

Chapter 9

Embedding Employability: A Case Study Using ePortfolios in Studio Learning and Teaching



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Abstract Teaching Urban and Environmental Planning, like most Professional degree programs, requires overt and significant linkages to the relevant industry and or professional practice. Student employability is largely implicated by the type and level of professional competencies they have achieved during their education. The embedding of employability skills has been successfully achieved in studio-based learning and teaching environments in the Urban and Environmental Planning program at Griffith University. Through the use of ePortfolios and the PebblePad Personal Learning Environment, students identify as Trainee Planners from week one of their studies. Over the four years of the program, students build upon, critique, and develop their professional identity in conjunction with their resume and ePortfolio. By the time of graduation, students leave the program as Professional Accredited Planners with a professional portfolio to launch them into their professional life. Current indicators show that 90% of Griffith Urban and Environmental Planning graduates obtain industry-related employment after graduating. This is significant given the changing nature of the workforce and employment prospects.

Keywords ePortfolio · Urban planning · Higher education · Employability · Studio learning · Professional capabilities · PebblePad

9.1 Introduction

Embedding employability skills into undergraduate programs has become a major objective in higher education curricula development (Cole & Tibby, 2013). Griffith University's *Academic Plan 2017–2020 A remarkable Student Experience* follows this trend in advocating for “work ready” graduates. The focus of this book responds

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to this employability “turn”. As others have articulated (CEDA, 2015; Foundation for Young Australians, 2017), the emphasis on employability in many Higher Education institutions stems from changes in jobs and opportunities for employment for graduates; one of the core functions of a university is to equip students with the necessary skills and competencies to participate in a (global) workforce. One source predicts that there will be a loss of approximately 60% of current employment options over the next decade (Foundation for Young Australians, 2017). Most of this loss is due to uncertainties around climate change, population aging, political conservatism, and technological advances. CEDA (2015, n.p.) suggest that “digital disruption, global labor markets with higher standards from everywhere and radical shifts to organizational structures will mean all of us will need greater resilience, self-responsibility and even entrepreneurial skills to navigate longer careers that are more like marathons than sprints”.

The professional discipline of Planning (as defined by the Planning Institute Australia, 2018) is substantially impacted by these changes in the nature, composition, and conditions of the future of work and jobs. Planning has a substantial impact on social, economic, and environmental welfare and getting it right is a complex challenge facing governments, the private sector, and communities both globally and locally. The skills and competencies required by graduate planners are changing, with the need to address pressing, complex and wicked problems like climate change, population aging, and housing affordability. The overarching aim of this chapter is to explore the use of ePortfolios with the PebblePad Personal Learning Environment in preparing students for the uncertainties of the job markets and equipping them with the skills and competencies to address, and provide leadership in dealing with, the challenges of the Anthropocene era (Chan, 2019).

Planning studio pedagogy (a student-centered, collaborative, inquiry-based/problem-based pedagogy related to a “real-world” project) is the unique and valuable learning and teaching method used to educate young planners. Planning studio pedagogy teaches students how to work successfully, in a collaborative way, with the afore-mentioned “wicked”, complex issues. It also enables students to become influential leaders in their field (Long, 2012; Balassiano, 2011; Spronken-Smith, Walker, Batchelor, O’steen, & Angelo, 2011). It is in this learning and teaching environment that this chapter is situated. The case study that demonstrates the usefulness of PebblePad and ePortfolios in achieving the stated employability agenda is located in the Urban and Environmental Planning (UEP) program at Griffith University, Queensland, Australia. The authors convene and teach across the program, from first to fourth (final) year of the professionally accredited degree. A showcase ePortfolio has been an assessable component of the final year work integrated learning course (Planning Practicum) for over a decade. This chapter highlights our ambitions to embed ePortfolios as a reflective tool to allow students to capture and curate demonstrated evidence of their learning journey from first year. The development and accessibility of technology (for instance, PebblePad) means that students have easy and equitable access to ePortfolio tools as there is no need for specialist hardware or software.

This chapter is structured around four core learning and teaching employability areas: the university context, professional requirements, learning and teaching tools and methods, and finally the case study which brings all these areas together.

