree programs around Australia. The alumni had all graduated between two and five years previously. They were recruited through the fellowship team’s social networks and the higher education interviewees; the chief criterion for recruitment was that they used professional networks actively in various ways.

**Topics addressed in the alumni interviews included:**

- the roles that social networks played in their career development
- the approaches that they take to the development and use of professional networks
- the extent to which, and ways in which, they had developed social network capabilities while at university versus outside/afterwards.

**Key findings from the alumni interviews were:**

9) The alumni acquired social network capabilities and networks through trial and error, and generally through informal work-related experiences during or after university. No interviewee recalled being ‘taught’ how to network, or even being told about the importance of networks to professional life.

10) Social network capability learning is nearly always tacit and often hands-on or observational; the majority of the participants had never discussed their networks or how they used them for professional purposes before.

11) The online and social media-based network strategies used by the alumni were quite diverse, but shared an emphasis on genuine, reciprocal engagement (‘quid pro quo’), trust and deep connections around shared values and interests.

12) Higher education institutions were seen as largely ‘disconnected’ from the real world, particularly in terms of industry trends and needs, and online networks/social media.

Six interviews were conducted with humanities, arts and social sciences employers and recruiters around Australia. Topics covered in the interviews included:

- the importance and roles of social networks (online and face-to-face) to professional activity in their industries
- the quality and extent of their connections with higher education institutions, programs, teachers and learners.

**Key findings from the industry interviews were:**

13) Social capital, social connectedness and networks were agreed to be important to many facets of work and careers in the industries in which the participants worked.
14) Several participants had attempted to forge ties with higher education institutions for learning and teaching (e.g., WIL initiatives), with mixed success. In some instances, the relationship/s had proved mutually beneficial; in many instances, the attempts had been unproductive.

15) Criticisms of higher education institutions in this space included poor stakeholder engagement and relations practices, overly bureaucratic and slow-moving processes and lack of personal contact, and a perception that higher education institutions were ‘selfish’ and unlikely to meet partner needs.

16) One interviewee pointed out that ‘in a context where the university has no clue about building effective relationships with industry partners, it’s no surprise that students don’t know how to do it either. With social media the situation is even worse’.

**Overall findings**

A fairly consistent picture of student, program and university connectedness emerged from the fellowship’s empirical work in phase 1. From different perspectives, I heard similar stories: that despite a significant tranche of literature demonstrating that social capital and navigation of social networks are central to many aspects of initial and ongoing employability and success in career (Granovetter, 1973; Jackson, 2014; Seibert et al., 2001), the professional networks of our undergraduate students and early graduates tend to be embryonic at best. Further, on average, students are not at all confident about their social network-related capabilities, particularly those related to making and growing professional connections and negotiating networked behaviour online. International students, first-in-family university attendees and those without prior professional career history tended to report even smaller networks, less online connectedness and less confidence with their capabilities than other students. Underpinning all of this was a perception on the part of many participants that higher education institutions have some way to go in developing effective networks and collaborations with industry and other learning and teaching stakeholders, in part due to strongly entrenched legacy organisational structures, processes, cultures and philosophies.

Two major surprising findings emerged from phase 1, and these findings changed the course of the fellowship. First, my intention with GE2.0 was to focus exclusively on students’ online connectedness and digitally based network capability development. However, it was clear from the student survey and interviews that online networks were only part of the picture—many students would also benefit enormously from face-to-face connectedness learning. It also became apparent that while specialised digital capabilities are indeed required to navigate online networks for professional purposes, certain social network capabilities and processes underpin both online and face-to-face connectedness, and should be addressed. While participants could point to specific skills for effectively using social media platforms, these were the least important aspect of the story. The capabilities required to connect with others for professional and career development purposes traverse and encompass both digital and analogue realms, and needed to be dealt with holistically in the fellowship.
The second unanticipated finding from phase 1 was that the strategies required for universities to foster student connectedness are not just curricular or pedagogic, but actually speak to the need for change to fundamental institutional policies, structures and processes. My interview data collection revealed that just as our students are not as well connected as they could be, our educational programs also tend to suffer from disconnection. While I uncovered and promoted a number of cases of exemplary connectedness learning practice in different universities, for the most part, these instances were isolated, established on ‘soft’ money and significantly under-resourced.

Interview participants described the institutional challenges to becoming more connected (and thus fostering students’ connectedness) as being about ‘walled gardens’ and ‘silos’. Universities struggle with moving beyond the ad hoc to more strategic, integrated and sustainable approaches to engagement and educational partnerships with learning stakeholders. Specific connectedness priorities for programs and universities to address include basic stakeholder engagement, resource allocation and management for connectedness initiatives, bureaucracy reduction (particularly the proliferation of complicated and redundant forms for everything from intellectual property to occupational health and safety to building access and also using generic points of contact) and implementing effective and agile risk management policies and processes.

The Connectedness Learning Model and principles
The phase 1 literature scan and analysis of survey and interview data culminated in the development of a draft prototype overarching model of connectedness learning. This model summarises (i) the connectedness capabilities that individuals require to make the most of professional networks; (ii) the main learning and teaching approaches that seem to be the most effective for developing student connectedness capabilities at the present time; and (iii) the institutional-enabling strategies that help ensure the sustainable success of connectedness initiatives, and that the university itself is well ‘networked’.

The current version of the Connectedness Learning Model is 4.0 (see Figure 3). Since the original draft prototype, it has been further developed and progressively refined by GE2.0 Forum attendees, GE2.0 community of practice and network members, and workshop and seminar participants. A fuller explanation of the model and its constituent elements can be found in Appendix C.
Along with the model, there are 18 principles for effectively implementing connectedness learning; these form the foundation for the evaluative and reflective rubrics within the connectedness learning toolkit for educators, discussed below.

Through the learning experience:

1) students have the opportunity to develop professional connections and relationships
2) students develop one or more of the connectedness capabilities, particularly building a connected identity and identifying and growing new connections
3) students develop skills in terms of career development learning, networked learning and/or collaboration for problem-solving or creating new knowledge.

The learning experience is characterised by:

4) The learning is authentic: it occurs in real professional contexts, involving professional activities and interactions with professionals. This could involve use of open, industry-authentic tools and technologies.
5) Students co-design a learning experience that is meaningful for them.
6) Industry/community partners provide input into designing a learning experience that is meaningful for them.
7) Partners are carefully selected for alignment with student and program needs, and will benefit from/find value in the partnership themselves.
8) Appropriate just-in-time resources and learning activities are provided to help students connect with networks effectively.
9) The program is tailored to partner, learning context and specific student needs.
10) Students maintain the connections they have made and continue to benefit from them, including having ongoing engagement with the program (e.g., as alumni).
The education program is characterised by:

11) The program is ‘plugged in’ to wider professional, industry and interest groups and networks.
12) The program seeks out and develops new relationships in a strategic way, according to principles of reciprocity.
13) The program deepens the relationships it has in effective ways, including through valuing its connections.
14) Interactions and communications are straightforward and effective.
15) Processes are simple and straightforward, with ‘red tape’ minimised.
16) Partnerships and networks within the university (intra-university connections) are present and optimised.
17) There are enough resources (people, workload, funding) to foster sustainable connectedness.
18) There is an evaluation plan in place that covers the above dimensions.

The connectedness learning toolkit for educators

The connectedness learning toolkit for educators was developed and refined between August and December 2016. The entire toolkit is accessible via sign-in at the graduateemployability2.0.com website. The toolkit comprises (i) reflective/evaluative tools to characterise and analyse the connectedness of students and programs; (ii) action-planning tools to prioritise and strategise the development of connectedness; and (iii) supporting resources (capability frameworks, practice case studies and links to external resources and references) (see Figure 4).

Figure 4: Pictorial overview of the connectedness learning toolkit for educators
Different toolkit options are provided, and the participant can choose from these on the basis of their needs and context. First, there is a comprehensive downloadable individual reflection on practice/action-planning toolkit, which includes a 21-item self-evaluation rubric using a ‘maturity’ scale (aware–exploring–developing–established–integrated and sustainable), providing descriptors for each (see Figure 5). All model dimensions of student capability, learning and teaching approaches and institutional-enabling strategies are included.

<table>
<thead>
<tr>
<th>The program itself demonstrates...</th>
<th>Aware</th>
<th>Exploring</th>
<th>Developing</th>
<th>Established</th>
<th>Integrated and Sustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Embeddedness into wider networks</td>
<td>There is recognition that the program could be better embedded into professional, industry and area of interest networks within and beyond the university</td>
<td>Investigations have been undertaken into the wider networks that the program would benefit from being embedded into, with some initiatives underway to do this.</td>
<td>There are active initiatives underway to embed the program into a range of wider professional, industry and area of interest networks, both face-to-face and online</td>
<td>The embeddedness of the program into wider networks is well established, with the program broadly known for its areas of knowledge, interest and activity, and engaged with by a wide network online and offline</td>
<td>The program is the centre of a wide and dynamically evolving online and offline network of knowledge and practice, activity and interest relating to its areas of focus</td>
</tr>
</tbody>
</table>

*Figure 5: An example item in the comprehensive reflection on practice tool*

The kit also includes a quick, interactive and online reflection on practice tool without comprehensive descriptors that suggests priorities for action and provides links to recommended resources. Finally, it features a downloadable group workshop tool. This tool is intended for program teams, including teaching staff, students, alumni and industry partners involved in an educational initiative or course, to collaboratively evaluate its connectedness and then strategise/plan their next steps using a modified design thinking (Razzouk & Shute, 2012) approach. The downloadable group workshop tool includes a short version of the individual reflection on practice tool, two video guides (an introduction to the workshop, and an introduction to design thinking), workshop activity slides and a facilitator’s guide (see Figure 6). The initial idea for this collaborative tool came from GE2.0 Forum participant suggestions.
The educators’ toolkit also includes (see Figure 7):

- in-depth descriptions for each model element
- a capability framework and suggested progression of learning, from foundational to advanced, to facilitate curriculum development and embedding
- links to literature, external resources and the brief case studies.
Case studies

The fellowship team also sought to locate (through the phase 1 interviews, but also through literature and web searches) graduate and industry representatives and leaders of higher education initiatives that exemplified different elements of the Connectedness Learning Model and principles. Prospective case study participants were approached via email and invited to participate in a brief screening interview. Successful participants then submitted a two-to-three page case study template (see Figures 8 and 9). As at February 2017, there are nine higher education case studies, 11 graduate case studies and five industry case studies included in the toolkit. Phase 3 participants reported that the cases were very helpful in illustrating professional connectedness ‘in action’ (via the industry and graduate case studies), and to demonstrate various kinds of practical implementations of connectedness learning (via the higher education case studies).

Figure 8: Screenshot of 10 case study thumbnails from graduateemployability2-0.com
Figure 9: Brief case study excerpts
Chapter 4: Engagement, dissemination and impact

Despite the conclusion of the fellowship’s initial suite of planned phases in February 2017 period, fellowship dissemination is ongoing, and I continue to receive invitations to speak and facilitate workshops, and report ways in which GE2.0 is being implemented and developed for different higher educational contexts. Perhaps the most telling observation about GE2.0’s impact is that, at least to some extent, it seems to have taken on a life of its own. I am no longer required to ‘push’ the ideas and tools out to educators as much, but as participants become champions for practice and share insights with others, they generate a buzz of ongoing discussion, engagement and experimentation. The summary of my engagement and dissemination activities is located at Appendix B.

