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A novel employability embedding framework for three-year bachelor's programs

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Abstract

Employability skills and capabilities are equally important as academic and technical knowledge in the current job market. Consequently, universities are increasingly focusing on providing employability skills to their students. While universities in Australia are experimenting with various methods for employability embedding, we could not find any framework for embedding employability at the course level. Mapping employability at the course level is non-trivial but necessary to scaffold employability.
e-portfolios form an integral part of employability; however, it is not well defined in the literature how to embed and assess an e-portfolio into a tertiary academic program. Unless an e-portfolio is embedded and assessed in the academic program, the uptake by the students cannot be guaranteed; hence students miss out on the benefits of such an important tool. This paper addresses these two key challenges. It develops an employability embedding framework targeted for a three-year bachelor's program. This framework also enables the embedding and assessment of e-portfolios. The framework is novel as it offers a scaffolded and organic way to embed employability.

Keywords
employability embedding, e-portfolio

Introduction

Employability skills are often referred to as 'soft' skills or transferable skills. They are key personal attributes that employers increasingly value and are crucial for effectiveness in the workplace. Unlike professional or technical skills, the employability skills are general and not job-specific and apply to all work roles and workplaces across all industry types. To be competitive in today's job market, graduates need to demonstrate academic and technical knowledge in their chosen fields and employability skills and capabilities to potential employers. Therefore, students are increasingly choosing university degrees, which offer them the opportunity to gain employability skills.

The development of job-ready graduates is even more complex than ever before, with the types of jobs and nature of work more global, complex and connected (Department of Education, Skills and Employment (DESE) 2021). The Australian Government's Core Skills Framework (Department of Industry, Innovation, Science, Research and Tertiary Education (DIISRTE), 2013) states, 'generic or employability skills contribute to work performance in combination with technical or discipline-

specific skills and core language, literacy and numeracy (LLN) skills' (p. 1). Recently, the Australian Government has emphasised universities critically preparing and supporting graduates to succeed in the future workplace. Furthermore, to encourage universities to better prepare students for work, the Government has introduced a The National Priorities and Industry Linkage Fund (NPILF). Following this lead from the Government, employability is on the agenda across all universities in Australia (Bennett, 2019).

To comprehend the landscape of employability in academic programs, we analysed the literature review papers concerning employability (see Table 1). We found that most of the papers focus on two broad concepts: (1) identifying the concepts/theories of employability of university graduates and its underlying factors, and (2) the significance of embedding careers and employability in academic programs. However, it is not clear what are the best methods to embed employability. Only a few studies focus on the actual embedding mechanisms. In this paper, we aim to address this gap.

Table 1: Literature Review Papers on Employability

Paper	**Key contribution**	**Country specific study**	**Evaluate employability embedding frameworks**
Graduate employability-literature review (Lees, 2002)	This literature review is an attempt to draw together the concepts of employability in relation to Higher Education (HE) in the UK.	Y, UK	N
Graduates' Employability Skills: Evidence from Literature Review (Weligamage, 2009)	This study was conducted with the objectives of identifying the employer skills needs in different countries, various definitions related to employability skills, previous research completed in different countries related to the employability skills requirement and their recommendation.	Y, Sri Lanka	N
Review of literature on graduate employability (Sumanasiri, Yajid, & Khatibi, 2015)	Summarizing the major articles on university graduate employability theoretical frameworks and empirical studies.	N	N - Authors attempt to identify the concept of employability of university graduates and its underlying factors, but do not cover actual embedding strategies.
Employability Skills: A Review (Nisha & Rajasekaran, 2018)	The paper aimed at bringing out the role of employability skills in shaping students' career and emphasizes as to how possessing employability skills can	N	N