9.2 Embedding Employability: The University Context

Griffith University, in line with many other universities, is focusing on employability in its Strategic and Academic Plans. The *Academic Plan 2017–2020 A Remarkable Student Experience* (p. 5) explicitly sets out to “focus on equipping students for their future careers, through high-quality, technology-supported programs and student-centered services that ensure that we are responsive to students’ needs and expectations”. This focus is informed by and supports the *Strategic Plan 2018–2019* which “acknowledges the imperative to better engage with industry and to put in place opportunities for students to develop the skills to succeed in the future world of work” (Griffith University, 2017, p. 7). Goal one of the Academic Plan is “to prepare career-ready graduates with the capacity to play an influential role in the world,” and it includes ambitious targets to measure success. Two of the strategies set out to achieve these targets that relate in particular to this chapter are “All students will have an ePortfolio that will allow them to accumulate evidence of the acquisition of graduate attributes and career preparedness” and “Program Directors ... will collaborate to better embed employability and career development skills in academic programs” (Griffith University, 2017, p. 13). At Griffith University, a Program Director provides curriculum leadership for a degree program. A program consists of a number of courses (papers), each of which is convened/coordinated by a course convener.

Griffith University is targeting Program Directors to embed opportunities for students to develop their professional identity and employability skills in their programs. As part of this, course and assessment design must allow for the creation and capture of student work that can be formatted and presented as an evidence-based ePortfolio that highlights and showcases the student’s work (Careers and Employment Service, 2015). This approach also has its benefits for Program Directors as it allows for an evidenced-based approach for program reviews and revisions, to ensure both vertical and horizontal curricula alignments. The successes and failings of the program can be identified through an analysis of student work uploaded onto the ePortfolio across all courses and all year levels of the student’s life cycle.

9.3 Embedding Employability: Professional Requirements

The Planning Institute Australia (PIA) is the professional planning body that implements a stringent education accreditation policy on all planning programs. The PIA policy is a significant factor impacting program and course curricula design and delivery. The policy stipulates that (PIA, 2016, p. 4):

Graduates of accredited planning degree programs should be clear thinkers, problem solvers, good researchers and policy analysts, good communicators and team members, productive and effective employees, promoting strong civic and social values.

In addition, the accreditation policy (PIA, 2016, pp. 12–16) outlines specific generic and core skills students must be taught. These include:

- *Generic capabilities and competencies*: innovative and critical thinking; develop and evaluate arguments; problem identification and the formation of creative solutions; strategic thinking and applications; written, verbal, and graphic communication; team work; recognize the position of Aboriginal and Torres Strait Islander peoples as the first peoples of Australia; cultural awareness and; understanding and the application of theory to practice.
- *Core competencies*: professional and ethical planning practice; plan making, land use allocation and management and urban design; governance, planning law, plan implementation, and planning administration.

PIA (2016, p. 17) encourage planning programs to:

support students in developing suitable ways of demonstrating and illustrating their skills, competencies and professional experiences, including through traditional curriculum vitae, e-portfolios and social media platforms such as LinkedIn and in keeping these up to date.

The use of ePortfolios in the design of programs is advocated by both the University and industry. In this, the intent of the University aligns with the requirements of the PIA, the professional body that accredits and governs employment frameworks of UEP graduates.

9.4 ePortfolios as a Learning and Teaching Tool

This chapter demonstrates the coupling of ePortfolios and employability in university and industry policy, and in the literature. The ePortfolio is an electronic online platform which allows users, in this instance, students, to compile, store, and curate evidence of their skills and competencies. It is a framework for students to individualize their learning context, and it allows them to design a story book that tells the narrative of their learning journey, and their past and future ambitions. Griffith University has recently adopted PebblePad for this purpose. In the case study outlined below, ePortfolios were used for assessment and in this way, employability was embedded in the UEP first year curriculum. The use of ePortfolios in the UEP program places the onus on:

the student to find, curate and display the content in a way that best meets the requirements but also showcases their personal learning journey and interests. This personalisation is a key aspect in making the use of this tool relevant not only to the students' current learning, but also how they will represent themselves in their future careers (Learning Futures, 2018).

The use of ePortfolios allows students to make connections both horizontally, across a single-year level and vertically, across their study journey over multiple years. This connecting of sometimes disparate subjects and courses provides students with a visual and realistic map of their learning and their newly acquired skills and competencies. Following Eynon, Gambino, and Török (2014), students can then reflect upon their learning in conjunction with life experiences and career aspirations with profound personal growth consequences. The use of ePortfolios is well suited to the studio learning and teaching environment and pedagogical approach.