The mind hive socially networked approach

As discussed in Chapter 2, the fellowship adopted a mind hive and socially networked approach to participant engagement. This approach makes the most of participants’ collective expertise, enthusiasm and professional contacts by involving participants in all aspects of the fellowship and offering multiple ways for them to engage and promote its activities to colleagues and contacts. Many of the initial 71 phase 1 interviewees and 25 case study participants promoted the forum to their colleagues through official and informal channels. A total of 145 staff, industry and students from 24 institutions attended the event in September 2016, and workshopped/refined the prototype model and educator tools. Attendees and interviewees spearheaded the co-organisation of phase 3 activities within their institutions—consequently, 18 institutions so far have hosted phase 3 activities of various kinds (more are scheduled for 2017). As part of phase 3, 366 educators participated in GE2.0 workshops in 2016 (with another five workshops scheduled so far for 2017), and approximately 486 attended GE2.0 seminars and presentations. All of these participants were invited to provide developmental feedback on the model and tools, and many did so. At the three-month follow-up point, seven in 10 workshop participants had shared GE2.0 and their connectedness learning endeavours with others in their institutions. The GE2.0 fellowship’s email and social media update in early March 2017 reached a network of nearly 1,200 educators.

Specific engagement/dissemination activities and methods are outlined below, along with evaluation methods and outcomes.

Fact sheets, posters and flyers

A small range of paper-based resources were produced to introduce interested parties to the fellowship and link them to the GE2.0 website via the URL or a QR code. Two promotional flyers were produced (see Figure 10). These flyers were of similar size and function to Beverley Oliver’s highly successful ‘bookmark’-style materials for activities within her fellowship Assuring Graduate Capabilities. The flyers were distributed at dissemination opportunities such as presentations, seminars and conferences.
Two summary posters were also produced. The first was displayed at the final OLT Conference in April 2016, and showed early findings from phase 1 and the overall fellowship aims. About 10 attendees from this conference who viewed the poster gave me their contact details and then became phase 1 interviewees. The later poster (sharing most of the fellowship activities and outcomes) was presented as part of the West Australian Network for Dissemination (WAND) sharing day in November 2016. The second of these posters can be found in Appendix D.

A total of five two-page summary fact sheets were developed and made available on the GE2.0 website as well as distributed to all workshop participants and many presentation attendees. The topics of these fact sheets were:

- What is the networked approach to graduate employability?
- Why a networked approach?—for students
- Why a networked approach?—for educators
- Findings of the higher education interviews
- Principles for connectedness learning.
Throughout the year, I encountered people who were not part of an engagement or dissemination opportunity and wanted to know more about the fellowship. They would ask questions about what connectedness learning was, why it was important to graduate employability, how to improve the connectedness of their students and programs and what I had found through the fellowship so far. Having a few copies of these fact sheets always on hand was very helpful. Copies of the fact sheets can be found in Appendix E.

**Scholarly outputs**

I also disseminated the fellowship ideas and findings through 16 invited/keynote presentations at national/international conferences and meetings during the year, with a number of presentations still upcoming at the time of reporting. These engagements are listed in Appendix B.

A range of written scholarly outputs are also in print, in preparation or planned at the time of writing this report. Two journal articles and a book chapter were produced during phase 1 of the fellowship, a further book chapter was produced during phase 2, and an edited collection of connectedness learning case studies will emerge from the upcoming phase 4 (see Chapter 5). These written scholarly outputs are also listed in Appendix B. The topics covered by these outputs are:

- conceptual arguments for the university as hub of a knowledge network and enhanced connectedness of learners, teachers and educational practices
- literature-based arguments for socially networked approaches to graduate employability, and discussion of the effect the networked economy has on the world of work
- results of the survey of second- and third-year students and a discussion of how to enhance learners’ social network capabilities and professional networks
- synthesis of higher education and industry/alumni interview findings and an introduction to the connectedness learning approach in relation to graduate employability
- case studies of programs, organisational areas and institutions implementing and evaluating connectedness learning, with mentoring input.

**E-engagement: The GE2.0 website and blog, email updates and social media**

The virtual home of the fellowship was the graduateemployability2-0.com website/community of practice. Ning was originally chosen to host the site, as despite its age and lack of functional flexibility, it still possessed the best social and network functionality of any ‘out of the box’ website platform available. However, Ning’s lack of technical support and functional/design flexibility rapidly became a challenge, and so the fellowship team decided to develop a custom website. We hired the small web development company Cognitia (http://www.cognitia.biz) to develop a custom site based in Wordpress. This improved site was launched in August 2016 (see Figure 11) and will continue to be maintained by Cognitia.
The website is designed so that certain resources are open to all visitors, such as the ‘About’ and ‘News’ pages, fact sheets and summary versions of the model. To access the educator toolkit, the full version of the model and the community functionality (e.g. forum, member profiles), participants must create a log in. All members are then automatically added to the email update list.

As at the end of February 2017, the new website has had more than 17,000 hits since going live in mid-September 2016; the previous Ning website had 8,500 hits. As at the end of February 2017, 460 educators have signed up for the community of practice, and more continue to do so each week, with more than 800 unique visitors accessing the materials to date. The most commonly accessed items are:

- fellowship fact sheets
- individual tool reflection on practice and action-planning tools
- quick connectedness learning self-assessment.

Figure 11: Screenshots from the website. Clockwise from top left: home page, toolkit top level, forum top level, interactive model overview

Social media

The fellowship team experimented with social media for engagement and dissemination; these experiments yielded mixed results. While posts (particularly those on LinkedIn and Twitter, which used my existing social networks) reached a large number of people, they resulted in minimal active social media-based engagement (comments, shares, etc.). Social media resulted in a few new GE2.0 members and invitations to speak, but overall, the impact was not significant.

In part, I attribute these mixed results to my inexperience and lack of skills in social media marketing, and (somewhat ironically) to my underestimation of the significant and consistent individual time and effort required to build a social media presence and
Putting hashtags on my slides and creating an occasional blog post were not enough, especially not for meaningful engagement and interaction with the academic community. However, social media engagement was not something I could delegate to my fellowship team—not only were they fully occupied with other important tasks, but it was also clear that in the early phases at least, I as the fellow needed to be the social media ‘voice’. This authentic, personal engagement has been identified as a consistently important success factor in building social media influence (Harrison, 2017).

In some ways, this finding echoes one of my observations from the questionnaires and interviews in phase 1: It takes time and considered personal effort to build professional social capital and effective networks. Having students build a LinkedIn profile in their final semester of study, or worse, creating a generic profile on their behalf, does not sufficiently meet graduate-level connectedness learning requirements.

The fellowship’s social media presence included:

- the GE2.0 blog, linked to my futurecapable.com blog (which had an existing following)
- blog posts to my LinkedIn account (see Figure 12)
- a Twitter account (@grademp2) and hashtag (#grademp2).

One unanticipated finding, perhaps connected to my previous commentary about authentic and personal voice in social media, was that many new people connected with my personal LinkedIn account because of the fellowship. This year, I have made about 400 new connections on LinkedIn, largely through invitations from people who have met me in person during a dissemination or engagement activity.
Email updates
The most effective and wide-ranging dissemination tool used in the fellowship was the bi-monthly Mailchimp-managed email update. These updates were sent to a cumulative list of all GE2.0 members and participants, and included invitations to interact and provide feedback (via email or the GE2.0 website).

The first email update was sent in June 2016, and focused on the phase 1 results. Further updates were sent in August, November and December 2016 and February and March 2017. Archived copies of the updates are available on the GE2.0 website.

Topics covered in the updates included:

- calls for feedback on draft resources as they were developed
- summaries of the latest fellowship findings and outcomes
- links to external articles of interest
- lists of upcoming events and opportunities to engage with the fellowship, plus registration links
- brief case study ‘spotlights’.

The total number of recipients for each update is shown in Table 2, revealing the fellowship’s increasing cumulative reach.
Table 2: Email updates: Recipients by month

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<tbody>
<tr>
<td>recipients</td>
<td>162</td>
<td>335</td>
<td>443</td>
<td>778</td>
<td>915</td>
<td>1,189</td>
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</table>

The Graduate Employability 2.0 Forum and Symposium
The Graduate Employability 2.0 Forum was held on 16 September 2016 at QUT’s Gardens Point Campus. A total of 145 delegates from 24 higher education institutions attended. The delegate profile included:

- sixty-eight academic and 70 professional staff members, and seven industry representatives
- delegates from Queensland, New South Wales, Victoria, the Australian Capital Territory, Western Australia and South Australia
- attendees representing a broad cross-section of roles within the higher education sector: managers and frontline staff in careers and employment, frontline teaching staff, professors and deputy vice-chancellors, program coordinators, heads of schools, WIL lecturers and coordinators, directors of key strategic projects within universities across Australia, curriculum developers and learning designers.

The forum aimed not only to bring together educators from across the higher education sector, but also to:

- share the phase 1 findings, including the extant literature and new data collection, and raise sectoral awareness of connectedness learning
- share the cases of connectedness learning that had been identified and profiled in phase 1 through panels and presentations
- harness the expertise of the group to critique and refine the draft prototype model and educator toolkit through a series of workshops
- promote the upcoming phase 3 activities across the sector.
The Graduate Employability 2.0 Symposium was held on 10 February 2017 at QUT’s Kelvin Grove campus. Its attendance profile was intentionally different to that of the forum—the symposium had 120 attendees from a total of six institutions. It aims were:

- to share the fellowship achievements and outputs
- to envision how the fellowship’s work could continue beyond its funded life
- to test and refine the idea of phase 4 with stakeholders and potential participants.

**Forum and symposium outcomes**

*Forum*. The forum was extremely useful in developing and refining the draft prototype Connectedness Learning Model and toolkit. Through the design thinking-based workshop process, participants trialled and made modifications to many of the materials.
Participants noted that the connectedness learning toolkit would be useful for a range of purposes, including:

- benchmarking programs, faculties and universities
- curriculum planning and development
- strategic planning at faculty or university level
- evidencing good practice for promotion and recognition purposes
- developing learning stakeholder engagement within a program
- staff professional development.

Chief among the recommended modifications were:

1) The prototype reflection on practice tool was too long and detailed for many applications, and needed to be tailored to meet specific needs. As the result, two new versions of the tool (including a quick online interactive version) were developed to meet the need for quicker and easier use, and were trialled during phase 3.

2) The toolkit should be developed into a whole-of-course-team version, which could be used to workshop connectedness from multiple stakeholder perspectives. This recommendation resulted in the downloadable group workshop tool.

3) Educators would benefit from a quick and simple introduction to the ideas within, and research behind, the fellowship. The introductory resources could be also used to promote connectedness to university leadership, and new initiatives that have connectedness benefits. This recommendation led the fellowship team to develop the downloadable two-page fact sheets.

4) More specific cases of specific higher education initiatives were required to support the model and pedagogic principles, particularly cases involving engagement with the enabling principles. We added two more cases to address this, and will continue to add more as they come to light.

Workshop participants also suggested minor modifications to wording in the model and toolkit explanatory materials, the majority of which were made to subsequent drafts.

Positive participant feedback emphasised the forum's positivity and inclusiveness, and the mind hive model of engagement that allowed participants to provide input into developing and refining materials and approaches and meaningfully engaging with one another around fostering connectedness. As one participant remarked, ‘the forum modelled the types of connectedness we are seeking to foster in our students—building networks, learning from colleagues and taking away ongoing value’.

Symposium. It became apparent very quickly at the 10 February fellowship symposium, nearly one year after the start of my fellowship, that the work was in no way complete. Symposium participants celebrated the fellowship’s successes with me, and reaffirmed its importance to higher education and learners. They then contributed to further development by naming further potential cases of exemplary practice, suggesting further refinements to the toolkit and identifying specific areas of connectedness learning for in-depth investigation, including teachers’ professional development and support, developing and
implementing agile risk management processes and managing the intellectual property implications of partnered and networked learning. Participants also supported the plans for an in-depth phase 4, and proposed refinements to the processes and outputs of this 2017–18 phase.

