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The role of hybrid learning spaces in enhancing higher education students' employability

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Abstract

Graduate employment rates and self-reported employability are increasingly a feature of higher education funding measures. However, graduate outcomes do not denote the whole learning experience of the student nor is the student experience reducible to a single statistic. This paper discusses a design-centric approach to employability development which was enacted within a *hybrid learning space*. The study engaged 52 final-year speech pathology students, their lecturer, the lead researcher and a career practitioner (advisor) at an Australian university. Students first created personalized employability profiles using an established online self-reflection tool. The online tool produced a personalized report and enabled students to access developmental resources relating to employability and student success. The project team used anonymized student data to transform a previously generic "careers" workshop into a targeted workshop in which students explored individual and cohort findings and participated in developmental activities informed by the data. The initiative's contribution to learning space research is in its composition as a *hybrid learning space* in which educators and students engaged as learners and developers of their online learning spaces, and educators collaborated to analyze student data and inform learning and teaching enhancements within the same study period. It is anticipated that the data from subsequent years will inform the curricular review, particularly if subsequent student cohorts express similar concerns. Implications for higher education policy and practice are discussed.

Introduction

Graduate employment and graduates' perceived employability outcomes are increasingly a feature of performance-based funding measures in higher education. The United Kingdom's Teaching Excellence Framework is one such measure to focus attention on graduate transitions as a proxy for everything from quality teaching to the provision of appropriately designed career support;

Practitioner Notes

What is already known about this topic

- Graduate employment rates and self-reported employability are increasingly a feature of higher education funding measures.
- Neither graduate outcomes nor the student experience are reducible to a single statistic.
- It is difficult to understand students' confidence, career thinking and motivation in real-time.
- Although students are regularly surveyed, the results are rarely communicated to them.

What this paper adds

- An example of a student self-assessment tool through which students concurrently create a personalised report and the data needed to inform learning and teaching, career development and curricular renewal.
- An insight into how formative hybrid learning spaces can create longitudinal datasets.
- Practical implications for the use of hybrid learning spaces in employability policy and practice.

Implications for practice and/or policy

- Institutions could integrate formative developmental tools and data collections so that students gain value from being surveyed.
- Communities of practice could be used to triangulate learning, teaching and research.
- Faculty could embed employability by adopting a hybrid learning space approach and working across portfolios to integrate the requisite expertise.

Australia is following suit with a Performance-Based Funding scheme (Australian Government, 2019). However, the initial transition from expert student to novice professional has been labeled a "streetlight effect" in that graduate outcomes do not denote the whole learning experience of the student; nor is the student experience reducible to a single statistic. It follows that the preparation of students for graduate life and work demands renewed attention as a whole-of-institution concern.

The Editors of this *Special Issue* define a *hybrid learning space* as one where:

> … technology is permeating physical spaces, augmenting and enhancing learning experiences. At the same time, mobile and pervasive internet-connected technology (IoT) creates interfaces between virtual spaces and real-world phenomena and create a data shadow for our actions in the physical world. These dynamics gave rise to a growing presence of hybridity: the blurring of boundaries between distinct contexts of learning and activity, and the unexpected interleaved experiences they engender.

This paper discusses a strategic learning-teaching-research project which created a *hybrid learning space* for academic staff, students and careers professionals. The paper explores the experience of 52 final-year speech pathology students, their lecturer/unit coordinator, the research lead and the Faculty career practitioner (advisor).

The study was located in Australia. Following the editors' definition of a *hybrid learning space*, above, the *hybrid* dimension relates to the integration of in-class interaction, an online space in which students created and reviewed personalised employABILITY profiles and explored

developmental resources, and a community of practice (CoP) through which collaborators analysed student data and used the findings to enhance learning and teaching within the same study period. We begin by foregrounding the study and then we describe the procedures. We include participant data as part of the reflective process. We end with implications for institutional policy and practice.