9.4.1 The Studio: A Place and Pedagogy Focused on Employability

Hands-on, experiential learning through studio courses is recognized in the planning education literature as an important component of developing practice-ready, professional planners (Hoellwarth, Moelter, & Knight, 2005; Nemeth & Long, 2012). Recent discussions of studio courses have focused on course design (Balsas, 2012), use of technology (Lobo, 2004; Thomas & Hollander, 2010), pedagogical value (Balassiano, 2011), and student outcomes of studio courses (Hoellwarth et al., 2005; Nemeth & Long, 2012).

Studio courses originated in schools of architecture and design but became a dominant part in educating planning professionals in the early 1900s (Long, 2012). Following a shift away from planning as a form of design and toward a more social science orientation, universities substantially abandoned studio courses in the 1960s and 1970s (Long, 2012). However, studio courses experienced a resurgence in the 1980s and 1990s and are now common elements of professional planning university programs internationally due to increased emphasis on experiential and practice-based learning (Lusk & Kantrowitz, 1990; Tyson & Low, 1987).

A number of theorists argue that the underlying intent and value of studio courses is that they provide planning students with exposure to, and experience of, planning issues and processes, while fostering practical skills necessary for professional planning practitioners (Balassiano, 2011; Schon, 1987; Shepherd & Cosgriff, 1998). However, the definition of studio courses is inconsistent and varied throughout the literature (Nemeth & Long, 2012).

Three broad types of studio courses are described in the literature, including design-oriented planning studio courses (e.g., Senbel, 2012), planning process-based and problem-solving studio courses (Malopinsky, Kirley, Stein, & Duffy, 2000), and virtual planning studio courses (Hollander & Thomas, 2009; Lobo, 2004). Consequently, there are significant variations in the format, time requirements, objectives, content, and pedagogical approaches to studio courses discussed in the empirical literature (Balassiano & West, 2012; Balsas, 2012). Despite this diversity, planning studio courses are recognized as distinctly different from lecture-based courses, which

tend to be more theoretical, rather than practically oriented (Long, 2012; Wetmore & Heumann, 1998).

Planning studio pedagogy is commonly characterized in the literature as including (Bosman, Vella, & Shutter, 2016):

- Projects grounded in reality using real-world projects, problems, and/or clients (Gunder, 2002; Heumann & Wetmore, 1984; Kotval, 2003; Mathews, 2010; Nemeth & Long, 2012);
- Peer learning through small group exercises or projects (i.e., usually between four and eight students) (Kotval, 2003; Yabes, 1996);
- Problem-based learning and “learning by doing” (Forester, 1983; Long, 2012; Viswanathan, Whitelaw, & Meligrana, 2012);
- Ongoing peer and instructor feedback (Lusk & Kantrowitz, 1990; Schon, 1987); and
- High levels of peer to peer, and student and instructor interaction (Nemeth & Long, 2012; Thomas & Hollander, 2010).

All of these characteristics are embedded in the case study studio learning and teaching environment.

Box 1 The studio learning design for the First Year Studio Professional Skills ePortfolio assessment task.

The curriculum design for the Professional Skills ePortfolio was informed by professional practice. The assessment was designed to mimic how planners really work. As such, students worked in groups on a real-world place and planning problem. Students learnt how to work with planning policies and documents, gather and analyze site-specific data, and present their analysis and findings in different formats.

Assessment was divided into three parts:

1. The Studio Project SWOT analysis. This was a written and graphic piece, submitted as a group, and included a Strengths Weaknesses, Opportunities and Threats (SWOT) analysis and recommendations. It was written and presented as a “professional” ePortfolio—i.e., something a planning consultancy would present to their client. This was assessed on communication, content, analysis, argument, originality, and presentation.
2. Oral Presentation. At week 11 of the 12-week teaching period, each group presented their work on their Studio Project SWOT analysis to an audience of their peers, the teaching team, and invited guests. This task provided an opportunity for students to receive feedback on their work before submitting their final ePortfolio. The presentation was assessed on communication and presentation, professionalism, content, analysis, argument, and engagement. Professional planners do a range of presentations to clients, colleagues, and the public. All core planning courses have some require-

ment for students to do a formal presentation. All studio presentations are formal, requiring students to dress appropriately and be well prepared.