	help young graduates reach greater heights in their career.		
Employability: A review of the literature 2012-2016 (Artess, Mellors-Bourne, & Hooley, 2017)	This study described how the subject of employability has been addressed during 2012-2016 and draws out some of the key implications for higher education providers (HEPs), academics and employability practitioners.	N	N
A systematic review of current understandings of employability (Williams, Dodd, Steele, & Randall, 2016)	A systematic review is presented, assessing the similarities and differences between the components of employability conceptualisations, focusing on employability at an individual level. Capital, career management and contextual dimensions were identified as unifying themes in these components. Findings indicate that success in developing employability needs to be contextualised within a conceptualisation of employability as a multifaceted construct.	N	N – Authors discuss theories in understanding employability, but they do not cover actual embedding strategies.
Developing employability in engineering education: a systematic review of the literature (Winberg et al., 2020)	The research question guiding the review was: Which curricular and pedagogical arrangements promote engineering students' employability?	N	N - The review drew on a theoretical framework that differentiated between engineering knowledge and professional skills to explain how employability could be included in engineering programmes. Actual embedding strategy was not considered.
Graduates employability: An exploratory Literature Review (Moumen & Mejjad, 2021)	This paper identified three well cited conceptual frameworks to measure graduate employability: the Graduate Employability Development model, the CareerEDGE model, and the Career Management Employability model.	N	N

ePortfolios are an online collection of digitised artefacts to demonstrate various skills, resources and accomplishments that represent an individual (Lorenzo & Ittelson, 2005). The creation and use of an ePortfolio is one employability strategy. ePortfolios are increasingly used in university degrees to showcase graduate employability. Several studies have looked into e-portfolio for employability. In (Woodley & Sims, 2011), authors analysed business students' views about using ePortfolios at Victoria University (VU) in Melbourne but did not consider any embedding strategy into academic programs. In (White, 2016), the author described a conceptual framework of how to design and integrate learning activities for ePortfolios, how to support learning activities with an authentic assessment that then contributes as evidence for collection and inclusion in ePortfolios, and how to assess ePortfolios through the use of rubrics. The author also provided a case study of how an ePortfolio project has been scaffolded and integrated into the Graduate Diploma in Clinical Physiology at Griffith University. However, the connection between the e-portfolio and employability embedding framework was not considered in their framework, which we focus on in the paper.

The paper is organised as follows. The next section discusses employability and its importance, followed by the existing employability models and frameworks and their limitations. Then we present our proposed method for embedding employability, followed by the conclusion.

Employability and its Importance

What is Employability

Employability is defined as 'individuals consciously deploying career adaptability, i.e., dispositional traits and characteristic adaptations to actively secure work that rewards them for their knowledge and skill in demand in a given context' (McIlveen, 2018, p. 3). This definition accepts the technical skills and knowledge students will learn in their degrees programs and enhances the other required attributes for navigating the global working environment in a local context. In the definition, 'dispositional traits' refer to a person's willingness to try new things, self-discipline, self-control, engagement in the outside work, ability to get on with others and tolerance of stress. Then 'characteristic adaptations' are goals, strategies, and responses to particular work contexts and situations (Buruk et al., 2017). Dispositional traits and characteristic adaptations are critical attributes for employability to assist students to successfully move in and around a rapidly changing employment context. This definition recognises the rapidly changing employment context in regard to graduate employability in higher education (Healy et al.,2022).

Why Employability

Employers are increasingly demanding graduate skills and mindset that are often not found in the subject area of study in the chosen Higher Education degree. This has driven the employability agenda and made it a priority for higher education providers. Studies show that student success can be significantly enhanced by embedding employability into the curriculum and the institution's teaching and learning culture (Advance Higher Education, 2019). Groups involved with employability perceive its significance in different forms.

Students and their families: This group expects the tertiary institutions to support them in developing a career plan, help them successfully transition to employment, and enhance their employability.

Employers: All employers have ever-changing needs regarding graduate skills, knowledge and attributes. As universities increasingly seek Industry input, these needs are now informing and often driving the employability agenda at the tertiary intuitions shaping their business engagement, the curriculum design and employability support.

Tertiary education providers: Excellence in graduate outcomes enhances an institution's reputation and global standing and influences recruitment/retention and employer engagement. Many professional bodies like the Australian Computer Society currently mandate that the academic

programs at the tertiary institutions demonstrate how the students are supported to enhance their employability and achieve successful graduate outcomes and demand active Industry Advisory Groups.