**Phase 3 presentations, workshops and consultations**

From the forum and engagement during phase 1, it was evident that the different universities involved in phase 3 would have different needs with respect to the fellowship, and would wish to engage with it in different ways. The fellowship team therefore prepared a phase 3 engagement pack containing my biography, headshot and introductory fact sheets, and also a ‘menu’ of options for initial engagement. Within the given timeframe that I would be in the relevant location, universities could choose one or more ways to work with me.

The menu of engagement options included two seminars of between 45 and 60 minutes in length, a roundtable consultation with senior leadership and two different workshops (one focused on student and programmatic connectedness, and one focused on strategic and institutional connectedness). The idea was that through the phase 3 strategies, participants would have the opportunity to explore the value of connectedness learning, the model and the toolkit for their contexts, create plans and take initial steps, and that deeper engagement with connectedness learning and the fellowship would then emerge organically. This has proven to be the case—a number of institutions have since contacted me, wanting to work with me to embed connectedness learning more deeply into their offerings in various ways.

During phase 3, I facilitated a total of 34 engagement activities across 18 universities, including seminars, workshops, consultations and roundtables. The estimated overall attendance in phase 3 activities (not including the final symposium) as at late February 2017 is 852. For a list of phase 3 engagement activities, see Appendix B. The seminar offerings proved to be an effective way of reaching large numbers of staff and introducing them to the fellowship’s ideas and approaches. However, the roundtable consultations and workshops yielded the most apparent and immediate impact on teachers and programs.

The first workshop took a modified design thinking approach to developing a connectedness learning plan for an educational program with which each participant was involved (‘education program’ was broadly defined to include any defined educational course, initiative or experience, including co-curricular learning experiences and learning support). The second workshop took the same approach to developing a connectedness learning plan for an organisational area or for the institution. The workshops employed the refined short version of the reflection on practice tool, followed by a series of collaborative and individual steps around empathy, definition, ideation, refinement and the development of a prototype connectedness learning plan for a target program. Participants finished the workshop by
sharing their plans with the rest of the group, and spending a few minutes networking informally with their colleagues around collaborative ways forward. A large number of the workshops participants met others from different organisational areas who had similar ideas and plans and had started collaborations with one another, who had previous experience with similar plans and projects or who could ‘plug in’ to emerging plans in valuable ways.

Participants also completed an ‘action commitment card’, listing the one or two next steps they intended to take to put their plan into action, and a timeframe for implementing that action. They then swapped cards with another participant, who agreed to follow up with them to ensure that their actions were completed in the required timeframe (see Figure 14). The action commitment card is another example of the mind hive approach used in the fellowship—a socially based strategy to help ensure that participants fulfilled their plans.

![Figure 14: A workshop participant action commitment card](image)

**Participant connectedness learning plans**

More than 330 participant learning plans were completed during the workshops. Brief, one-to-two sentence synopses of these plans were transcribed by the fellowship team and (with permission) shared with all the other workshop participants within that university via email, to help further foster connections between participants. Although no formal plans were put in place, each workshop group was encouraged to maintain contact and maximise their chances of success by working with one another to implement their plans.
Table 3 presents a content analysis of the plan synopses, along with de-identified examples. The plans were program- and institution- specific, and therefore quite diverse in terms of their focus, approach and scope.

Table 3: Content analysis of workshop connectedness learning plan synopses

<table>
<thead>
<tr>
<th>Code</th>
<th>% plans</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>curricular</td>
<td>82.8%</td>
<td>1. Mapping existing ecosystem (industry and media partners). 2. Sharing networks. 3. Student internships. 4. Industry partners links on project web sites. 5. Social media platform to generate and share theme-specific knowledge 6. Reciprocity agreements between students and industry partners.</td>
</tr>
<tr>
<td>co-curricular</td>
<td>20.2%</td>
<td>Connect student volunteers to groups, events and activities to develop their graduate capabilities. Find out what is already on offer and what might be possible. Find out what the students want and help to show the importance of developing graduate capabilities.</td>
</tr>
<tr>
<td>learning support</td>
<td>13.6%</td>
<td>Create library-based digital network hub for professional event information sharing and professional social networking support. Work with careers and faculty stakeholders to develop network.</td>
</tr>
<tr>
<td>connects students with students</td>
<td>11.2%</td>
<td>Trial Slack/Trello cloud-based team project management apps for second-year project management course, link with outward-facing social media options such as Twitter where relevant.</td>
</tr>
<tr>
<td>connects students with staff</td>
<td>18.7%</td>
<td>Ongoing feedback, input and suggestions on the course using an online platform, with periodic ‘jams’ on specific topics (student- or staff-led).</td>
</tr>
<tr>
<td>connects students with alumni</td>
<td>13.0%</td>
<td>Program LinkedIn profile for all current and past students, regular events and initiatives to encourage grads and students to come together. Ask them what they want/need for professional development.</td>
</tr>
<tr>
<td>connects students with industry/community</td>
<td>50.5%</td>
<td>Having a faculty ‘trade show’ whereby students develop an experience or product that they promote to industry. They would be contributing to the community while teachers can earmark those with potential for future employment/development. Could lead to students running professional development within industry. Students develop their own professional connectedness plans and put them into action in second/third year. We support by offering a range of digital/face-to-face options such as blogs and social media assessment options, increase WIL range, have industry guest panels and link with co-curricular award activities.</td>
</tr>
<tr>
<td>connects programs with learning stakeholders</td>
<td>25.7%</td>
<td>Reciprocity with industry partners who host students for WIL (so they want to have students). Consulting with our placement partners to find out not only what students can do for them, but what the university as a whole can do for them.</td>
</tr>
</tbody>
</table>
Code | % plans | Example
--- | --- | ---
\(n = 331\) |  | 

| fosters digital connectedness | 49.8% | Building knowledge of LinkedIn (or other preferred social media) into first year: how to develop profile, importance of connections outside of discipline. Encourage students to form connections with guest lecturers, at career fairs, etc. |
| fosters analogue connectedness | 65.3% | Advanced students organise and run industry networking events for their peers. Local industry representatives are invited and have the opportunity to give advice/recruit. |
| connects organisational areas in institutions | 22.7% | Transparency/greater communication across faculties regarding projects and initiatives. Facilitated catch ups: informal and formal conversations, documentation, curation and wide dissemination of info. |
| programmatic | 36.0% | 1. Iterative industry involvement in curriculum—each year of degree. 2. Authentic professional opportunities and engagement of all stages. 3. Lots of other great stuff branching from above principles. |
| intra-programmatic | 78.5% | Changing tutorial activities to include connected and networked options, such as including alumni or senior students, expanding on Twitter-based assessment. |

**Phase 3 participant feedback**

All participants of phase 3 workshops were invited to provide written feedback on the experience via a brief, anonymous questionnaire administered at the end of the sessions. They provided ratings (see Table 4) and comment-based responses. The feedback from each workshop was fed into its next iteration, such that the workshop approaches evolved continually. The workshop feedback also informed updates to the model and toolkit.

**Table 4: Mean ratings—Phase 3 workshop participant feedback**

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Mean 1–5 rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The workshop contained information or perspectives that were new to me</td>
<td>4.08</td>
</tr>
<tr>
<td>The workshop stimulated new ideas about my practice</td>
<td>4.50</td>
</tr>
<tr>
<td>I intend to implement elements of the GE2.0 networked approach in my practice</td>
<td>4.46</td>
</tr>
<tr>
<td>Overall, participation in the workshop was valuable to me</td>
<td>4.53</td>
</tr>
<tr>
<td>Overall, the GE2.0 networked approach offers a valuable perspective</td>
<td>4.59</td>
</tr>
</tbody>
</table>

\(n = 237\), scale 1 = strongly disagree, 5 = strongly agree.

The workshops were very well received by participants. Educators across Australia affirmed the new perspectives of GE2.0 and value of the connectedness learning approach to their practice. For many, the approach reinforced, systematised and extended teaching activities in which they were engaged already.
Participants saw many opportunities for implementing the connectedness learning approach into their practice, including curriculum design, reflective processes and strategic planning. They found value in the toolkit, including the case studies and fact sheets. The most commonly mentioned types of additional support and resourcing needed for implementation were additional time over an extended period to work on implementation, support from senior leadership and further input from me where needed. These suggestions culminated in my proposing phase 4 of the fellowship (see Chapter 5 for details).

An indicative sample of verbatim comments from participants is presented below:

**Most valuable about the workshops:**

- evaluating my own practice systematically
- affirmed my hunches about what and how I should be teaching for graduate employability
- connecting with other educators and sharing new ideas
- a fresh and engaging perspective, and a systematic method for implementation
- the design thinking approach to idea generation and refinement
- the evaluation tool helped me to identify gaps and prioritise areas for action
- research into the influence of the networked society was interesting, and stats on student and university lack of connectedness quite surprising
- finding out that people who know nothing about my discipline or role are having similar issues and can help me think through priorities emboldens me to partner with students.

**Key implementation opportunities:**

- this is a reflection prompt to improve my practice in general, especially for reviewing and identifying areas for growth
- enhanced student employability. Enhanced engagement with all stakeholders (students, industry ...)
- in strategic planning and other forums in which we have previously used brainstorming—instead utilise the design thinking approach
- improving collaborative partnerships through less arduous systems and more strategic relationships
- embedding employability in all levels of a program—student-centred
- using the model as a basis to support learning design and curriculum design activities
- educating students further with the current research about social and networked influence in recruitment practices and increasing employability

**Workshop feedback:**

- good approach, ideas and delivery, a very worthwhile workshop
- great combination of activities and information
- a chance to look at what we do outside the bubble of day to day stuff we get subsumed by—hopefully we can breathe and integrate this!
• workshop needs to be longer to work with others, maybe half an hour, but then you probably wouldn’t get people to show up (‘too busy’).

Additional tools/ support needed for implementation:

• I’ll download the tools on the website.
• The case studies on the website are really good snapshots of practice.
• The main thing is time to work on this further.
• Will tap into the expertise of colleagues within and outside the university.
• It would be good to be able to work with you and colleagues for longer to really bed down the changes, this type of change takes time.
• Need to get buy-in from top-level management to support deep change. Fact sheets help, but would like you to stay for longer to convince people about importance and approaches.

Summative participant evaluation survey

In February‒March 2017, educators who had participated in phase 3 in 2016 were sent an email invitation to respond to an online summative participant evaluation survey. The aim of this survey was to gauge the early impact of the phase 3 activities and the take-up of the connectedness learning approach. At the time of surveying, participants had undertaken one or more phase 3 activities between two and four months previously, and many were embarking on semester 1 teaching for 2017. Questions addressed the following topics:

• whether their educational practices and programs had changed as the result of participation in phase 3, and if so, how
• their intention to adopt the connectedness learning approach in their teaching in the future.

The email invitation was sent to 328 educators, and of the 299 who were available to respond (i.e. were not on leave or otherwise absent, and for whom the supplied email address was current), 65 responded within one week, representing a 21.7% response rate.

A total of 93.9% of the survey respondents had participated in a phase 3 workshop; 49.2% had accessed the toolkit separately from a workshop; 47.7% had attended a keynote or seminar presentation; 32.3% had attended the forum on 16 September; and 13.9% had participated in a roundtable or other kind of consultation.