3. **Group Work.** At the end of the teaching period, each student completed a peer evaluation of how they and their group worked together. They were asked to reflect on and grade themselves and individual team members' contributions. These evaluations were used to moderate how marks for parts one and two were distributed among team members.

The assessment was worth 35% of the student's course mark, and each student was required to submit an ePortfolio. The research and analysis work was completed as a group and the final mark was calculated as a group mark. This meant that all team members had to engage, to some degree, in all stages and steps of the studio project task. It also meant that each student completed the studio with an ePortfolio. Not all ePortfolios were assessed. Depending on the peer evaluation, generally one or two ePortfolios per group were assessed with marks and feedback returned to all team members.

9.5 Embedding Employability: The Studio Case Study

Partly in response to Griffith University's focus on employability in its Strategic and Academic plans, and partly in response to emerging technologies, and more importantly in response to the changing nature of employment opportunities for UEP graduates, the UEP programs at Griffith University are undergoing a curriculum refresh. This refresh addresses the requirement for ePortfolios to be integrated into learning and teaching activities. Through the use of PebblePad and ePortfolios, students identify as Trainee Planners from week one of their studies. The planning studio courses are core to UEP programs, and they allow for both horizontal (across the year) and vertical (between year levels) curricula scaffolding and career development as shown in Table 9.1. Student enrolments within the UEP studios vary between 40 and 80 students per course. Studio assessment design is focused on real-world planning issues, and the curriculum is explicitly designed to meet professional accreditation requirements including graduate competencies as outlined above. The studios therefore are an excellent platform to embed ePortfolios into assessment designs (see Box 1 for a description of the ePortfolio assessment used for this case study). Over the four years of the program, students build upon, critique, and develop their professional identify in conjunction with their resume and ePortfolio.

Key UEP studio skills, literacies, and competencies that are taught over the four-year degree program include the following two groups—generic and discipline-specific.

Table 9.1 Planning studio teaching and learning journey

	First year	Second year	Third year	Fourth year
	Intensive academic support	Increasing student independence	Competence and confidence building	Bridging to professional work
The student experience	Build student agency; group work; peer assessment; concept of self as learner and trainee planner	Increase independent and collaborative activity; identity as a trainee planner	Innovate pedagogies for professional activity	Practice professional work placement
	Introduce multiple lenses on learning, teaching, and diversity	Develop teaching and learning models that support diverse learners and contexts	Plan substantively and appropriately for professional tasks and sites	Feedback from students and the profession based upon student practicum
	Locate the roles and place of professional practices and graduate capabilities	Connect content, learner diversity, pedagogy, theory and practice, graduate opportunities	Synthesize learning from across the program, specialize	Meet academic and graduate outcomes and professional protocols
	Scaffold analytic and reflective practices; tertiary, professional and personal illiteracies	Raise expectations for analysis and reflection; for tertiary, professional and personal literacies	Apply tertiary, professional and personal literacies with accuracy	Exit as a work ready planning professional
Teaching mode	Studio delivery 50% Traditional delivery 50%	Studio delivery 50% Traditional delivery 50%	Studio delivery 25% Traditional delivery 75%	Studio delivery 25% Traditional delivery 50% Work integrated learning 25%
Student lifecycle stages	Transition in	Transition through	Transition through	Transition out

(continued)

Table 9.1 (continued)

	First year	Second year	Third year	Fourth year
	Intensive academic support	Increasing student independence	Competence and confidence building	Bridging to professional work
ePortfolio assessment	Graphic skills portfolio	Career development portfolio	Developing specialisations via elective courses	Showcase ePortfolio
	Professional skills portfolio	Geographic information systems portfolio (includes skills and products)	Progressive compilation of resources into portfolio expected to continue	Exemplars shown
	Reflective learning self-assessment connects objectives and evidence	Less prescriptive allowing creativity	Independence expected	Transition from University to employment via 30-day Work Integrated learning placement
	Heavily scaffolded and prescriptive	Templates optional	Responsibility shifts from staff to students	Full independence expected with full responsibility and accountability
	Templates provided	Support needs identified by teaching team	Support as requested from students	Transition into graduate employment
	Responsibility managed by teaching team	Responsibility shifts from teaching team to students with oversight from teaching team	Employability becomes focus as students prepare for work integrated learning Curation of evidence for Showcase Portfolio begins	

- Generic: literature review; report writing; referencing; project and time management; enquiry/problem identification; creative problem solving; self and peer evaluation; critical and analytical thinking; reflective writing; group/team work; communication (written, oral and graphic) and; poster design.
- Discipline-specific: spatial awareness and analysis; concept planning; analytical planning; SWOT analysis; strategic/regional planning; policy writing; planning processes and frameworks; application of theory to practice; ethical practice and; synthesis of skills and knowledge from other courses.