Background and context

Employability and its measurement in higher education

Economic uncertainty, increasing graduate numbers and the rising cost of higher education study have contributed to the alignment of graduate employability with higher education policy in multiple countries (see Bennett, 2019; Tomlinson, 2017). And yet, graduate data measure employment rather than employability. In contrast to the contemporary labor market, which features non-linear career trajectories and multiple concurrent roles, most countries' census and graduate destinations collections ask only about the job in which a respondent spent the greatest number of hours. Despite this, the data are used as proxies for graduate employability and they have far-reaching consequences for local and regional policy (NOMIS, 2015). Moving beyond the question of whether a graduate is employable, the study defined employability as having a "dynamic adaptive nature" (Williams, Dodd, Steele, & Randall, 2016, p. 877) in line with labour markets into which students transition.

The study reported here was situated in speech pathology, where Brumfitt observes that employers expect graduates to be "oven ready". Yet, as McAllister (2005) points out, graduates can find themselves isolated from supervisors and peers and expected to perform management tasks. The trend towards portfolio work adds to calls that these students need to prepare for diverse and potentially precarious work, and those workforce strategies should be informed by comprehensive and accurate data (Speech Pathology Australia, 2016).

The study trialed a design-centric approach to employability development within a *hybrid learning space* designed to enhance higher education students' employability. Through this approach, we hoped to better understand the development of learners' employability by deriving insights into student data and presenting them in multiple ways to assist learners, educators and curricular leaders.

Learning and hybrid learning spaces

Educational settings that combine ICT applications with face-to-face learning are often referred to as blended learning models. Hybrid learning, also relevant in this context, is a pedagogical approach that combines face-to-face instruction with computer-mediated instruction (O'Byrne & Pytash, 2015). The role of technology in learning requires a delicately balanced blend of traditional and innovative pedagogical initiatives where learner presence dictates the outcomes. Combining multiple modalities to achieve effective synergies affords *hybrid learning spaces* the novel quality that activities within them generate data. These data can be used to monitor individual and social learning processes. They also have the potential to enable "double loop learning" by informing both learning and teaching.

Learning spaces are traditionally personal. Within the learning space—be it physical, institutional or online/virtual—students connect with the engagement strategies they consider to be typically successful for them. The salient qualities of specific learning places are aligned with successful learning activities and there is consensus that enjoyable learning experiences equate to good learning outcomes. These connections between place and learning can be subtle and powerful. To understand them, we must understand complex, "shifting assemblages involving

human beings and things: material, digital and hybrid" (Ellis & Goodyear, 2016, p 149). Not surprisingly, studies that do this in-depth work tend to be qualitative.

There is contemporary discussion across all levels of education about the optimal match of student to learning space and many educators seek *innovation* as a way to improve the learning and teaching process. Some commentators would, therefore, define the learning space as a site of interaction, on the basis that the learning space moderates pedagogic practice (Rowley, 2014). The space relates directly to mode/s of teaching and the two work together towards a common goal of transformational engagement. This relates not only to learners' engagement in information processing but to their critical thinking and problem-solving.

Diverse methods of instruction developed over time have led to different types of contemporary learning spaces within and beyond educational settings. Technology is a major transformative force in this respect and the impact of digital literacy across an educator's pedagogic practice is evidenced daily. Electronic portfolios (e-portfolios), eg, are personal learning spaces which are variously developmental and private, shared with trusted peers and educators and "showcased" for assessment or potential employers. Schön (1987) describes the reflective practice as the practice by which professionals become aware of their implicit knowledge and learn from their experiences. By embedding a reflective tool such as an e-portfolio or online self-reflection as a personal learning space, students are encouraged to think about and reflect upon their studies, identity and futures (Rowley, Bennett, & Dunbar-Hall, 2015). This highlights the potential for students engaged with *hybrid learning spaces* to adopt reflexive practices early in their studies to "try on" multiple personas as they develop identity salience and to engage explicitly in employability development.