Government: Employability is a major focus of the Australian Government. The Government's Department of Education, Skills and Employment offers a wide range of information and resources designed to provide students and graduates with employment information. The department also provides information on preparing for employment, changing careers and becoming an apprentice or trainee. The Australian Government also offers support at the state-level running student and graduate employability programs. These include work-while-you-study opportunities, work rights and conditions through to industry experience and graduate pathways.

Rural and Regional communities: Addressing the issue of graduate migration from the regions is a priority for the Government, and higher education providers, as retaining graduate skills support the development of local communities and the regional economy. Under the Job-ready Graduates Package of reforms to higher education, the Australian Government's university funding of $18 billion in 2020 will grow to $20 billion by 2024. The package will create up to 30,000 new university places and 50,000 new short course places by 2021 and provide additional support for students in regional and remote Australia. In addition, the Australian Government is creating many funding opportunities focused on regional development seeking employable graduates.

Existing models and frameworks of embedding employability

In the literature, a range of approaches have been explored for embedding employability in the curricula (Harvey et al., 2017; Shivoro et al., 2017). Below we discuss the key models.

Employability through the whole curriculum: In this approach, attributes related to employability are embedded in the whole curriculum by making the need for employability preparation central to all programs and courses. An example is the Staffordshire Graduate Employability Project (SGEP) project by Owens and Tibby, where authors developed an undergraduate program on employability focusing on attributes such as discipline expertise, professionalism and professional integrity, global citizenship, communication and teamwork, reflective and critical learning, and lifelong learning (Owens & Tibby, 2014).

Employability in the core curriculum: In this approach, the university designs specific module/s as a tool to develop employability attributes. Kemp (2009) shows that it is feasible to develop a single module for simultaneously developing an employability profile and strengthening essential employability attributes. Jackson (2016) also provides evidence of developing employability skills in a business context through a learning module, which had four units designed to enable students to acquire various employability skills through practical experience.

Work-based or work-related learning incorporated as one or more components within the curriculum: This includes short or long placements. Research shows that placements provide evidence of greater self-confidence and awareness of the challenges faced in the world of work due to such placements. In addition, students receive feedback sessions with lecturers and workplace training providers on skills gaps and mismatches in the workplace, and receive continuous input from the workplace (Pillai et al., 2012). In this model, effective collaboration between the academic supervisor and the industry supervisor is crucial to maximising the employability enrichment of the students.

Employability-related module(s) within the curriculum: In this model, employability-related modules are embedded in the curriculum. One method to implement this model is to develop a suite of modules designed to engage first-year students in a learning experience to equip them with the skills needed to meet the challenges of creativity and innovation (Quality Assurance Agency for Higher Education, 2009).

Work-based or work-related learning in parallel with the curriculum: This occurs when students are employed part-time while they are studying. Part-time employment provides an experiential base for the academic study of employment-related disciplines. Tran (2016) notes that this is a form of university-enterprise collaboration or partnership that involves work-based learning degree programs/sandwich courses. Muldoon (2009) presents that part-time work is a valuable avenue for developing graduate employability attributes.

Embedding employability through research-involved teaching: In this model, undergraduates are provided with research experiences, which has shown to prepare them for increasingly complex careers equipping them transferrable generic skills best acquired through research (Harvey et al., 2017).

Limitations of the existing frameworks

We refer to frameworks as techniques of embedding employability. Frameworks may include one or more models discussed above. Many employability embedding frameworks have been proposed in the literature. In Table 2, we discuss these frameworks and note two key limitations:

1. none of the studies offer strategies for mapping employability at the course level;
2. none of the studies embeds e-portfolio into their framework.

Table 2: Existing Methods for Embedding Employability.