As a pilot project to embed ePortfolios into the UEP programs, the authors redesigned their assessment for the first year studios to include ePortfolios (see Box 1). Prior to 2018, most first year studio portfolio assignments were submitted as a bound paper document. In 2018, the submission was changed to an ePortfolio. The activities that comprised both the paper and ePortfolio versions were similar in learning outcomes and in-class and group-work engagement. The major variation was in the setting up, design, and submission of an ePortfolio. This required students to scan all in-class activities and upload them into an ePortfolio. PebblePad was the platform that all students used.

Throughout the trimester, students were reminded that the skills they were learning were relevant to their professional training as accredited planners. The tasks they were undertaking were grounded in theory and professional application. This made all studio activities and the ePortfolio assessment directly relevant to the planning profession and contributed toward students' employability track records.

In week 11 of the 12-week trimester, the University conducted a generic Student Evaluation of Course survey. Of the 34 students in the studio, 14 (41%) responded to the online survey. Students' comments supported the use of the ePortfolio, and they appreciated the embeddedness of employability skills. All responding students (100%) agreed that the course had enabled them to enhance their professional competence. Students' qualitative comments included: "this course proved beneficial for improving professional skills, social interaction, and how to work as a group with peers" (Student #6, Student Evaluation of Course, 2018).

A focus group was also conducted with the students. This activity was led by a learning and teaching consultant and had full University Ethics approval. The focus group took place in the studio and was voluntary. The aim of the focus group was to solicit feedback on the successfulness of the ePortfolio as an assessment item and as a means of building students' professional identity, including the development of a professional ePortfolio to procure employment. The focus group was recorded on butchers' paper (by the students), by notetaking and audio recording. The audio recording was transcribed and manually coded together with the handwritten data. A semi-structured focus group method was adopted. This method facilitated a methodology that, following Keith Punch (1999, p. 179), allowed for "openness, emotional engagement, and the development of trust in a potentially long-term relationship". The authors endeavored to maintain a "critical inner dialog" throughout the focus group process to follow and gain a better understanding of what was being said (Dunn, 2000, p. 69). Focus group guides helped to keep discussions on track and act

as a reminder of questions to ask and topics to cover. Conversation was allowed to flow freely, and questions and themes were added during the course of the discussion. The handwritten notes added to the interview guide also helped to keep concentration focused and ultimately supplemented the transcriptions.

It is important to acknowledge that the undertaking of focus groups is a political exercise that involves power/knowledge relations that are negotiated and negotiable. Also, the knowledge that is produced by focus groups is always filtered, gendered, and situated by the participants, the authors, and the reader. Drawing on Charles Briggs (2003, p. 246), the focus groups used in the context of this chapter are “saturated by images of the social dynamics of the [focus group] itself, projections of the social context in which it takes place, the role and power dynamics of the interviewer and respondent[s], and their respective agendas”.

9.5.1 *What Did We Learn?*

The authors were early adopters of the PebblePad personal learning environment with the first implementation in 2017. PebblePad was used in addition to the Blackboard Learning Management platform. In the case of this implementation, students were usually in their first year of study and hence had little experience with any University online learning platforms.

The researchers conducted a thematic analysis of the focus group transcript, looking for themes identified in Table 9.1—Planning Studio Teaching and Learning Journey. In particular, the First Year Intensive Academic Support themes of “build,” “introduce,” “locate,” and “scaffold”. Our learning from the case study considers data collected from a single focus group of first year students and is therefore limited. Nonetheless, findings suggest embedding employability and use of ePortfolios has value in a first year course.

The following findings have been grouped thematically. The authors acknowledge thematic analysis is complex and that often combinations of themes are identified. For this chapter, we have grouped the themes into Build and Scaffold, Build Introduce and Locate, Locate and Scaffold and Raise Expectations.