In addition, *hybrid learning spaces* can take account of the interactions between learner, teacher and researcher to extend how learning is optimized. In this instance, the student is an active participant in the research and is both the "researched" and integral in the research design. Engagement in research-led teaching provides *hybridity* in terms of which aspects of learning take place differently for individual learners and teachers. Collaborative actions such as those described in this paper pave the way for greater creative actions for curricular managers, with students central to the process. Intensified instances of collaborative and self-directed student work are but one example of a flexible learning environment in which student cohorts work independently within learning spaces where the traditional lecture has been abandoned. When content is available anytime and anywhere, learning is no longer dependent on educators transmitting their knowledge; a learning space can allow for this change.

Our development of a hybrid learning space

Theoretical background and rationale

Our work is grounded in "employABILITY thinking", which is a strength-based, metacognitive approach to employability development. The approach is grounded in social cognitive theory and situates employability development within the core curriculum. The employABILITY measure (Bennett, 2018) recognizes that personal and professional identity formation underpins students' ability to relate to and engage with their studies, and to successfully negotiate their future work and career (see also Alt, 2015).

Our rationale was that students are surveyed constantly and yet they rarely see the results of the data collection or research to which they contribute. Although educators facilitate many of the student surveys, they rarely see the results beyond aggregated generalized datasets. We sought an approach to data collection that would represent a "net gain" for students and staff, generating data that could be fed back into teaching and learning, curricular renewal and institutional

strategy whilst enabling students to understand their employability thinking and increase their developmental agency. Our overarching research question was as follows: *What are the opportunities and challenges associated with integrating an employability focussed hybrid learning space into the curriculum, careers support and curricular design processes?*

Design process

The *hybrid learning space* involved a multi-disciplinary team including a product manager with a background in design. The team used the process of design (empathize, define, ideate, prototype, test) for the in-house creation of the branding and marketing (identity, naming, websites and promotional material) and the design of internal systems and processes for the evolving hybrid learning space.

During the design phase for the identity and website, we identified the need to communicate with two distinct user groups: students and educators. This culminated in two websites with different design outcomes and online experiences. The educator website was designed as a CoP and resource hub for educators interested in embedding employability into the curriculum. The CoP was open to everyone who interacted with or contributed to the Developing EmployABILITY resources. The website outlines the theoretical basis and approach, lists reports and publications and houses educator resources and expert guides; a LinkedIn CoP facilitates practical weekly posts and discussions.

The student website houses the self-assessment tool and enables students to access developmental resources. During the design phase, we worked closely with educators and student interns to develop the framework and communication strategy. For both sites, the team tested ideas and sought feedback to evolve the aesthetic design and user experience; this work is ongoing. As happens with many educational CoP, the contributors provide an ever-emerging learning space that crosses over with research-engaged teaching, creating a *hybrid learning space*.

Sample and recruitment

The student sample included 52 final-year undergraduate speech pathology students. The self-assessment and workshop were the compulsory components of a core unit; however, students chose whether or not to include their responses within the research database.

The mean age of respondents was 25 (median age 22) and the sample included six students aged over 30. All 52 students were female and studying full-time. The project team comprised the lecturer/unit coordinator, the faculty career practitioner and the project lead who had designed the student self-assessment instrument. Students are identified using a pseudonym.

Procedures

Shown in Figure 1, to ascertain the potential for employABILITY thinking to function as a *hybrid learning space* the team designed and trialed an intervention that began with students' completion of an online self-assessment tool. This produced a personalized report and enabled students to access developmental resources relating to employability and student success. The online self-assessment tool was assigned as required reading and embedded in an online learning space developed for the purpose. Technology is a vital component of the learning space as it allows for multiple users with authentic collaborations and potential for evidence to link to the outcomes with hyperlinks, graphics, etc.

The findings enabled the team to transform a generic, three-hour "careers" workshop into a targeted workshop in which students, faculty and the career practitioner explored individual and cohort-wide findings and participated in developmental activities. Students were also introduced

Figure 1: Process of double-loop learning adopted by the team

to developmental resources embedded within their personalized reports. Following the workshop, the lecturer and career practitioner each completed a written reflection. These responses were analyzed alongside student data to refine the process for future iterations.