Paper	Key Contribution	Course Level Mapping	e-portfolio
Essential frameworks for enhancing student success: embedding employability (Advance Higher Education, 2019)	This framework provides ten broad areas of focus that are integral to graduate employability, including experience and networks, attributes and capabilities, specialist, technical and transferable skills, knowledge and application, behaviours, qualities and values, enterprise and entrepreneur education, career guidance and management, self, social and cultural awareness, reflection and articulation, confidence, and resilience and adaptability. Then for embedding employability, the framework defines four stages: (1) defining employability, (2) auditing and mapping, (3) prioritising actions and (4) measuring impact.	X	X
Embedding Employability Framework – A Guide for Dundalk Institute of Technology, (DkIT) (Technology, 2021)	This framework proposes four stages: collecting, collating, recommending, and reviewing. The collecting stage identifies what activities individual lecturers are already engaged in regarding employability. In the collating stage, patterns, quality and quantity of employability activities are assessed. The recommendations stage offers recommendations for modular revision. Finally, the review stage shows how individual departments and Schools are embedding employability year-on-year.	X	X
Embedding graduate employability attributes in management sciences curricula: A	This paper recommends that universities develop a stand-alone core module specifically to cultivate employability attributes. In addition, universities should provide students with multiple work-integrated learning experiences by	X	X

case of two Namibian universities (Shivoro et al., 2017)	offering to practise technical or discipline-specific skills and generic employability attributes.		
Embedding 21st century employability into assessment and feedback practice through a student–staff partnership (Zainudden, Broom, Nousek-McGregor, Stubbs, & Veitch, 2022)	This study has shown that engaging Life Science students with employability elements as early in their degrees as Year 1 is important when considering careers delivery and requires it to be flexible for them to engage in careers education within their timetable, and preferably embedded into an academic session.	X	X
Beyond Employability: Embedding Soft Skills in Higher Education (Tang, 2019)	This paper suggests soft skills have become increasingly critical parts of education to be embedded in the instructional process as employers are increasingly seeking employees with a combination of skills falling under this career readiness and employability umbrella. For embedding soft skills, the paper recommends that four questions should be answered while designing the course activities: (1) purpose and (2) importance, (3) what kinds of soft skills are developed through the teaching activity, and (4) the methods that the students can apply what they have learned in their workplace. The paper further recommends that critical thinking and communication skills can be embedded in role-playing instructional activities. Teamwork can be developed in group work instructional activities. Beyond classroom teaching, companies involved in the university internship program can integrate these soft skills in those activities within their internship training. Coaching and mentoring are also recommended to sustain these soft skills.	X	X
Skill sets: an approach to embed employability in course design (Cox & King, 2006)	This paper shows that employability can be used to inform the design of a course through translating employability into skills sets. This was achieved with the direct involvement of employers to identify skill sets. Further, as employers are the ultimate arbiters of employability, they remained involved throughout the design process, but the design itself remained owned by the course team.	X	X
Moving Towards the Future of Teaching Pedagogies and Learning Paradigms: Understanding the 21st Century Employability Challenges in the ICT	This paper presents preliminary findings and insights that will influence the future of teaching pedagogies and learning paradigms to meet the ever-increasing expectations of employability. This will provide direction on professional development initiatives for academics and educational developers, encouraging reflection on graduate outcomes in their disciplines and how to apply various frameworks and	X	X

Industry (Carbone, Hamilton, & Jollands, 2015)	strategies best to embed employability into the curriculum and pedagogical design and teaching practice.		
Enhancing employability: a long term strategic challenge (Allison, Harvey, & Nixon, 2002)	This paper presents a case study presenting University of Newcastle's strategy-led rather than project-led approach to enhancing graduate employability. It also presents evaluation strategies and critical success factors at both institutional and discipline levels for this integrated approach in a changing environment.	X	X
Integrating Research and Knowledge Exchange in the Science Undergraduate Curriculum: Embedding Employability Through Research-Involved Teaching (Allison et al., 2002)	This paper presents that enhancing student learning through research and providing undergraduates with research experiences prepares them for increasingly complex careers requiring research experience or transferrable generic skills best acquired through research.	X	X

Proposed method for embedding employability

Our proposal has two parts: part 1 is the embedding framework, and part 2 is the framework for integrating the e-portfolio. Our proposal is based on the Careers and Employability Learning (CEL) framework (University of Southern Queensland (USQ) Careers and Employability, 2020) developed at the University of Southern Queensland and focused on a three-year bachelor program. In particular, we overcome the challenges of the CEL framework and develop the proposed frameworks.