In terms of respondent profile, 77% were academic staff members, and 33% were professional staff members; 79.3% identified themselves as involved with curricular teaching, 34.5% with co-curricular programs and 19.0% with learning support activities. Nearly one in three (29.0%) were leaders of organisational areas such as schools, divisions, or careers centres; 58.1% convened degrees and other multi-element educational programs; 58.1% convened subjects or units; 48.1% were frontline, student-facing staff members; and 3.2% were non-student facing.
More than eight in 10 (81.5%) had implemented some element or elements of connectedness learning in the two to four months since participating in phase 3. Another 7.7% had not yet taken action, but were intending to do so (see Figure 15).

![Figure 15: Summative evaluation survey—Have you put into action elements of connectedness learning as a result of your engagement with GE2.0? n = 65](image)

The most common way that educators had implemented the connectedness learning approach was to analyse and reflect upon their educational practice and/or programs (94.2%), followed by applying connectedness learning to their program through updating learning activities or assessment items (80.8%). Seven in 10 (69.2%) had shared the approach with their colleagues (see Figure 16).

The least common implementation methods included systematic embedding—for example, through updating curriculum processes (36.5%); fostering institutional strategies (15.4%); research/scholarship (5.8%); and creating new programs, initiatives or courses (3.8%). However, a significant proportion of respondents indicated that they intended to use these methods in the future (66.7%, 70.4%, 48.1% and 68.5% respectively). These findings probably reflect the greater complexity and resource-intensive nature of the more systemic approaches, along with the greater time scale needed to enact change at a programmatic or organisational level.
Figure 16: Summative evaluation survey—How have you put connectedness learning into action, and how do you intend to in the future?
Chapter 5: Conclusions, reflections and next steps

This fellowship intentionally took a different perspective to fostering graduate employability than the one widely adopted to date. Rather than seeking to explore and develop individual disciplinary and generic skills and capabilities, it instead sought to maximise and harness the potential contained within groups and networks. In the digitally networked society and economy in which we live, we all continually rely on our social relationships, whether online or offline. However, the potential reach, extent and impact of our social behaviour is substantially greater now because of the ubiquity of social media and digital platforms.

The fellowship demonstrated that there is a significant opportunity for higher education learning and teaching to capitalise upon our interconnectedness—not only to enhance the lifelong graduate success of learners, but also to strengthen the relevance and quality of our teaching and other educational practices. The phase 1 data collection showed that many of our students would benefit considerably from connectedness learning in their educational and professional lives. It also showed that many of our programs, faculties and institutions suffer from a lack of connectedness (both digital and analogue), and that this does our learners a disservice. The findings suggested that in order to prepare learners for the 21st-century society and world of work, the university needs to risk moving beyond the legacy industrial structures, processes and policies that perpetuate metaphors of it as a ‘walled garden’ and ‘group of silos’.

The extent of educators’ enthusiastic engagement with the fellowship’s ideas and tools during phases 2 and 3 demonstrated that a climate of readiness for a more collaborative and networked approach to higher education. At the time of writing, nearly 1,200 educators have joined the connectedness learning network; 460 are active community of practice users; 486 attended a phase 3 presentation, seminar or roundtable; and 360 have participated in a workshop, with several further workshops and engagement activities booked in for coming months. Eight in 10 workshop participants surveyed have put the connectedness learning approach into action in their programs in some way in the two to four months since the workshop. I am starting to hear of changes happening at a programmatic level, and some of the embryonic communities of practice that started when I visited are now gaining traction in their institutions.

Success factors and challenges

A key success factor in the fellowship has been its abiding commitment to the principles of connectedness—most notably reciprocity in partnerships, and listening to and meeting stakeholders’ needs. Because of feedback obtained in phase 1, phases 2 and 3 looked quite different and, I believe, catered to learners’ and educators’ needs more effectively than the approaches I designed originally. We are now on version 4.0 of the Connectedness Learning Model and version 3.0 of the toolkit due to ongoing developmental feedback from the GE2.0 mind hive that has honed and refined the tools progressively over many iterations.
The core fellowship team has been pivotal to the success of the fellowship. Program Co-ordinator Dr Sarah Winter and Research Assistant Madeline Taylor ensured that the significant and complex logistical aspects of the fellowship ran smoothly; they also generously provided high quality intellectual and creative input in the form of everything from workshop co-development to graphic design to fact sheet write ups to qualitative data analysis. I often present about the employability advantages of being a ‘key-shaped’ person. Key-shaped people possess a range of diverse interests and abilities that afford different perspectives and unique ways to add value. My multitalented and well-networked team are a case in point, and they enriched the fellowship greatly.

A fellowship differs from a project in a number of important ways. One is that the individual named the fellow facilitates and drives many of the processes and activities, particularly any that involve interaction with others. This comes down to the very personal nature of professional interactions and relationships. The fellowship team did away with our generic ‘info@’ email address early on, as it was counterproductive to have one. In fact, the findings of the interviews with industry and alumni showed that many people actually loathe them. Fellowship participants would much rather deal directly with Ruth for substantive matters, or Sarah for the website and case study development, or Maddie for event management.

Through my fellowship about social relationships and networks, I have found that there is no substitute for personal interaction in building the trust and reciprocal relationships required to enact change.

There were times, particularly during phase 1, when the demands on my personal time for interactions with participants were overwhelming. All 70-odd participants from phase 1 and 140-odd attendees at the GE2.0 Forum wanted to talk to me personally, and many wanted to further develop, together, the ideas that had come up during our initial individual conversations and interviews. I was keen to do this as well, but lacked the time at that point. I still have a number of dropped threads from this phase of the fellowship where I was making strong ties too fast, and I hope to pick those up again this year. Thankfully, by phase 3, I had created a model for engagement where I served as facilitator rather than acting as the ‘hub’ of the network, and concentrated on sparking the formation of institutional communities and networks. Phase 3 was, for me, no less intense in terms of interactions with many new people, but I started to get the sense that for sustainability, not everything had to be driven by me personally.

A traditional reference/advisory group format did not work for the fellowship. I needed fast-turnaround feedback on tools and activities very often, which does not lend itself to a periodic committee-style consultation. In addition, many reference group members lacked the calendar space even for periodic group meetings, let alone weekly or daily check-ins. I therefore turned to the GE2.0 network to steer the fellowship, along with in-depth consultations with individuals as needed.
It has been a wonderful year, but a year really isn’t long enough, particularly to stimulate systemic organisational change or embed new concepts into curriculum, both of which I wanted my fellowship to achieve. For the most part, higher education institutions move and change very slowly. It’s possible that the development and publication of traditional research outputs is even slower than this; I have a range of fellowship publications in the pipeline, and will continue to push them through.

**Forthcoming activities and projects**

Like many fellows before me, I have come to realise that there is no real end to the fellowship. While the funded period does finish eventually, requests for dissemination and engagement continue, and I already have many bookings for 2017. I am also engaged in several funded research projects that extend the investigatory work that the fellowship started—one project is about how graduates develop and learn to use social networks for career purposes, and the other is about how careers services can collaborate effectively and at scale with faculties to foster graduate employability in the curriculum.

**Phase 4: Connectedness learning mentoring**

There will be a phase 4 of the fellowship in 2017–18. This phase was proposed in response to direct requests from participants indicating that many of them would appreciate the opportunity to work with the fellowship’s connectedness learning toolkit over a period of time in order to embed the approach into courses and programs and evaluate its impact. Phase 4 is also a response to the summative evaluation finding that about 70% of phase 3 workshop participants wanted to foster institutional strategies to support connectedness learning, embed connectedness learning into curricula and create new programs using connectedness learning; however, by two to four months after the workshop, very few had done so.

Phase 4 will invite ten educational teams of different types from a range of higher education institutions to participate. The teams will participate in a six-month program of mentoring to embed the connectedness learning approach into their programs and organisational areas. In turn, it is anticipated that they will become champions and mentors within their schools, faculties and institutions and disseminate the connectedness learning approach beyond their programs.

Invitations to apply to participate will be sent to all phase 3 participants and those involved in the GE2.0 network. Teams will be chosen on the basis of their commitment to participate in the mentoring process, and contribution to outputs through demonstrated institutional support such as resourcing for the mentoring activities, concrete plans for dissemination and engagement within their institutions and evidence of opportunity for systemic embedding of connectedness learning within one or more programs or organisational areas (e.g., as part of a broader curriculum review initiative).
Successful teams will work with me over a period of six months to trial and test the toolkit for their context, including at least one face-to-face visit and a series of Skype conferences (conference frequency will be determined responsively by need); they will also promote their work and the toolkit within their home institution. There will be a one-and-a-half day roundtable for participants to share their findings with one another, develop the toolkit further and undertake work on a collaborative educational resource.

The key output of phase 4 will be a published educational resource, entitled “Higher Education and The Future of Graduate Employability: A Connectedness Learning Approach” (Edward Elgar), and will be published in 2019. The resource will include in-depth evaluative case studies of the mentoring process and implementation of the toolkit across the ten institutions. The resource will be published and shared widely with educators.
References


Bridgstock, R. (2016). *Paper for discussion: Graduate employability 2.0: Social networks for professional learning, career development and innovation in the digital age*. Digital Media Research Centre, Queensland University of Technology, Brisbane, Qld.


Lancaster, T. (2014). Teaching students about online professionalism: Enhancing student employability through social media. In V. Benson & S. Morgan (Eds.), *Cutting-Edge technologies and social media use in higher education* (pp. 320–343). Hershey, PA: IGI-Global.


Appendix A: Certification by Deputy Vice-Chancellor

Certification by Deputy Vice-Chancellor (or equivalent)

I certify that all parts of the final report for this OLT fellowship provide an accurate representation of the implementation, impact and findings of the project, and that the report is of publishable quality.

Name: [Signature]

Date: 17/3/17
## Appendix B: Fellowship invitations, activities and scholarly outputs

### Invited presentations and keynote speeches

<table>
<thead>
<tr>
<th>Date</th>
<th>Event title, location</th>
<th>Role</th>
<th>Participants</th>
<th>Institutions represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2016</td>
<td>Nanyang Technological University Annual Learning and Teaching Conference: From Good to Great 2016</td>
<td>keynote presentation</td>
<td>300</td>
<td>several</td>
</tr>
<tr>
<td>March 2016</td>
<td>Nanyang Technological University Annual Learning and Teaching Conference: From Good to Great 2016</td>
<td>keynote presentation</td>
<td>300</td>
<td>several</td>
</tr>
<tr>
<td>April 2016</td>
<td>Office of Learning and Teaching National Conference, Melbourne</td>
<td>poster presentation</td>
<td>~400</td>
<td>many</td>
</tr>
<tr>
<td>June 2016</td>
<td>Embedding Employability in Learning and Teaching Conference, Melbourne</td>
<td>invited presentation</td>
<td>50</td>
<td>many</td>
</tr>
<tr>
<td>Sept. 2016</td>
<td>Deans of Arts, Social Sciences and Humanities conference, Hobart</td>
<td>invited presentation</td>
<td>70</td>
<td>many</td>
</tr>
<tr>
<td>Sept. 2016</td>
<td>Graduate Employability 2.0 National Forum, Brisbane</td>
<td>main presenter</td>
<td>145</td>
<td>21</td>
</tr>
<tr>
<td>Sept. 2016</td>
<td>Queensland University Educators Showcase, Brisbane</td>
<td>keynote presentation</td>
<td>350</td>
<td>several</td>
</tr>
<tr>
<td>Sept. 2016</td>
<td>Australasian Peer Assisted Student Support and Peer Learning Conference, Sydney</td>
<td>keynote presentation</td>
<td>350</td>
<td>many</td>
</tr>
<tr>
<td>Sept. 2016</td>
<td>Australian Conference on Science and Mathematics Education, Brisbane</td>
<td>keynote presentation</td>
<td>300</td>
<td>many</td>
</tr>
<tr>
<td>Oct. 2016</td>
<td>ECulture Conference, Perth</td>
<td>keynote presentation</td>
<td>150</td>
<td>one</td>
</tr>
<tr>
<td>Nov. 2016</td>
<td>Innovative Research Universities Employability Symposium, Brisbane</td>
<td>keynote presentation</td>
<td>100</td>
<td>several</td>
</tr>
<tr>
<td>Date</td>
<td>Event title, location</td>
<td>Role</td>
<td>Participants</td>
<td>Institutions represented</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>Nov. 2016</td>
<td>Western Australian National Dissemination Network Sharing Day, Perth</td>
<td>invited presentation, poster session</td>
<td>50</td>
<td>several</td>
</tr>
<tr>
<td>Nov. 2016</td>
<td>Work and Industry Futures Employability Symposium, Brisbane</td>
<td>invited presentation</td>
<td>20</td>
<td>several</td>
</tr>
<tr>
<td>Dec. 2016</td>
<td>WIL in Science National Forum for Australian Council of Deans of Science, Melbourne</td>
<td>keynote presentation</td>
<td>60</td>
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**Phase 3 activities**

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**Scholarly outputs**


Bridgstock, R. (2016). Paper for discussion: Graduate employability 2.0: Social networks for professional learning, career development and innovation in the digital age. Digital Media Research Centre, Queensland University of Technology, Brisbane, Qld.