Analysis of anonymized quantitative student data employed SPSS (v16). Findings were shared with the unit coordinator/lecturer and career practitioner via aggregated student data and an educator report containing top-line results. Open data analysis employed NVivo text analysis software to understand frequent text patterns in the larger cohort and the written reflections of the speech pathology students were analyzed as a specific cohort and open coded manually.

Instruments

The student self-assessment tool engaged students in Bennett's (2018) employABILITY measure, which incorporates six facets of employability assessed using Likert-style scales.

Five open questions gather data on students' work background, choice of major, projected work, self-directed development and feedback on their academic program. Following the workshop, the lecturer and Faculty career practitioner responded to a written reflective task.

Findings

Using self-assessment tool data to understand students' confidence and design the workshop

The project lead calculated students' mean levels of confidence on each construct within the tool; these were populated into an educator report provided to the lecturer and career practitioner. The report gave the level of confidence for our student cohort, for all other users of the tool in the fourth year of study and for all other students who had completed the tool. At the time of analysis, the total population in the database was just over 6000 students. Two examples from the educator report are given in Figure 2.

Next, the project lead reviewed confidence levels for isolated items or factors where the students reported a mean of less than 65% confidence. These are illustrated in Table 1. The themes that emerged from this data set of 52 Speech Therapy students are as follows: identity development; graduate readiness; and a caring service provision.

The group was very vocationally orientated and most responses related to "becoming" a speech pathologist. Asked what they would add or change about their programs, nearly 60% of students ($n = 28$) asked for more time in the industry, including more practica and observation of speech pathologists in practice.

The NVivo analysis enabled researchers to determine that students often oriented their responses towards societal impact rather than their own career intentions: eg, "To have a positive impact on people's lives" (Tabitha, year 4). This is typical of the caring professions and can be framed as a "social utility value" (Watt *et al.*, 2012). Frequently expressed interest in helping people, however, can negatively influence perceived competency and may have influenced the students' calls for more industry experience. This pattern has been observed in health and teacher education (Bennett, 2015).

Students' comments responses to the open question on anticipated career trajectories analyzed by open manual close text coding revealed a bifurcated group. One cohort was seeking to work with children in developmental speech pathology settings: "I chose Speech Pathology because I wanted to work with children in a more specific field" (Ellen, year 4). The second cohort identified by researchers through open coding was focused on working with people with disabilities in rehabilitation settings: "I want to help others rehabilitate and reach their full potential" (Mary, year 4).

The specificity of the educational setting, targetted at a particular vocational outcome, means that the students' "horizons of actions" (Hodkinson & Sparkes, 1997, p. 34) are boundaried. This relates to the students' low level of confidence in being able to cope with disappointment should their first career choice not eventuate. In this respect, the cohort was less confident than all other fourth year respondents in the database and also less confident than respondents from all year levels.

The vocational nature of the course is reflected in student responses to an open question about what they would change or add if they were designing their program and a selection of responses are presented here identified in open manual coding as representing a range of positions by the students. For example:

- Earlier practical experience—Whilst I acknowledge the importance of building up a strong theoretical foundation for effective practice, earlier practical experience would have strengthened my ability to apply theory to practice. (Jess, Year 4)

The extent to which students can manage stressful, difficult and upsetting situations

For chart 7, we turn to students' confidence that they can manage stressful, difficult and upsetting situations. The items include their ability to manage stress, to keep calm and to deal with feelings of anger. These are aspects of emotional intelligence, which students consider on page 23 of their personalised profile reports. Students responded to a 5-point Likert-type scale where 1=very inaccurate to 5=very accurate. *Source: Brackett et al.(2006) emotional intelligence.*

