Studies in Higher Education

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/cshe20

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To cite this article: Alex Bradley, Jacqueline Priego-Hernández & Martyn Quigley (2021): Evaluating the efficacy of embedding employability into a second-year undergraduate module, Studies in Higher Education, DOI: 10.1080/03075079.2021.2020748

To link to this article: https://doi.org/10.1080/03075079.2021.2020748

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STUDIES IN HIGHER EDUCATION
https://doi.org/10.1080/03075079.2021.2020748

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Evaluating the efficacy of embedding employability into a second-year undergraduate module

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ABSTRACT

Employability is a primary concern for many students who face a competitive job market in the aftermath of COVID-19. It is also a pressing concern for universities with governments increasing pressure on universities to deliver courses that bring value for money to the students whilst also positively contributing to the economy. To address these demands some universities and courses have embedded employability within their degree (embedded approach) whilst others offer employability teaching through career services separate from students' courses (parallel approach). This article experimentally examines the impact of embedding employability within the curriculum on students' career planning, knowledge, and confidence in completing common graduate selection tasks (i.e. application forms, psychometrics, interviews, etc.). A longitudinal pre–post experiment containing 64 second-year undergraduates found that students that received employability embedded within their course reported an increased sense of career planning, higher levels of knowledge and confidence on selection tasks and greater intentions to attain relevant work experience compared to those in a control group. These findings highlight the important role that universities can play in smoothing students' transition into the workplace.

KEYWORDS

Employability; embedded; careers service; career planning; graduate outcome

The COVID-19 pandemic has had a negative impact on unemployment rates across many societies around the world (OECD 2020a, 2020b, 2021). For example, in the second quarter of 2020, the OECD reported that employment across OECD countries on average fell by 4% to its lowest level since 2010 (OECD 2020b). The pandemic has created particularly challenging times for graduates with many losing employment and new graduates facing intense competition for vacancies (High Fliers 2021). For instance, during 2020 graduate outcomes of Australian Graduates fell to 68.7%, its second-worst reported rate (Challice et al. 2020). Similarly, in the UK graduates saw an increase in unemployment rates during 2020 with recent graduates being particularly hard hit (Romiti 2021). The impact on current undergraduates is also notable, not only do they face a more competitive job market but internships and placement years which are known to improve graduate outcomes have also been cancelled and new vacancies withdrawn (Aucejo et al. 2020; Hooley 2020; Montacute and Holt-white 2021). In turn, this has stifled key opportunities for students to develop their professionalism and employability. The current economic situation and curtailment of employability-

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Supplemental data for this article can be accessed https://doi.org/10.1080/03075079.2021.2020748.
This article has been corrected with minor changes. These changes do not impact the academic content of the article.

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enhancing opportunities pose immediate challenges to recent and prospective graduates, but they are not the only challenges universities face concerning employment.

Higher Education Policy landscape

The employment outcomes of students are increasingly being used by governments to evaluate the so-called 'value' of universities and the courses that they offer. For example, the Office for Students in the United Kingdom (UK) has created a new metric (i.e. 'start to success') which combines continuation rates and graduate outcomes with initial indications suggesting performance on this metric could be linked to financial penalties or removal of degree awarding powers (Office for Students 2020; Williamson 2021). Typically, employment outcomes are currently assessed either by looking at the number of graduates in graduate employment or further study or by looking at average salary levels after a certain number of months post-graduation. In the UK the Graduate Outcomes Survey looks at the percentage of graduates in graduate employment 15 months after graduation, whilst Graduate Outcomes in Australia assess graduates approximately 4 months after graduation (Challice et al. 2020; Higher Education Statistics Authority (HESA) 2020). In addition to these relatively short-term measures of employment after graduation, Australia has the Graduate Outcome Survey-Longitudinal (GOS-L) which is conducted three years after graduation (Aungles et al. 2021) and the UK has the Longitudinal Educational Outcomes data (LEO) which looks at salary levels one, three and five years after graduation (Department for Education 2018). Governments such as the UK are increasingly looking to utilise employment outcomes data to make decisions about which courses to continue funding or even which courses to potentially fine or remove degree-awarding powers from (Williamson 2021). Furthermore, these employment metrics are often incorporated into league tables which ultimately aid or inhibit the recruitment of students onto courses (Gibbons, Neumayer, and Perkins 2015). For example, the QS World University Ranking includes the graduate employment rate within 12 months of graduation (Craig 2021). The employment of graduates has been and will continue to be a key concern for universities, not to mention other key stakeholders like students, parents, businesses, and governments. For this reason, we adopt Rothwell and Arnold's (2007) notion that employability is the ability to attain the job one desires or to maintain employment. We acknowledge this definition has limitations since it does not explicitly focus on employability skills or lifelong learning, however, it does suit the current policy context within higher education.