Appendix C: The Connectedness Learning Model and pedagogic principles unpacked

The Connectedness Learning Model introduced at Figure 3 in the body of this report is examined in detail and discussed at this Appendix using a series of 3 figures that highlight capabilities, pedagogies and strategies.

**Connectedness Capabilities**

![Connectedness Capabilities Diagram](image)

*Figure C1: The five connectedness capabilities of the Connectedness Learning Model.*

The **five connectedness capabilities** highlighted in Figure C1 represent the individual, programmatic and organisational capacities required to connect meaningfully with professional networks, and to work productively with them. The connectedness capabilities are developed through a range of considered pedagogic approaches that typically involve stakeholder interaction and authentic learning activities. In turn, these pedagogic approaches are enabled by a range of strategies that foster program, organisation and university connections with internal and external stakeholders.

1) **Building a connected identity**: the ability to represent professional identities effectively in the context of social networks, including social media profiles and personal/professional ‘branding’. Building a connected identity is a complex and ongoing process involving sense-making and self-expression through which people
selectively organise their experiences into a coherent sense of professional self, and communicate public versions of this sense of self to others.

2) **Making connections**: the ability to extend and expand professional networks and develop weak ties, including online and face-to-face ‘networking’. Growing connections focuses on fostering embeddedness into a wide professional network, and on developing initial, weak, one-to-many and indirect professional ties. These ties are important for exposure to new ideas, knowledge, industry trends and career opportunities; when strengthened; they are the foundation for professional collaboration, learning and ongoing career-enhancing relationships such as mentoring.

3) **Strengthening and maintaining connections**: the ability to strengthen professional connections and develop strong ties through reciprocity, and then maintain these as needed.

Strengthening and maintaining connections is central to professional connectedness. Embeddedness in a professional network and developing weak ties is important for exposure to new ideas, knowledge and various kinds of resources, but strong ties and deeper relationships are required for most other processes within socially based professional, learning and career development and collaborative innovation/problem-solving. For example, strong ties bring new ideas to fruition through integration and refinement; career development is facilitated through strong-tie information and resource sharing, career sponsorship and mentoring processes; and professional learning is facilitated through strong ties in communities of practice and enquiry. While acquiring and growing connections can occur in online or face-to-face modes, or a combination of both, strengthening connections often involves more extended face-to-face contact and interaction.

4) **Working with connections**: the ability to work effectively and professionally with collaborators and networks in authentic professional contexts and for professional applications. It also involves making the most of connections for purposes such as collaborative innovation and problem-solving, career development and enterprise and socially based learning.

5) **Developing social network literacy**: the ability to understand, interpret and evaluate the characteristics and processes of professional networks, and to apply this knowledge and skills for professional purposes. Social network literacy includes the ability to (i) articulate the roles that social networks play in professional life, and how professional social networks operate; (ii) identify, interpret, analyse and communicate signs and symbols and other data relating to professional networks; and (iii) to navigate social networks strategically and effectively for professional purposes.
The seven key pedagogic approaches highlighted in Figure C2 represent the main ways that universities foster learners’ professional networks and connectedness capabilities. The implementation of each pedagogic strategy should be undertaken to maximise development of connectedness capability, bearing in mind that each pedagogic strategy has different strengths, and that strategies should be implemented as part of a complementary strategy suite.

1) **Work-integrated learning:** learning that occurs at the intersection and engagement of theoretical and practice learning – for-credit learning that incorporates key elements of the workplace, including:
   - internships and work placements, practica
   - industry/community-partnered projects
   - collaborative student projects (particularly cross-disciplinary)
   - enterprise and entrepreneurship learning, start-ups
   - study tours.

2) **Industry teaching and engagement:** direct industry teaching into programs, including industry guest lectures and seminars, career mentoring programs, face-to-face and online networking events and fora, sessional teaching by industry-active staff and informational interviewing programs.
3) **Alumni teaching and engagement**: teaching approaches, as for ‘industry teaching and engagement’ above, with a specific emphasis on program graduates or broader disciplinary area.

4) **Co-curricular activities**: facilitation, support and recognition (formal or otherwise) for activities undertaken by students outside the ‘formal course curriculum’, such as volunteering, student leadership roles, community engagement and service learning, and paid work.

5) **Student partnerships**: students work with one another and/or with university-based collaborators to enhance learning and teaching, the broader student experience or other university functions. This includes ‘students as partners’ initiatives, clubs and societies, university ideas jams and student representation of the program/faculty/university at external events. These collaborations may or may not be included in co-curricular support and recognition schemes.

6) **Social media and ePortfolios**: developing and maintaining a professional online presence, e.g., through ePortfolios, LinkedIn and other social media platforms. Through individual development of social media profiles and ePortfolios, students can evidence formal and informal learning and capability development and provide artefacts in support of this. While ePortfolios are often used at university for assessment and reflective learning purposes, they are particularly useful for connectedness learning, since they act as a platform for collaboration and learning with peers and industry professionals, and for career development purposes.

7) **Connected learning**: online and face-to-face learning through open, industry-authentic collaborative and social mechanisms and networks (e.g., blogs, Twitter). Connected learning is learning that occurs through communities of enquiry and practice, and also distributed online and offline networks. It is often based in inquiry, problem-solving, creativity, communication and collaboration.

There are 10 pedagogic principles for effective connectedness learning.

**Through the learning experience:**

1) students have the opportunity to develop professional connections and relationships

2) students develop one or more of the connectedness capabilities, particularly building a connected identity and identifying and growing new connections

3) students develop skills for career development learning, networked learning and/or collaboration for problem-solving or creating new knowledge

**Characteristics of the learning experience:**

1) the learning is authentic — it occurs in real professional contexts, involving professional activities and interactions with professionals; this may involve use of open, industry-authentic tools and technologies

2) students co-design a learning experience that is meaningful for them

3) industry partners provide input into designing a learning experience that is meaningful for them

4) partners are carefully selected for alignment with student and program needs, and will benefit from/find value in the partnership themselves

5) appropriate ‘just-in-time’ resources and learning activities are provided to help students and connect with networks effectively

6) every element of the program is tailored to partner, learning context and specific student needs
7) students maintain the connections they have made, and continue to benefit from them, including maintaining ongoing engagement with the program (e.g., as alumni).

### Enabling Strategies

Figure C3: The seven enabling strategies of the Connectedness Learning Model.

The **seven enabling strategies** highlighted in Figure 3C are employed in support of creating and maintaining partner, collaborator and broader network engagement plans and practices to cultivate a better connected program, organisational area and/or institution. The plan addresses the development of connectedness capabilities at an organisational level.

1) **Develop an integrated suite of connectedness pedagogies and partners:** build an integrated program of connectedness pedagogies. Consider how each chosen pedagogic approach works individually and with others to develop student connectedness capabilities, given specific disciplinary and industry needs. Maximise the benefit of connections by partnering across multiple pedagogic approaches where appropriate. Partner with stakeholders across multiple pedagogies where appropriate.

2) **Identify, develop and strengthen key relationship broker roles:** which individuals and teams will be responsible for developing and maintaining extra- and intra-university/program connections and partnerships? What level of resourcing (including workload allocation) will be required? How will the benefits of personal points of contact be balanced with the risks of individually brokered connections?

3) **Reduce institutional barriers to extra-university connectedness:** for example, streamline processes, create simple, responsive and personal points of contact,
reduce forms and ‘red tape’, and simplify and standardise intellectual property, legal and insurance processes.

4) **Identify, make and grow strategic extra-university connections:** identify key industry and community partners in line with strategic plans, actively seek connections for consultation and engagement, offer genuine value to connections (e.g., continuing professional education and networking opportunities, a pipeline of excellent students/graduates for employment, access to facilities, research expertise) and manage connections sensitively.

5) **Strengthen and maintain extra-university connections:** develop deeper stakeholder engagement strategies, moving from finite and transactional to long-term partnerships and collaborating on mutually beneficial tasks (e.g., knowledge exchange activities, investment and building trust, keeping one another ‘in the loop’).

6) **Foster intra-university connectedness:** ensure that networks of individuals and programs engaged in similar or related practices (e.g., alumni engagement program leaders, faculty stakeholder engagement managers) are built across organisational areas to maximise learning, knowledge transfer and connection sharing.

7) **Use connectedness-enabling digital tools, platforms and infrastructure:** where possible, choose digital technologies that support and enable connectedness learning—for instance, those that are industry-authentic, open and connected into wider networks beyond the university (e.g., social media, blogs, industry-authentic online portfolios).

There are eight enabling principles for better connected programs, organisational areas and institutions:

1) **Embeddedness into wider networks:** the program is ‘plugged in’ to wider professional, industry and interest groups and networks.

2) **Identifying and making new connections:** the program seeks out and develops new relationships in a strategic and effective way, according to principles of reciprocity.

3) **Strengthening and maintaining connections:** the program deepens the relationships it has in an effective way, including by valuing its connections.

4) **Interacting with connections:** Interactions and communications are straightforward and effective.

5) **Reducing barriers to connectedness:** processes are simple and straightforward, and ‘red tape’ is minimised.

6) **Intra-university connections:** partnerships and networks within the university are optimised.

7) **Resourcing for connectedness:** there are enough resources (people, funding) to foster connectedness.

8) **Connectedness tools, platforms and digital infrastructure:** where students, teachers and programs need to connect with the outside world, real ‘industry-authentic’ and open tools are used.
Appendix D: Graduate Employability 2.0 poster

Graduate Employability 2.0
Learning to connect

What is Graduate Employability 2.0?
The networked approach to graduate employability is concerned with the social and relational dimensions of learning, work, and career.

In the 21st century, many of these dimensions involve interactions and activities in digital spaces as well as face-to-face.

With a strong basis in theories of social constructionism and connectivism, the networked approach recognizes the fact that together we achieve much more through social activities such as:

- mentoring
- Collaborative problem solving
- Crowdsourcing
- Networked learning

Why connectedness learning?
The ability to make, grow, and strengthen professional connections, and interact and work with them effectively and strategically has long been recognized as essential to lifelong employability.

Professional networks have a vital role to play in various aspects of career development, innovation and problem-solving processes, and socially-based learning. With the advent of digitally mediated communication and the widespread use of social media, network effects on employability are both intensified and amplified.