Proposed embedding framework overcoming challenges of USQ's CEL framework

USQ's CEL Framework is based on theories including the Australian Blueprint for Career Development (Department of Education, Employment and Workplace Relations, 2010), the DOTS model (Law and Watts, 2003), the psycho-social constructs and dimensions of employability (Fugate et al., 2004), Social Cognitive Career Theory (Lent et al., 2002), Systems Theory Framework (Patton & McMahon, 2014) and CareerEDGE Employability Development Profile (Pool et al., 2014). We present the CEL framework in Figure 1. It focuses on three aspects: Professional Identity, Career Management, and Industry aligned and engaged. It then categorises these aspects into three phases – decide, plan (and do) and complete (apply and succeed). Differentiation of these developmental phases occurs within the curriculum to meet students at their developmental stage. Employability learning is underpinned by the CEL Framework which guides academics, and professional staff to apply a developmental approach to employability learning in curricular, co-curricular and extra-curricular employability activities.

USQ Careers and Employability Learning (CEL) Framework

	Decide	Plan (and do)	Compete (Apply and Succeed)
Professional Identity	**Outcome 1:** Identify one's interests, values and personality in the context of vocational and life planning **Outcome 2:** Synthesise one's key strengths, goals and motivations into a rounded personal profile **Outcome 3:** Articulate a statement of purpose to help guide decisions and career adaptive behaviours	**Outcome 1:** Develop career decisions that are aligned with professional and personal values, interests and motivations **Outcome 2:** Appraise strengths, skills and experiences to identify gaps and strategies for future development **Outcome 3:** Build a preferred professional identity and methods of communicating and representing personal brand	**Outcome 1:** Critically evaluate personal experiences and preferences to clarify fit with potential employers and opportunities **Outcome 2:** Communicate a professional identity consistent with a career professional **Outcome 3:** Devise strategies for effectively positioning one's self in the modern labour force
Career Management	**Outcome 1:** Develop a self-reflective stance to curricular, co-curricular and extracurricular activities, including professional experience **Outcome 2:** Clarify sense of aspiration and a proactive, adaptive and opportunity seeking disposition **Outcome 3:** Plan and implement strategies to manage your career and apply a flexible mindset	**Outcome 1:** Research graduate employment opportunities and programs relating to a field of study/preferred employment or enterprise pathways **Outcome 2:** Articulate transferrable skills through the analysis of employability enhancing activities and experiences. **Outcome 3:** Employ career management,	**Outcome 1:** Employ an entrepreneurial mindset for strategic career planning **Outcome 2:** Evaluate the importance of lifelong learning opportunities, effective career transition skills and development strategies to facilitate these **Outcome 3:** Exercise adaptability, resilience and pragmatism in the pursuit of career and
Industry aligned and engaged	**Outcome 1:** Develop a broad understanding of changing economic, social and employment conditions and how a field of study relates to various industries **Outcome 2:** Identify personal, professional and support networks and connections and develop strategies to strengthen connections to your profession **Outcome 3:** Articulate links to occupational opportunities, pathways and the changing world of work	**Outcome 1:** Connect with people, organisations, industries and resources that might provide work, experience, mentoring and/or networking opportunities **Outcome 2:** Prepare a quality application portfolio (i.e. resume, digital profile, portfolio, selection criteria, etc.) to enhance employability **Outcome 3:** Engage with industry through WIL, industry events, networking and engagement with professional associations	**Outcome 1:** Continue to engage in professional mentoring and WIL opportunities to support connection to industry and career goals **Outcome 2:** Capitalise on existing relationships and networks with employers and industry connections to transition into or through your professional field **Outcome 3:** Enhance your understanding of graduate opportunities and pathways to employment with employers and industry

Figure 1: USQ CEL Framework

The main drawback of the CEL framework was that it did not provide any method for embedding into a program. We propose that outcomes under 'decide' maps to the first-year courses, those in 'Plan and do' maps to second-year courses and finally, outcomes under 'complete' (apply and succeed) maps to the third-year courses. Our developmental approach to employability recognises that our students may be new to their careers, changing careers or advancing their careers, and ensures activities can be differentiated or tailored to meet student capabilities and encourages adaptability and resilience in our graduates. We also achieve a scaffolded framework through this strategy, as outcomes in 'decide' are primary, then the ones under 'plan' are intermediate, and finally, outcomes under 'complete' are advanced. We visualise this strategy in Figure 2.