Build and Scaffold Build and Scaffold. It was identified that students require intensive academic support during their “transition in” lifecycle phase. This was expected, as students would not be familiar with e-learning environments. A common response from focus group participants was that initially they had avoided and delayed using the PebblePad environment. Comments included “I had no idea what to do ... so I didn’t touch it” and “in the first few weeks, you just had no idea what it was”. While the students may be quite competent with using social media, this did not necessarily translate to being competent with online learning platforms and scaffolding for digital literacies was essential.

Build, Introduce, and Locate When students were asked to discuss how their learning developed over time, it was apparent that following the initial difficulties

of not knowing where to start, there was a phase of increased confidence and self-recognition of progress in both the use of the technology and the understanding of the course content. One student commented that: “it was more of a confidence thing at the start of it. So, you are kind of a bit scared, you’ve never seen this before. After the first few weeks, everyone is like ‘oh, I can sort of take hold of it and then not have to ask the teacher too much’”. While another student said: “after a few weeks, all the tasks got progressively easier”.

These comments demonstrated the importance of intensive scaffolding to overcome student’s initial fears and to develop students as independent learners. Self-recognition of learning by students allows growth in academic literacy and builds confidence that is required in both their higher education studies and their continuing professional development in industry.

PebblePad allows for both very flexible and very structured portfolio design. In this case study, the PebblePad workbooks were very structured. Some students identified that a very structured portfolio did not allow them to be creative, while other students commented that the structured nature of the activities provided certainty about the requirements and was appropriate for a first year student. The important learning here is to embed flexibility to allow students to choose their own learning pathway to achieve the course learning objectives.

Locate and Scaffold In relation to the relevance of the portfolio for employability, students recognized that they had ‘developed skills’, the studio was structured to provide ‘building blocks’ and a ‘good foundations to build and grow from’. One participant’s response clearly supported this development and recognition:

I think it’s good outside of planning in the way that you could go up to someone and give them your first draft and say, ‘This is something completely new to me, and through this much time I improved it this much.’ So that’s not showing what you’ve learned, but it’s like, ‘This is how I can learn; this is how much I can improve if I put my time into you instead’, sort of. So that can be a totally different field, but you can say, ‘Look at how progressive I am in the way I think’.

This quote encapsulates the professional learning that took place during the course and that the students can begin to locate the roles and place of professional practice and graduate capabilities. The reflective nature of this comment demonstrates the concept of self as learner and Trainee Planner. While this ePortfolio was targeted at a first year course, the focus group data also clearly indicates student’s awareness from “transition in” to “transition through” lifecycle stage.

Raise Expectations Students recognized the need to step up from first year intensive support to second year increasing student independence. Student recognition that expectations will be raised was apparent when asked about improving the course; students offered comments related to technological issues and the desire for allowing more creative flexibility, with acknowledgment that this was an early formative stage of their academic journey. Students expressed confidence about being given more complex work and more opportunity for higher-level learning.

In summary, most students expressed their appreciation of the value of using ePortfolios as a learning approach and acknowledged the importance it had in their professional identity. One student wrote in the final ePortfolio submission:

This course has been really eye-opening towards the world of planning. While some elements were challenging, the overall lessons were worthwhile. The class also really bonded and now I think I've made friends that will last my university career. Looking back on my first week reflections and knowledge, *it's easy to see how much I've developed, and I really can't wait to further progress*. The staff are awesome, the content is awesome, and the whole university experience so far has been awesome.

This quote shows student recognition of all four aspects of the First Year Studio Teaching and Learning Journey (Table 9.1) and recognizes the “transition through” lifecycle stage where increasing student independence is required.

9.6 Conclusion

Planning studios are recognized in the planning education literature as a critical component of developing practice-ready, professional planners. This chapter identified the need to embed employability into all stages of the student life cycle and learning journey. The current higher education context and in particular, Griffith University is focusing on producing career-ready graduates who will have a collection of evidence via an ePortfolio at graduation. In addition, many industries, including planning, require students to demonstrate and illustrate their skills and competencies via an ePortfolio. Furthermore, most application processes for employment and work experience are now electronic and it is essential for students to engage in online technologies. Coupling of ePortfolios and employability in assessment and curricula design is no longer optional if students are to be competitive in the workplace.

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