How is the networked approach and connectedness learning different?
So far, university engagement with graduate employability has been focused on developing the individual skills and capabilities to find and acquire suitable work, perform well, and to build a lifelong career.

The networked approach instead foregrounds the central role of reciprocal partnerships, groups, communities, and networks to employability, and developing the capabilities to make the most of these.

Together we can be much smarter and achieve much more than individuals 'going it alone'.

How connected are our students?
Despite the centrality of professional relationships to employability, the fellowship’s 2016 survey of 192 2nd and 3rd year students across multiple disciplines in two Australian universities shows that students are not at all well connected into professional networks.

How connected are our universities?
From 57 interviews across 34 institutions, two core metaphors emerged:

- The university as a walled garden, keeping learning, learners and resources on the inside, and the rest of the world outside
- The university as a group of islands, where learners, programs, staff and organisational areas are separate and do not communicate or collaborate

Universities are becoming more connected, but we continue to struggle with:
- Moving beyond the ad hoc to more strategic, joined up, larger scale
- Top down vs bottom up, centralized vs decentralized policies and practices
- Basic stakeholder engagement (internal and external)
- Resource allocation and management
- Responsive, personal engagement (bureaucracy, forms, generic email ad dresses)
- Implementing effective, agile risk management

What has the fellowship achieved so far?
Through analysis of more than 70 interviews with university representatives, industry and alumni, the fellowship has developed a theoretical model of connectedness learning, comparing individual capabilities; learning and teaching approaches; and institutional enabling strategies for connectedness.

The fellowship has also developed:

- A series of connectedness learning principles
- An educators’ toolkit. The toolkit can be used for program analysis and planning, either individually or through a whole-of-terms program workshop approach.
- Cases of exemplary educational practice.

Phases
1. Higher education surveys (n=192 students) and interviews (n=32, 34 Australian universities), case studies of practice - 9 graduates, 6 educators / researchers, 10 higher education program coordinators.
2. Development of connectedness learning model and educators’ toolkit.
3. 120 educators from 24 universities come together to test and refine the model and toolkit

Seminars & workshops at 20 universities around Australia

How can I get involved?
(1) Attend a workshop or presentation at your university
(2) Access the connectedness learning toolkit and resources, and join the community of practice

Details are available at www.graduateemployability2.0.com

Graduate Employability 2.0
65
Appendix E: Fellowship factsheets

What is the networked approach to graduate employability?

The networked approach to graduate employability is concerned with the social and relational dimensions of learning, work and career. In the 21st century, many of these dimensions involve interactions and activities in digital spaces as well as face-to-face.

How is the networked approach different?
To date, universities’ engagement with graduate employability has been focussed on developing the individual skills and capabilities to find and acquire suitable work, perform well and add value in that work, and to build a lifelong career. The networked approach is complementary to this, and foregrounds the central roles of partnerships, groups, communities, and networks to employability, and developing the capabilities to make the most of these. With a strong basis in theories of social constructivism and connectivism, the networked approach embraces the fact that through social activities such as mentoring, collaborative problem-solving, crowdsourcing and networked learning, we can be much smarter and achieve much more than as individuals ‘going it alone’.

Why is the networked approach important?
The ability to make, grow and strengthen professional connections, and interact and work with them effectively and strategically has long been recognised as essential to lifelong employability. Professional networks have a vital role to play in various aspects of career development, innovation and problem-solving processes, and socially-based learning (see Bridgstock, 2016). With the advent of digitally mediated communication and the widespread use of social media, network effects on employability are both intensified and amplified.

Increasingly, universities are also seeking to build their own connectedness, and to enrich learning and teaching by collaborating and partnering with stakeholders from industry and community and their own alumni and students. In so doing, they strengthen their programs’ authenticity and relevance. They can start to foster dynamic lifelong learning communities and broader networks, where the learning relationship can continue beyond the conclusion of a degree program (see Bridgstock, 2017). They can also broaden these relationships to have benefits into other areas of university activity, such as research and knowledge transfer.

What is connectedness learning?
Connectedness learning is learning for, and through, social relationships and wider networks. The networked approach to graduate employability is particularly concerned with how connectedness learning can be applied for various professional and career development purposes and contexts.

The Graduate Employability 2.0 connectedness learning model summarises the:

- individual capabilities
- learning and teaching approaches and principles
- broader institutional enabling strategies

that support students, teachers, programs and educational institutions to cultivate and promote a networked approach to lifelong graduate employability.


What is the networked approach information sheet

Graduate Employability 2.0
Why take a networked approach to graduate employability?

for students and graduates

Professional relationships

Professional relationships have long been central to career development, collaboration for creativity and problem solving, and professional learning. In 1973 Mark Granovetter reported that 60% of jobs were obtained through informal, social means. However, between 80 and 90% of graduates apply for jobs only using direct application methods such as applying for advertised jobs on SEEK. Around 70% of learning in the workplace happens informally, and about 90% of this learning is socially based. However, social learning skills are not commonly emphasised in university courses.

In the 21st century era of global connectivity and networks, the potential impact of social relationships on employability is even greater: LinkedIn now has 300 million users, which represents 1 in 3 professionals worldwide. One study from 2013 (Broughton et al., 2013) reported more than 93% of recruiters and employers used LinkedIn to screen potential applicants. Online networks are also increasingly used for collaboration, to crowdsourced resources and ideas, and as a ‘1-to-many’ platform for personal branding and career networking (Bridgstock, 2016).

The opportunity that professional connectedness represents for learning for employability

Despite the evident centrality of professional relationships to employability, my 2016 survey of 2nd and 3rd year undergraduate students across multiple disciplines in two Australian universities shows that students are not at all well connected into professional networks.

Survey Results

2nd and 3rd year students across all disciplines

- 8 in 10 do not have an up-to-date LinkedIn profile
- 60% do not think of any of their teachers as being industry active
- 80% do not have an online portfolio of their work of any kind
- 30% have met 0 employers
- 93% wanted more information about how to improve their networks and networking skills for professional purposes
- 82% are on Facebook every day, but only 12% use social media regularly for professional purposes

Developing professional connectedness and connectedness capabilities

A random sample of 192 2nd and 3rd year undergraduate students across all Faculties and disciplinary areas, n=192
Why take a networked approach to graduate employability?

for students and graduates

Graduate Employability 2.0

Graduate Employability 2.0 seeks to foster students’ professional connectedness capabilities for success in life and work. These capabilities include:

- **Building a connected identity** - career identity, branding, social media presence
- **Growing connections** - growing networks, networking, weak ties
- **Strengthening and maintaining connections** - strengthening networks, strong ties, collaboration
- **Working with connections** - for innovation / problem solving, for career development, for learning
- **Developing social network literacy** - the ability to reflect upon and articulate (i) the roles that social networks play in professional life, & (ii) how professional social networks operate; the ability to navigate social networks strategically and effectively

Key pedagogic approaches

Certain key pedagogic approaches rely heavily on the university’s external relationships and professional networks. These approaches have complementary strengths, and each program should ideally employ a combination of these approaches, to maximise graduate employability and curriculum relevance:

1. **Work integrated learning** - learning that occurs at the intersection and engagement of theoretical and practice learning – for credit learning that incorporates key elements of the workplace, including internships and work placements, industry / community partner projects, trans-disciplinary student projects, enterprise and entrepreneurship learning, start-ups, study tours.
2. **Industry teaching** - direct industry teaching into programs, including guest lectures, career mentoring programs, networking events and online networking sites, sessional teaching by industry-active staff, informational interviewing.
3. **Alumni engagement** - with pedagogies as for ‘industry teaching’ above, with a specific emphasis on graduates of the the program or broader disciplinary area.
4. **Co-curricular activities** - facilitation, support and recognition (formal or otherwise) for activities undertaken by students outside the ‘formal course curriculum’, such as volunteering, student leadership roles, community engagement and service learning, and paid work.
5. **Student-student and student-university collaborations** - students work with one another, and/or university-based collaborators to enhance learning and teaching, the broader student experience, or other university functions. Includes ‘students as partners’ initiatives, clubs and societies, university ideas jams, student representation of the program / faculty / university at external events. These collaborations may or may not be included in co-curricular support and recognition schemes.
6. **Online professional identity building** - development and maintenance of a professional online presence, e.g., through e-portfolios, LinkedIn and social media.
7. **Connected learning** - learning online through open, industry-authentic social networks (e.g., blogs, twitter)

Universities can improve the efficacy of these pedagogic approaches by enacting a series of 6 programmatic, organisational area, and university-wide enabling strategies for connectedness. These strategies support the university to connect and partner with industry, community and internal stakeholders effectively, which in turn improves the professional connectedness of students.

For more about the connectedness capabilities, pedagogic approaches, and enabling strategies, including a model of connectedness learning and practical toolkit for educators, please visit:

www.graduateemployability2-0.com

developing professional connectedness and connectedness capabilities
Why take a networked approach to graduate employability?

Fostering meaningful connections and partnerships

Fostering meaningful connections and partnerships with industry and community is increasingly important for university learning and teaching. As well as offering distinct employability advantages for students in terms of the development of work readiness, employability skills and professional networks, university teaching partnerships with industry can enrich and improve the authenticity of our teaching practices, and can help ensure curricular relevance. There may also be flow on effects into research and knowledge transfer activities.

However, many universities continue to perpetuate the ‘walled garden’ approach to higher education: as far as possible, resources, learners, and teaching are kept on the inside. External partnerships are often ad hoc, short-term, and impeded significantly by inconsistent, over-complicated and impersonal university systems and processes. Important internal connections between different areas of the university and those involved in related initiatives or programs are likewise often tenuous or absent.

Interview findings

My interviews with representatives from 34 Australian universities in 2016 revealed that while the higher education sector is committed to large scale adoption of teaching that involves work integration and external partnerships, our stakeholder engagement strategies and processes remain extraordinarily under-developed.

Key pedagogic approaches

Certain key pedagogic approaches rely heavily on the university’s external relationships and professional networks. These approaches have complementary strengths, and each program should ideally employ a combination of these approaches, to maximise graduate employability and curriculum relevance:

1. Work integrated learning (including internships and work placements, industry / community partnered projects, trans-disciplinary student projects, enterprise and entrepreneurship learning, start-ups, study tours)

2. Industry teaching, including guest lectures, career mentoring programs, networking events and online networking sites, sessional teaching by industry-active staff, informational interviewing

3. Alumni engagement, with pedagogies as for ‘industry teaching’ above, with a specific emphasis on graduates of the text is missing here

4. Co-curricular activities, including facilitation, support and recognition for activities undertaken by students outside the ‘formal curriculum’, such as volunteering, student leadership roles, community engagement, paid work

5. Student-student and student-university collaborations: including ‘students as partners’ initiatives, university ideas jams, student representation of the program / faculty / university at external events

6. Online professional identity building – development of a professional online presence, e.g., through e-portfolios, LinkedIn and social media

7. Connected learning – learning through open, industry-authentic social networks (e.g., blogs, twitter)

Building a connected university
Why take a networked approach to graduate employability?

for university educators

Enabling Strategies

Universities can improve the efficacy of these pedagogic approaches by enacting a series of 6 programmatic, organisational area, and university-wide enabling strategies for connectedness. These strategies support the university to connect and partner with industry, community and internal stakeholders effectively, which in turn improves the professional connectedness of students.

The enabling strategies are:

- Develop a joined-up, complimentary suite of connectedness pedagogies and partners: build an integrated program of connectedness pedagogies. Consider how each chosen pedagogic approach works individually and with others to develop student connectedness capabilities, given specific disciplinary and industry needs. Maximise the benefit of connections by partnering across multiple pedagogic approaches where appropriate. Partner with stakeholders across multiple pedagogies where appropriate.