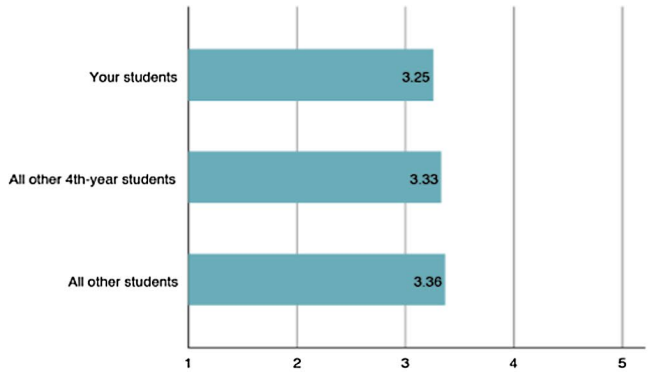

Chart 7: Distribution (level of confidence) reported by your students, respondents in the same year of study and all respondents: Belief in the the ability to manage stressful, difficult and upsetting situations.

Belief that the program is preparing students for graduate life

Chart 3a illustrates the extent to which your students believe their degree program is preparing them to meet the realities of graduate life. This is the distribution of your students across a 6-point Likert scale where 6-point Likert scale. 1=strongly disagree, 6=strongly agree. *Source: Bennett, self and career awareness.*

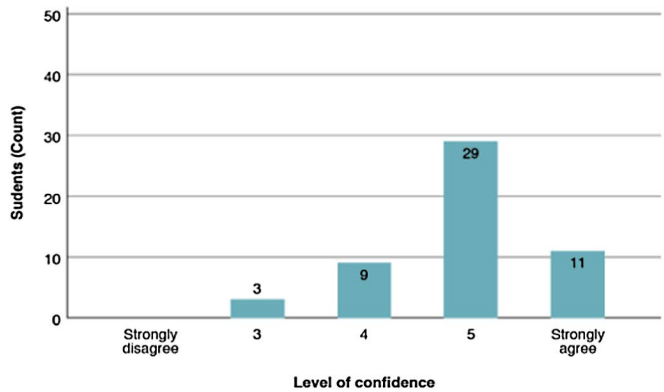

Chart 3A: Distribution (level of confidence) reported by your students: my program is preparing me for graduate life)

Figure 2: Sample charts from the educator report

Table 1: Means for the lower confidence items (6-point Likert style scales, <65% confidence)

Item	*Mean/standard deviation*
Identification with commitment	
Does thinking of yourself as a professional in your discipline help you:	
To understand who you are?	3.6 (SD = 0.84)
Feel secure in your life?	3.8 (SD = 1.03)
Feel self-confident?	3.8 (SD = 0.95)
Reconsideration of commitment	
Do you ever think that choosing a different profession would make your life more interesting?	3.5 (SD = 1.07)
Communication skills: networking	
I already have wide and effective networks of contacts to achieve my goals	3.6 (SD = 1.05)
Emotional intelligence: managing own emotions	
I can handle stressful situations without getting too nervous	3.0 (SD = 1.05)
I am able to handle most upsetting problems	3.7 (SD = 0.78)
I know how to keep calm in difficult or stressful situations	3.5 (SD = 1.06)

- I would create clearer unit objectives, especially for the second year units. Often I felt confused and disoriented to how the unit outcomes were going to reflect the career. (Ellen, year 4)
- Understand the stress levels involved in higher education, understand the importance of practical and applied. (Greta, year 4)
- I would add a unit that helps me develop the skills to write a CV, get a job in my desired area or search for a job in my desired area. (Sandy, year 4)

Asked how they were preparing for graduate work, most respondents mentioned volunteering and professional development. A further overarching theme was students' impression that they were outsiders trying "to break in" to a profession that has its own professional- and industry-based identity.

Professional identity is socially constructed and the data revealed that many students were struggling to make the connections between their student- and professional selves. Some students expressed this as a comparison between speech and other allied health students such as physiotherapists, who wore a uniform for some on-campus and all off-campus activities from early in their studies. This observation is in line with Godsey's (2011, p. 30) finding that students within her speech pathology CoP were:

> ... developing identity as individuals and within a social context. Social and personal identities focus on social comparisons and positioning of individuals; as students learn and develop, they negotiate and renegotiate their place within the professional community along their learning trajectory.