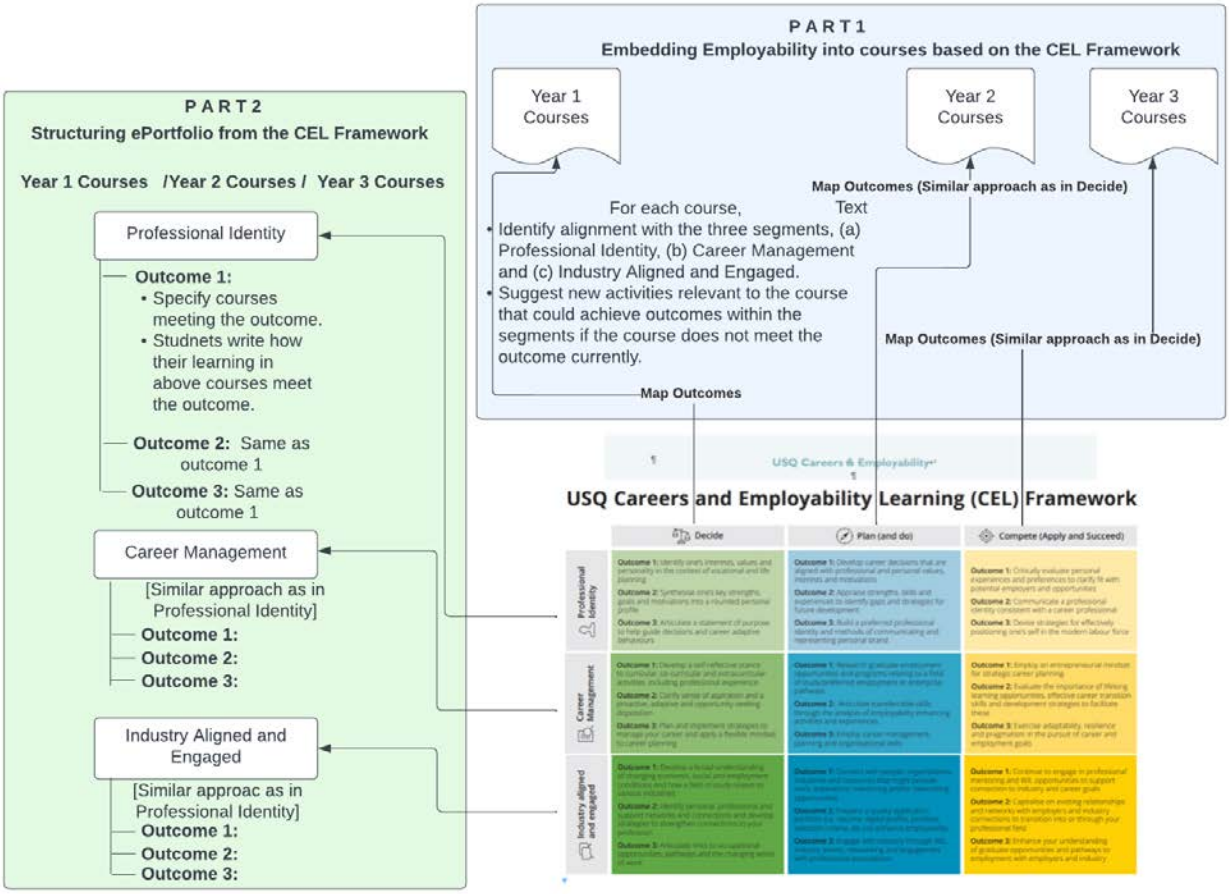

Figure 2: Proposed Employability Embedding Framework.

Proposed framework for E-portfolio

An e-portfolio is central to employability. However, encouraging students to develop an e-portfolio is difficult unless there is an assessment and it is clearly linked and embedded through their degree. Even if there is an assessment, the challenge is to develop a marking criterion due to the subjective nature of the e-portfolio. We again use the USQ CEL framework to develop and structure the e-portfolio (See Figure 2). We have developed a (web-based) template for the e-portfolio, which also has three aspects: (1) Professional Identity, (2) Career Management and (3) Industry aligned and engaged. Students are given the template in their first year and they keep developing it as the progress from first year to the third year.