- Identify, develop and strengthen key relationship broker roles: which individuals and teams will be responsible for developing and maintaining extra- and intra-university/program connections and partnerships? What level of resourcing (including workload allocation) will be required? How will the benefits of personal points of contact be balanced with the risks of individually brokered connections?

- Reduce institutional barriers to extra-university connectedness: e.g., streamline processes, create simple, responsive and personal points of contact, reduce forms and ‘red-tape’, simplify and standardise intellectual property legal, insurance processes

- Identify, make and grow strategic extra-university connections: identify key industry and community partners in line with strategic plans, seek connections actively for consultation and engagement, offer genuine value to connections (e.g., continuing professional education and networking opportunities, a pipeline of excellent students and graduates, access to facilities, resources and research expertise), manage connections sensitively

- Strengthen and maintain extra-university connections: develop deeper stakeholder engagement strategies, moving from finite & transactional to long-term partnerships, collaborating on mutually beneficial tasks e.g., knowledge exchange activities, investment and building trust, keeping one another ‘in the loop’

- Foster intra-university connectedness: ensuring that networks of individuals and programs engaged in similar or related practices (e.g., alumni engagement program leaders; faculty stakeholder engagement managers) are built across organisational areas, to maximise learning, knowledge transfer, and sharing of connections.

For more about the connectedness capabilities for employability, pedagogic approaches, and enabling strategies, including a model of connectedness learning and practical toolkit for educators, please visit:

www.graduateemployability2-0.com

Building a connected university
Higher education interviews

Key findings

About the interviews

From May to August 2016, the Graduate Employability 2.0 team conducted more than 50 interviews with staff in different learning and teaching-related roles from a total of 34 Australian universities. We wanted to build a national picture of higher education engagement with learning and teaching for professional connectedness. We also profiled a number of HASS graduates and industry/community representatives across Australia, to explore how professional connections and networks are important for success in 21st century work and life.

Some key findings from this research are presented below.

Universities are stepping up to the challenge

Australia wide, universities are stepping up to the challenge of fostering graduate employability through industry and community engagement. There is a national movement towards the development of university-wide employability strategies and infusion of employability skills and career development learning into all levels of the curriculum and elements of the university experience.

We are using a range of broad pedagogic approaches that support the university-wide strategies, including: new models of WIL, alumni engagement, co-curricular facilitation and recognition, social media and professional identity building online, and connected learning.

We continue to struggle with the resource-intensiveness of effective industry engagement, and the scalability of our programs. The ad hoc approaches that used to work with a small number of students across a few programs and a few industry partners are proving less effective as we move into an era where 100% of our students will experience learning that is integrated with, related to, and/or otherwise connected with the world of work.

Some specific findings

Learning for professional connectedness remains tacit and undervalued. Students are increasingly working with industry and community, but often do not realise the importance of the connections they are making, or how to value and foster those connections for future employability.

We need to go beyond LinkedIn profiles. Development of student professional identities online is key to employability, but employers are looking for more than simple LinkedIn profiles and ePortfolios. How are students actively engaged with their online professional networks? Do they have industry authentic blogs, portfolios, social media presences? Are they interacting with the professional community?
Higher education interviews

Key findings

Professionals use their social networks to learn, but universities tend not to promote this type of learning. There are substantial opportunities for students, universities and industry in ‘connected learning’, building learning communities and communities of enquiry around mutual areas of interest and practice. How can we start to build these broader communities and networks and learn from each other?

How are we supporting student networking? Many of our industry-engaged pedagogic strategies build a few strong professional connections. On average, students know only 1 employer when they graduate (often a WIL employer). How are we supporting our students to ‘network’ and grow their wider professional connections?

Enabling strategies

University approaches to external and internal stakeholder engagement are universally underdeveloped. Universities are still taking short-term, ad hoc and often transactional approaches to working with our industry partners.

Some key questions:

- Who are our key industry and community partners, and what are we offering them in the long term?
- How are we valuing their input in co-creating learning experiences for and with students?
- How can we ‘get out of our own way’, reduce institutional barriers to connectedness and improve engagement?
- Who are our key contact points in the university for industry and community engagement? What kinds of resourcing and support do they need?
- How do we join up our engagement strategies and points of contact to improve consistency and quality of engagement?
- How do we manage risk?

For more about the connectedness capabilities, pedagogic approaches, and enabling strategies, including a model of connectedness learning and practical toolkit for educators, please visit:

www.graduateemployability2-0.com

higher education interviews information sheet
Learning and Teaching Principles for Connectedness Learning

About the principles and strategies

From April to August 2016, the Graduate Employability 2.0 fellowship team conducted more than 70 interviews with Australian university educators, industry/community partners, and graduates. The interviews asked about:

- The participants’ experiences partnering and connecting with others for learning
- The characteristics of effective connectedness learning
- The strategies they had use to foster connectedness and the effectiveness of those strategies

From the interviews, 10 pedagogic principles, and 8 enabling principles emerged as being important to the connectedness of learners, educational programs, faculties, and universities. The pedagogic principles relate to key features of student learning and learning experiences, and the enabling principles relate to the ways that programs engage with current and potential connections.

The 10 pedagogic principles for effective connectedness learning

Through the learning experience

1. Students have the opportunity to develop professional connections and relationships

2. Students develop one or more of the connectedness capabilities, particularly building a connected identity

3. Students develop skills in terms of career development training, networked learning, and/or collaboration for problem-solving or creation of new knowledge.

Characteristics of the learning experience

4. The learning is authentic: it occurs in real professional contexts, involving professional activities and interactions with professionals. This may involve use of open, industry-authentic tools and technologies

5. Students co-design a learning experience that is meaningful for them

6. Industry partners provide input into designing a learning experience that is meaningful for them

7. Partners are carefully selected for alignment with student and program needs, and will benefit from/find value in the partnership themselves

8. Appropriate just-in-time resources and learning activities are provided to help students and connect with networks effectively

9. Every element of the program is tailored to partner, learning context and specific student needs

10. Students maintain the connections they have made, and continue to benefit from them, including ongoing engagement with the program (e.g. as alumni).

The principles and strategies for a connected university
Learning and Teaching Principles for Connectedness Learning

Enabling Principles

The 8 enabling principles for better connected programs, organisational areas and institutions are:

1. Embeddedness into wider networks: the program is ‘plugged in’ to wider professional, industry, and interest groups and networks
2. Identifying and making new connections: the program seeks out and develops new relationships in a strategic and effective way, according to principles of reciprocity
3. Strengthening and maintaining connections: the program deepens the relationships it has in an effective way, including valuing its connections
4. Interacting with connections: Interactions and communications are straightforward and effective
5. Reducing barriers to connectedness: processes are simple and straightforward, with ‘red-tape’ minimised
6. Intra-university connections: partnerships and networks within the university are optimised
7. Resourcing for connectedness: there are enough resources (people, funding) to foster connectedness
8. Connectedness tools, platforms and digital infrastructure: where students, teachers and programs need to connect with the outside world, real ‘industry authentic’ and open tools are used to make this happen

For more information on the connectedness learning principles and a practical toolkit for educators including tools for analysis and action, resources for reference and case studies of practice head to:

www.graduateemployability2-0.com

The principles and strategies for a connected university
Appendix F: External evaluation report

Independent Evaluation Report for the OLT-funded National Senior Teaching Fellowship: ‘Graduate employability 2.0: building digital capabilities for lifelong career development’

Fellow: Associate Professor Ruth Bridgstock

Evaluator: Erica Lenore McWilliam, Adjunct Professor Faculty of Education, QUT

Date: 3 March 2017

Approach to evaluation

The perspective from which I evaluate this fellowship has been characterised by the Australian Learning and Teaching Council as that of an ‘internal outsider’—that is, ‘an individual in the fellowship institution from another Faculty or School who has no actual, potential or perceived stake in the fellowship or its evaluation outcomes’ (Australian Learning and Teaching Council, 2011, p. 13). I am an outsider in that:

- I have played no role in the conceptualisation of the fellowship.
- As an adjunct professor and active consultant to the schooling industry, I have no direct professional stake in the fellowship’s outcomes.

That said, I welcome the opportunity to act as the evaluator, given my credentials as someone ‘internal’ to the specific field of educating for employability, as evidenced by:

- my long-term interest as an academic and educational consultant in preparing young people for ‘over the horizon’ futures, including the following:
  - relevant papers on my website (http://www.ericamcwilliam.com.au)

- my familiarity with the track record of quality work that Ruth Bridgstock has produced. I have a long history of co-publishing with aspiring young academics and have done so with this fellow in 2008 before she launched her academic career in creative industries (see McWilliam, E., Bridgstock, R., Lawson, A., Evans, T., & Taylor, P. G. (2008). Who’s dean today: Acting and interim management as paradoxes of the contemporary university, Higher Education Policy and Management, 30(3), 323–333)

- invitations extended to me by the fellow to participate as a critical friend in two key events, one in the middle and one towards the end of the fellowship: the GE2.0 Forum (16 September 2016) and the final symposium (10 February 2017); further to this, there have been a number of exchanges (emails and meetings) in relation to specific issues regarding data collection and analysis

- my status as a former Assistant Dean Research in a Faculty of Education, a Fellow of the Australian Council of Education, an Honorary Fellow of the Australia
Council of Educational Leadership and a Fellow of the Learning and Teaching Council of Australia.

In summary, I come with an insider’s understanding of the pushes and pulls extant in the ‘employability’ context in which this fellowship has operated and its potential benefits within the tertiary sector; however, I also have an outsider’s specialist expertise in relation to methodological transparency and the importance of the fellowship’s impact, including potential ‘buy-in’ from stakeholders within and outside the university sector.

The fellowship

The fellowship was designed to develop the capacity of Australia’s tertiary students and staff to build digital career capabilities for graduate employability and lifelong career development, particularly in the humanities, arts and social sciences disciplines, which are not usually associated with ‘vocational’ career pathways. The fellowship’s focus on graduate employability is timely, given growing concerns that the higher education sector is losing credibility as a producer of the sorts of graduate dispositions that map directly onto the current volatile, unpredictable, complex and ambiguous (VUCA) work environments (see, for example, Cowen, 2013; Haesler, 2015; Susskind & Susskind, 2015).

The outcomes of the fellowship’s four operational phases, when taken together, challenge current thinking about the relationship between graduate employability and a university education in a number of important ways. In theoretical terms, it challenges notions of graduate employability as a collection of disciplinary and generic skills possessed by an individual graduate, emphasising instead the relational and networked factors that have been largely tacit and ignored by higher education to date and moving forward to capitalise on the affordances of the digitally networked society. In practical terms, its findings contest the widely held view that IT training, or its absence, is at the heart of employability in this digital age. It calls into question the central proposition of a recent Australian Government report that ‘[r]estoring the focus on STEM [science, technology, engineering and mathematics] subjects’ is the key to ‘ensuring Australia’s young adults are equipped with the necessary skills for the economy of the future’ (Australian Government Department of Education and Training, 2015).

Importantly for learning and teaching in the sector, the fellowship does much more at a practical level than merely add to the chorus of voices advocating new approaches to employability from higher education. It provides both a fresh, evidence-based conceptualisation of the attributes of ‘future capable’ graduates, and a practical, evidence-based approach to building these capabilities across all faculties within Australian universities.
**Process**
The overall approach taken exemplified the design thinking, non-linear, rapid prototyping process (Stanford Social Innovation, 2009) shown in the diagram below, and used by the fellow in her toolkit workshops in phase 3 and at the final symposium in February 2017.