Workshop delivery

Based on our discussion of the student data, we re-designed the scheduled careers workshop to 1) introduce strengths-based thinking; 2) expose labor market trends in speech pathology; 3) increase students' confidence in relation to networking; and 4) engage students in imagining the role of speech pathology in their future lives and careers. The workshop was co-delivered by the research lead and career practitioner, and the lecturer and other speech pathology academics participated in the activities and broader discussions.

Review of the process and refinements for the future

As indicated in Figure 1, the final steps in our project were to review the process and make refinements for the future. We begin with the reflections of students, the career practitioner and the lecturer.

Following the workshop, students had to develop a self-care plan to facilitate their transition to the workforce. In the assessment, students' described how they would enhance their resilience as a new graduate. This included goals, relevant strategies and details of how students would measure and be accountable for these goals. Students were encouraged to include some of the activities completed during the unit and the *hybrid learning space* featured in several comments. Two of these are included below.

I found it genuinely helpful and learnt a lot from it. It's also taught me that I've got a lot more to go when it comes down to preparing myself for work next year, but you've given me tips and the confidence to face that mountain! (Anonymised student reflection)

... the real-life skills that we will be required to use very soon. They gave such useful tips and I learnt a lot of information that I would have not known otherwise. It was such a practical session and really helpful" (Anonymised student reflection)

The lecturer and career practitioner responded to a series of reflective questions, outlined earlier. The career practitioner emphasized that the *hybrid learning space* had enabled her to maximize limited resources in more targeted support strategies: "A data-informed collaborative approach to CDL empowers the careers counselor to provide the support that is both timely and informative". She added that the benefits would be enhanced if the strategy was extended to multiple year levels, enabling longitudinal data collection and the identification of trends in the data from multiple student cohorts. She also wrote of the potential for scaling up the *hybrid* approach used with the trial cohort.

A data-informed collaborative approach (including student, career counsellor, lecturer and unit coordinator) will enable the creation of content more beneficial to the cohort's needs. ... ongoing data collection... will be highly valuable in identifying career development opportunities and potentially result in better prepared students.

The career practitioner reflected that the most enjoyable aspect of the *hybrid learning space* was "working in collaboration!" She included students in this comment, observing that the approach had enabled her to engage with the students as partners.

The students were able to gain experience, coaching and draw on the expertise of 3 professionals who all contributed to the careers session from their areas of strength. This... (hopefully) increased the relevance of the material discussed. ... As a career development consultant, I enjoyed the collaborative approach as it allowed me to make immediate and relevant adjustments to the support that I was able to provide.

The career practitioner wrote about the potential for this approach into the future.

Career practitioners could use a hybrid approach like this to ensure that the participant's learning is relevant and timely. This will increase the "double loop learning" for the practitioner (and the participant). Career practitioners and academics are at least one step removed from industry due to the nature of their work within the University.

The collaboration across multiple knowledge bases enhances the potential of the second loop to be appropriately developed and adjusted. This will allow students to be more realistic, adaptable to the working environment, and I wonder if this might increase their resilience, career transferability/adaptability, and potential employment outcomes. (Career practitioner)

The second set of reflections came from the lecturer/unit coordinator. She commented that the workshop's focus on "unpacking" personalized profiles, together with cohort-wide data for comparison, helped students to "feel validated in how they are thinking and feeling by seeing similarities with peers." She continued:

> It helped students understand that they need to be proactive and consistent in managing their careers, rather than just focusing on landing their first job. It's empowered them to know what to focus on and provided [them] with tools to work on the skills that they need to develop.

In terms of the collaborative approach, the lecturer particularly valued the opportunities "to observe and discuss change" and "for us to open a dialogue" with students, and the creation of "a shared language" for employability.

The lecturer summarized the connectivity that exists within a *hybrid learning space* with multiple stakeholders. Her reflection exemplifies Schön's (1987) reflection on action.