To develop marking criteria, we first map the courses to different outcomes. An example is shown in Table 3 which has been done for the Bachelor of Information Technology (BIT) Program at USQ. The students need to reflect on how the learning in that courses contributed to their CDL in that competency area for corresponding courses in their e-portfolio. Examiners then check student portfolios making sure they have covered the courses corresponding to the outcomes.

Table 3: E-portfolio Marking Criteria

	Decide	Plan (and do)	Complete (Apply and Succeed)
Professional Identity	Outcome 1: Identify one's interests, values and personality in the context of vocational and life planning COURSE(S):	Outcome 1: Develop career decisions that are aligned with professional and personal values, interests and motivations COURSE(S): CSC2401, CSC2408, CSC3407	Outcome 1: Critically evaluate personal experiences and preferences to clarify fit with potential employers and opportunities COURSE(S): CSC3502, CSC3600
	Outcome 2: Synthesise one's key strengths, goals and motivations into a rounded personal profile COURSE(S): CSC1401	Outcome 2: Appraise strengths, skills and experiences to identify gaps and strategies for future development COURSE(S): CSC2401, CSC3407	Outcome 2: Communicate a professional identity consistent with a career professional COURSE(S): CSC3502, CSC3600
	Outcome 3: Articulate a statement of purpose to help guide decisions and career adaptive behaviours COURSE(S): CMS1000 (perceived)	Outcome 3: Build a preferred professional identity and methods of communicating and representing personal brand COURSE(S): CSC2401, CSC3407	Outcome 3: Devise strategies for effectively positioning oneself in the modern labour force COURSE(S): CSC3400, CSC3502, CSC3600
Career Management	Outcome 1: Develop a self-reflective stance to curricular, co-curricular and extra-curricular activities, including professional experience COURSE(S): CSC1401	Outcome 1: Research graduate employment opportunities and programs relating to a field of study/preferred employment or enterprise pathways COURSE(S): CSC2401, CSC3407	Outcome 1: Employ an entrepreneurial mindset for strategic career planning COURSE(S): CSC3502, CSC3600
	Outcome 2: Clarify sense of aspiration and a proactive, adaptive and opportunity seeking disposition COURSE(S):	Outcome 2: Articulate transferable skills through the analysis of employability enhancing activities and experiences. COURSE(S): CSC2401	Outcome 2: Evaluate the importance of lifelong learning opportunities, effective career transition skills and development strategies to facilitate these COURSE(S): CSC3502, CSC3600
	Outcome 3: Plan and implement strategies to manage your career and apply a flexible mindset to career planning COURSE(S):	Outcome 3: Employ career management, planning and organisational skills COURSE(S): CSC2401, CSC2408	Outcome 3: Exercise adaptability, resilience and pragmatism in the pursuit of career and employment goals COURSE(S): CSC3400, CSC3502, CSC3600
Industry aligned and engaged	Outcome 1: Develop a broad understanding of changing economic, social and employment conditions and how a field of study relates to various industries COURSE(S):	Outcome 1: Connect with people, organisations, industries and resources that might provide work, experience, mentoring and/or networking opportunities COURSE(S): CSC2401, CSC3407	Outcome 1: Continue to engage in professional mentoring and WIL opportunities to support connection to industry and career goals COURSE(S): CSC3502, CSC3600

	Outcome 2: Identify personal, professional and support networks and connections and develop strategies to strengthen connections to your profession COURSE(S):	Outcome 2: Prepare a quality application portfolio (i.e. resume, digital profile, portfolio, selection criteria, etc.) to enhance employability COURSE(S): CSC2401, CSC3407	Outcome 2: Capitalise on existing relationships and networks with employers and industry connections to transition into or through your professional field COURSE(S): CSC3502, CSC3600
	Outcome 3: Articulate links to occupational opportunities, pathways and the changing world of work COURSE(S):	Outcome 3: Engage with industry through WIL, industry events, networking and engagement with professional Associations COURSE(S): CSC2401, CSC2408, CSC3407	Outcome 3: Enhance your understanding of graduate opportunities and pathways to employment with employers and industry COURSE(S): CSC3400, CSC3502, CSC3600