**GE2.0 fellowship design thinking processes by phase and activity**

<table>
<thead>
<tr>
<th>Fellowship phase and activities</th>
<th>Design thinking phase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1:</strong> Higher education and industry/alumni interviews, student surveys, case studies</td>
<td>empathise</td>
</tr>
<tr>
<td><strong>Phase 1:</strong> Synthesis of findings, check with phase 1 participants</td>
<td>define</td>
</tr>
<tr>
<td><strong>Phase 2:</strong> Development of draft Connectedness Learning Model and educator rubrics (v. 1)</td>
<td>ideate</td>
</tr>
<tr>
<td><strong>Phase 2:</strong> Reference group and connectedness learning network feedback on model</td>
<td>refine</td>
</tr>
<tr>
<td><strong>Phase 2:</strong> Design and development of prototype Connectedness Learning Model and comprehensive toolkit (v. 2)</td>
<td>prototype</td>
</tr>
<tr>
<td><strong>GE2.0 Forum:</strong> Workshopping and refinement of model and toolkit</td>
<td>refine/reflect</td>
</tr>
<tr>
<td><strong>Phase 3:</strong> Develop workshop and online versions of model and toolkit (v. 3)</td>
<td>develop</td>
</tr>
<tr>
<td><strong>Phase 3:</strong> Trial model and toolkit through ‘roadshow’ engagement with 18 universities, asking for feedback and input at each institution</td>
<td>test</td>
</tr>
<tr>
<td><strong>Phase 3:</strong> Progressive refinement of model and toolkit (v. 4), augmentation of case study collection</td>
<td>refine</td>
</tr>
<tr>
<td><strong>GE2.0 Symposium, Phase 3 participant survey:</strong> Summative testing of model, toolkit, phase 3 impact and outcomes</td>
<td>refine/reflect, empathise</td>
</tr>
<tr>
<td><strong>Phase 4:</strong> in-depth mentoring—new extended phase to foster systemic and programmatic adoption</td>
<td>define, ideate</td>
</tr>
</tbody>
</table>

The fellowship was enacted in four iterative phases, each of which had specific outcomes that informed the next phase.

**Phase 1**, an environmental scan and data collection phase (March to August 2016), was directed towards ‘undoing’ the perceived binary relationship of ‘online’ or ‘real time’ learning engagement. In methodological terms, this meant data gathering that encompassed face-to-face interviews as well as digital networks. Extensive interviews with educators, alumni, industry representatives and recruiters were combined with 25 case studies of exemplary ‘silo-busting’ practice and 192 student questionnaires to provide top-level statistics regarding professional connectedness. A key outcome of this phase was the first version of the Connectedness Learning Model, underpinned by a set of pedagogic principles that were built from the data analysis.
What became evident during this phase was the extent to which university staff identified intra-organisational structures as de-limiting possibilities for expanding their own networks, given the internal demands of each institution.

In evaluating this initial phase of the fellowship, I would make a number of points:

- Ambitious data collection occurred in a relatively short time. The process was in line with contemporary design thinking that ‘empathising’ is a more valuable starting point for problem-solving than ‘brainstorming’.

- It might have been useful to have a fuller record of the status of the academic teachers interviewed (I am aware that some record was made of interviewees’ contracts). A breakdown of their status as full time, part time or casual would have provided useful baseline data for considering what constraints are experienced by particular subsets of academic teachers, many of whom are likely to have no say in the design of course materials or pedagogical processes (see Taylor, 1999, p. 109). A future project might be directed at understanding more about relationship between graduate employability, academic connectedness and the ongoing casualisation of university teaching.

- There was troubling evidence of university structures and teaching culture as perceived impediments to networking and connectivity rather than overall enablers. This negativity is a serious issue in light of the promises being made to young people about university degrees enhancing their employability prospects.

- The Connectedness Learning Model that was developed is understood as ‘in draft form’ only—this openness to refinement is a plus in the approach taken to this fellowship.

- The refereed publications from phase 1 (two based on the literature review and one pending from the survey of students) indicate the rigour of the fellowship’s theoretical and analytic components.

**Phase 2** involved synthesising the interview research findings, refining the Connectedness Learning Model and developing a draft toolkit; both the model and toolkit were ‘road tested’ in September 2016. Over 100 participants at that event provided input into the toolkit draft. Recommended modifications from participants were not amenable to adjustment within the one toolkit, given that some preferred a tool that allowed deep reflection on a rubric, while others wanted the tool to be abbreviated. Two versions resulted, one of which served for those seeking extensive engagement from a whole-of-course team, while the other enabled speedy individual engagement. Educators can now download version 3 of the toolkit, as well as fact sheets to assist those seeking to further this initiative in their universities and faculties.

In evaluating phase 2 of the fellowship, I would make the following points:

- This phase provides evidence of the project management’s flexibility, demonstrating the fellow’s preparedness to be user-led, pursuing more practical outcomes for stakeholders than were planned for in the original project design.

- While the construction of a website that allows tools and materials to be downloaded is no longer a unique aspect of project design, it is rare to see the number of active users (460 at the time of writing and another 1,300 in the network) in a relatively short time.
• The plan to submit a paper to the *Higher Education Research and Development* journal before or in April 2017 is an indication that more scholarship of teaching will be forthcoming from this phase of the research.

**Phase 3** was designed as in-depth professional development (case study trials) delivered by the fellow within four institutions. However, it had become evident from participant feedback at the end of phase 2 that in-depth case studies would be unworkable in the timeframe, and that more value would be added by directly involving more than four universities in the professional learning opportunities offered by introducing the refined Connectedness Learning Model and toolkits. Phase 3 was redesigned, on the basis of this feedback, as an Employability 2.0 roadshow, which including visits to 18 universities from September 2016 to December 2016, culminating in a final Showcase Symposium event in February 2017, attended by 120 participants (I attended one of the roadshow events in November, 2016 and the final event in February 2017). Approximately 500 university staff participated in the roadshow workshops, which had a further 1,000 participants overall. Participants included frontline staff, senior management, management and organisational area leadership, leaders of co-curricular teaching programs and learning designers, with the composition varying across institutions. Requests for presentations, workshops and roundtables were met despite tight timetables and a larger and more logistically complex workload for the fellow, who is currently doing a summative evaluation by surveying the impact of the tools and processes developed through the fellowship. My conversation with the fellow indicates that 81.5% of phase 3 participants have put elements of the model into action, and this augurs well for sustainability of impact.

In evaluating phase 3 of the fellowship, I would make the following points:

• Changing the design of a one-year fellowship is not something that I would recommend in normal circumstances. In this case, however, it was a decision made in direct response to the feedback received. To have continued with the original design would have meant losing an opportunity both for broadly disseminating the fellowship’s key findings and for further refining the model and toolkit. I therefore regard this change as evidence of agile responsiveness to the data, not a failure to enact the program as originally specified. In other words, it speaks to the success of the fellowship during phases 1 and 2 in ‘listening to the field’, and then a high degree of reflexivity in meta-level rethinking of the most appropriate methods to adopt in phase 3.

• As has been acknowledged by the fellow in personal discussions with me, real programmatic intervention needs a longer timeframe than that allowed by the fellowship. It is thus unrealistic to anticipate deep culture change to be evident in any of the participating universities. To determine the extent to which the Connectivity Learning Model and related toolkits have real stickability for academic teachers will require more time, and monitoring of online users beyond 2017. That said, the phase 3 roadshows have disseminated a highly innovative approach to teaching for graduate employability and very practical tools for doing so.

• The fact that few research-only staff were in the mix of roadshow participants does underline the point that the research-or-teaching binary is still a fixture in most Australian universities; this is sub-optimal when it comes to larger questions around the mission and culture of higher education.
• It would be remiss of me not to comment here, too, on the fellow’s highly effective skills as a communicator and convenor. Her ability to hold an audience, alongside her capacity to persuade sceptical academics of the value of investing in the expansion of their own value-adding networks, is undeniably a bonus when it comes to assessing the program’s capacity to value-add to university teaching across Australia.

**Phase 4**, upcoming in 2017‒18, is directed towards this very challenge of systematic change. The fellow proposes an edited collection of connectedness learning case studies as one tactic to address this issue, and Higher Education and Research Development Society of Australasia (HERDSA) and National Association of Graduate Careers Advisory Services (NAGCAS) presentations another. Further in-depth work to embed the developed resources into curriculum is also proposed in phase 4.

In commenting on phase 4 of the fellowship, I would make the following points:

• How universities exploit this opportunity will no doubt depend on local uptake and usage of the model and toolkit.

• Conditions have been established for ‘communities of practice’ in embryo, with some faculties now working to build these opportunities into their teaching programs.

**Summative evaluation of the program**

**Reference group role**

The reference group was designed to allow the fellow to access input and feedback across the sector both vertically and horizontally. While the eclectic mix of teachers, students and other stakeholders within the group for the program was appropriate in theory, it presented logistical problems for convening the group in a timely way given the speed at which the fellowship was unfolding—that is, for using it as a reference group. In conversation with the fellow, I was made aware of the difficulties she experienced in this regard. In an email to me, she elaborated her strategy for tapping into their advice:

> It was impossible to convene full reference group meetings in a timely enough fashion to provide responsive feedback on the fellowship’s activities and outputs. Only two people from the group were able to attend the first reference group meeting. From that point on I used other (individual and networked) consultative methods with this group and the broader connectedness learning network to steer the fellowship.

While it is unfortunate that the fellow did not ever have the full group available for consultation, particularly at key moments such as the reconceptualisation of phase 3, this underuse of advisers ‘as a group’ would, I think, be more the norm rather than the exception in such projects, given the demands of higher education institutions on those best placed to act as teaching advisers and brokers. There is a further point worth making here, and that is the use the fellow was able to make of the connectedness learning network as a wider reference group of sorts. In seeking feedback and input on the fellowship outputs and processes at the forum, via email updates, on the GE2.0 website and in all phase 3 engagement opportunities, the fellow drew on the value of ‘crowdsourcing’ rather than
looking to convene a fixed group in a particular time and place. There are implications here for how fellowships might be conceptualised in terms of ‘reference’ bodies.

### New knowledge outcomes

Shifting the culture of university teaching remains a most significant challenge for the higher education sector. It would be too much to expect such a program, initiated, developed and implemented by one individual over one year, to transform ‘walled garden’ curriculum and teaching practices in faculty ‘silos’ into connected and networked learning cultures across the wide range of university types in Australia. This fellowship has, however, contributed a number of conceptual advances to our thinking about graduate employability. For example, I am particularly struck by the implications for teaching that flow from the fellow’s conceptualisation of a shift from ‘T’ graduates to ‘key’ graduates, an outcome of her analysis of the attributes of 23 successful innovators. She argues, based on her findings in the fellowship when combined with a previous study (i.e., her QUT Vice-Chancellor’s research fellowship *Creating Innovators*) that, rather than visualising a ‘future capable’ graduate as having one broad set of skills and one deep set of expertise (T-shape), it would be more accurate to characterise potentially successful graduates as having a mix of skills—some deep, some less so (key-shape). This has important implications for a new generation of academic teachers seeking to warrant claims about pedagogical quality in relation to graduate employability, and for undergraduate students who might see STEM courses, with a strong focus on the capacity to write code, as delivering employability in and of themselves.

The iterative nature of the approach taken to data collection and analysis has also produced a very practical set of tools and materials available through the GE2.0 website. While further refinement of the resources developed through the fellowship will no doubt be undertaken by those academics who deploy them to improve their teaching for graduate employability, the level of sophistication these tools and materials already demonstrate is impressive, given the fellowship’s short timeframe. In summary, the fellow has already over-delivered on the fellowship goals. Moreover, the current evidence of active use of its outcomes via the GE2.0 website is a strong indication that it will keep on giving to innovative undergraduate teaching for some time.
Evaluation Report References