> It is widely understood in higher education that the world of work, for which we prepare our students, is changing as we teach. This is particularly evident in fieldwork education where students' university studies meet the real-world work of practicing health professionals. In order to flourish in the modern work environment, students must develop a professional identity that is characterized by resilience and agency. Employability development provides the opportunity to prepare and support students to manage two important transitions, into (1) curricular fieldwork and (2) their careers.

> The opportunities of working collaboratively are more integrated, holistic and quality teaching and learning in this area. Having the opportunity to worth with [the project lead], who could take a "birds eye view" of our curriculum and help identify the location for integration of employability thinking, suggesting realistic targets (eg, students engage in employability thinking once per semester) and based on her knowledge and expertise, provide recommended teaching resources to match the unit learning objectives/employability goals. Having [her] "outside" of the curriculum team voice helps overcome some of the challenges and perceptions of not having enough "room" in the curriculum to "fit in more"—it's about the language, doing things differently and turning activities into artefacts for assessment—rather than doing more.

> Working with [the project lead] and [career practitioner] was such a privilege. The students benefit greatly from having three staff with different strengths, backgrounds and perspectives in the room; ensuring the relevance of the content and information being contextualised for their courses. …

> Personally, it provides me with the opportunity to learn from experts in the field. I have developed my own knowledge and skills as a teacher in being able to support students. Despite working at [the university] for 9 years, I learned a lot about the services that it provides through careers through [career practitioner]'s clear overview of the services provided.

> Being able to work together was also just plain fun! It was lovely to work with colleagues with similar interests and passion for this area! This sustains my motivation to continue progressing my work in this area and also meant that we could discuss ideas for future collaborations.

Discussion

Whether a program of study is delivered through traditional teaching methods or through the medium of ICT application (a learning space, whether blended or wholly digital), the same stated learning outcomes must be within reach of the learner. If learning is a social activity and inextricably linked to co-construction of knowledge and collaborative sense-making, claims of successful learning experiences should go beyond simple verification by the student. It follows that social affordance, as a means of fostering collaboration, is an essential learning space design feature.

In the case of this study, the hybridity was characterized by a blended learning design in which learners, teachers and researchers collaborated to meet shared objectives.

Ultimately, teachers and students bear an equal responsibility as we collaboratively learn and experiment within these evolving spaces (O'Byrne & Pytash, 2015). By engaging students as informants for the targeted careers workshop, our students were encouraged to take ownership of their development and to rethink employability in terms of pro-actively designing their future lives and work. This process was explored in the workshop through discussions about the aggregated data and the portfolio nature of work within allied health; a networking activity; and an introduction to the resources available through the university's careers service. Shown in Figure 3, post-workshop reflection closed the loop and positioned us for subsequent iterations.

We opened the paper with the comment that graduate outcomes do not denote the whole learning experience of a student. We end by imagining a program in which employability thinking, as a *hybrid learning space*, might enable students, educators and careers professionals to work to embed discussions about future career thinking. By working alongside the students, we co-negotiated new knowledge in action and we engaged in meaningful reflective practice. Following Schön (1987), the learning-teaching-research *hybrid learning space* enabled reflection-in-action and reflection-on-knowledge through which new understanding was developed.

From the educator perspective, research shows that students seek out apps to improve skills such as organization, productivity, referencing, communication and multitasking, often on a "just-in-time" basis (Raghunath, Anker, & Nortcliffe, 2018). Technology is a core component of the learning because it allows for interaction and collaboration when workshops are over and learning can continue remotely. There is a related need to design employability learning resources with the mobile learner in mind and to encourage students' use of their devices as personal learning spaces so that student-centered instruction can become more of a reality. A strong technology support in both design and execution of the process provides multi-dimensional learning.

Hybrid learning spaces activate the potential for these resources to inform curricular and pedagogical renewal. This can be accomplished by incorporating formative assessment tools such as student-led e-portfolios or employABILITY profiles. As this study combined in-class interaction, an online learning space and a blended CoP, the approach was both formative and developmental. This approach to learner-centered engagement is sustainable through a commitment to critical conversations about career thinking alongside partnerships between multiple stakeholders.