Implementation Strategy: We present our proposed implementation strategy in Figure 3. As the first step a survey needs to be conducted to understand the status of the employability in each course. Then we propose that an action plan needs to be developed for the courses which do not deliver the corresponding outcomes. USQ CEL framework also provide set of suggested activities to achieve various outcomes. Finally, this action plan needs to be discussed with the course examiner and need to be adjusted/updated based on their feedback and workloads and a timeline needs to be outlined for implementing the action plan.

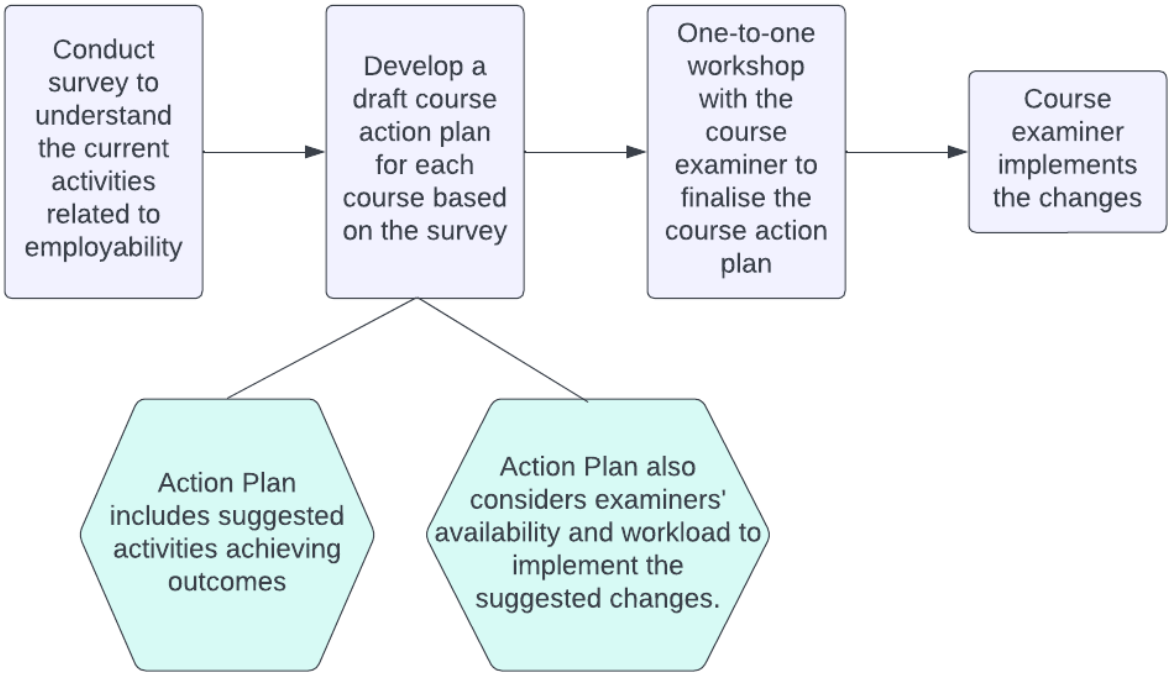

Figure 3: Employability Implementation Strategy.

Conclusion

This paper comprehensively analyses the literature regarding employability embedding into tertiary academic programs and presents the key techniques currently used and their shortcomings. It also takes the e-portfolio into account as it is an integral part of embedding employability. The key highlights of the paper are as follows:

- The paper presents that there is no existing employability framework to map employability aspects into a course level.
- The paper also presents that existing employability embedding strategies do not include e-portfolio.
- The paper presents a conceptual framework for embedding employability in course level in a three-year bachelor's program. It also shows that the proposed approach offers an organic and scaffolded method of embedding employability.
- The paper also presents a technique for integrating e-portfolio with the proposed employability embedding framework unifying the employability embedding.

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