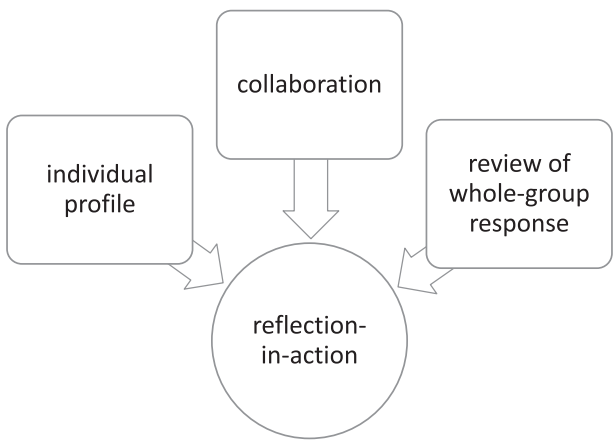

Figure 3: What happened in the workshop

From a broader policy perspective, there is potential to combine institutional and national datasets for analysis alongside longitudinal, empirical data from student and graduate populations. This could create a unique understanding of student development including from individual, cohort and discipline perspectives and in line with demographic variables. The datasets could provide unparalleled opportunities to understand the longitudinal career trajectories and decision-making processes of graduates, to support students in the anticipation of these activities and to rethink our engagement with alumni.

Finally, turning to the curriculum we note that Benson and Morgan (2016) highlight the need for employability development to be incorporated within the core curriculum, particularly for students with lower levels of social capital. Godsey's (2011, p. 11) study with speech pathology students concludes that "identifying and understanding how students identify with their profession and whether there is a connection to their levels of cultural competence can provide significant information for pedagogy, curriculum and educators in speech pathology programs." However, efforts to embed employability are consistently challenged by educators' lack of time, career development expertise and resources. We suggest that *hybrid learning spaces* could do much to alleviate these challenges.

Enhancing and enriching the curriculum while bringing to the fore the needs of cohorts who will enter a complex workforce can enhance both graduate outcomes and student satisfaction. Spence (2019), writing on the interconnected-ness of accountability and transparency measures within higher education, posits that publicly available metrics work against creativity and risk-taking within the curriculum, undermining academia as a whole. Although *hybrid* learning can be diverse in how it is implemented, we contend that the approach can enable personalized instruction with a degree of student control over path, pace, time and place, without diminishing educator freedom.

Conclusions

In this paper, we discussed a design-centric approach to employability development created within a *hybrid learning space* that used student-derived data to transform a generic careers workshop and inform curricular renewal. By taking a social-cognitive approach to learners' development and defining employability as "the ability to find, create and sustain meaningful work across the career lifespan," the *hybrid learning space* supported new understandings of employability development for students and educators.

Mindful of the potential for this approach to be sustainable, our additional practical activities were limited to the analysis of the student data, a single meeting to review the findings and design the workshop and a post-workshop email dialogue in which we refined the process and potential themes for future iterations. With a small cohort, we do not seek to generalize; however, we contend that the *hybridity* combined with the use of existing resources positions this approach well for use with large student cohorts.

The study identified a "virtuous circle" effect of the EmployABILITY initiative by the *hybrid learning space* to remove the emphasis on external factors such as immediate graduate transition and refocus students' efforts on self-development and enhanced professional identity. The initiative's contribution to current understandings of learning space research is in its composition as a *hybrid learning space* in which educators, students and career practitioners engage as learners and developers of their online learning spaces in a CoP and inform learning and teaching enhancements within the same study period. It is anticipated that the data from subsequent years will inform the curricular review, particularly if subsequent student cohorts express similar concerns.

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Statements on open data, ethics and conflict of interest
Access to employABILITY data is limited to the research team. Scholars are welcome to apply for membership of the research team, which involves engaging students and collaborating on associated research.

This research had ethical approvals from the University Human Research Ethics Committee, approval number HRE2017-0125. Students elected whether to include their responses in the research dataset. Students were assured of their anonymity and had the right to withdraw.

There is no conflict of interest associated with this study.

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