What universities currently do to enhance employability

Universities employ a range of initiatives to enhance their students' employability. A useful way to conceptualise the myriad of different initiatives that universities offer to enhance their students' employability is to consider Cranmer's (2006) classifications of '*embedded*', '*bolt-on*' and '*parallel*' approaches. According to Cranmer the delivery of employability within universities can be categorised according to one of these three categories. Embedded employability refers to the teaching of employability, and in particular core skills, across the modules within a degree course, whereas the bolt-on approach refers to employability being focussed on one or two modules within a degree programme. For simplicity, embedded and bolt-on approaches are treated the same in the current study as they both occur within the course. The parallel approach is where employability is delivered outside of the course via careers and employability services. This approach is commonly used by universities. For instance, Bradley, Quigley, and Bailey (2019) conducted an audit of the three different approaches to delivering employability within psychology departments in UK universities. These authors found that 65 out of 116 universities appeared to offer a parallel approach. Despite its popularity, though the parallel approach is potentially problematic for universities as it fails to engage the majority of students and even when students do engage with career services or extracurricular employability enhancing courses it is often at a late stage of their degree (Andrews and Russell 2012; Bradley, Quigley, and Bailey 2019). Notably, Bradley, Quigley, and Bailey (2019) found that

only around 10% of third-year students had engaged with career workshops designed to help them navigate common selection tasks like application forms, psychometric tests, and interviews. Embedded employability on the other hand ensures equitable access for all students which is particularly important as we know those from under-represented groups find it difficult to participate in extra-curricular employability-enhancing activities (Montacute, Holt-White, and Gent 2021; Thomas and Jones 2007). Embedded employability also ensures consistency across students' experiences within a course and can help to improve students' motivation to their course since it highlights the benefits of completing their studies (Thomas and Jones 2007). For these reasons, an embedded approach is generally favoured, for instance, the Higher Education Academy (2015) recommends that employability is taught and assessed within a student's degree programme at multiple stages.

Research shows that one of the most effective employability enhancing practices is to embed work experience into the degree programme whether in the form of placements, internships, or work experience modules (Inceoglu et al. 2019). There is good evidence to suggest that industrial placement can lead to students being more likely to be employed after six months and receiving higher salaries (Blackwell et al. 2001; Department for Business Innovation & Skills 2012). There are also potential academic benefits with students returning from placement being more likely to have higher final year marks even when controlling for prior attainment (Jones, Green, and Higson 2017; Reddy and Moores 2006, 2012; Yung, Lam, and Yu 2015). Shorter-term work experience in the form of internships or work experience modules has also been found to increase the number of students that attain graduate jobs and their salaries (Callanan and Benzing 2004; Park 2015; Zhao and Liden 2011). There are several benefits to work experience, however, they are not a universal answer as the availability of relevant work experience varies greatly by degree subject and the positive effect can be moderated by factors such as the amount of learning gain from the experience and commitment from the host organisation (Blackwell et al. 2001; Thune and Støren 2015). Logistically they can also be very time-consuming for university staff to set up and manage and as we have seen during COVID-19 the viability and number of work experience opportunities are tied to economic circumstances (Aucejo et al. 2020; Montacute and Holt-white 2021). In light of these limitations, it is worth considering the initiatives that universities can take to enhance students' employability prospects regardless of economic and societal conditions.

Evidence around embedding employability in the curriculum

Evidence evaluating the efficacy of embedding employability is scarce and shows mixed results (Cranmer 2006; Lowden et al. 2011; Pegg et al. 2012). For instance, Mason, Williams, and Cranmer (2009) found that the teaching, learning, and assessment of employability-related skills (i.e. communication, literacy, numeracy problem solving, etc.) did not predict attainment of graduate jobs six months after graduation. Similarly, Hazenberg, Seddon, and Denny (2015) found that an employability module designed to enhance graduate skills (i.e. communication, time management, planning skills, etc.) in combination with a four-week work placement did not predict employment status following the intervention. One potential explanation for these null findings could be that they both focussed on teaching generic employability skills which recent research has suggested could lead to students becoming disengaged in their studies (Jorre de St Jorre and Oliver 2018). When research has been conducted into more practical employability skills such as how to create good Curriculum Vitaes (CVs), or application forms, and perform well at interviews results tend to be more positive (Bates et al. 2019; Gokuladas 2011; Hernández-Fernaud et al. 2017; Taylor and Hooley 2014). For example, Taylor and Hooley (2014) conducted a career management skills module in the final year of their degree where they aided students with CVs, cover letters, mock interviews, and assessment centres and found 70% of those engaged in the module had a graduate-level job within 6 months compared to only 38% of the students on that course but not on that module. The timing of embedding employability into modules seems to be crucial with those leaving it until third-year optional modules potentially leaving it too late for students to engage in extracurricular activities or gaining relevant work

experience (if they have not already done so) (Thomas and Jones 2007). Equally beginning in the first year, especially first term could lead students to feel anxious and stressed at having to consider employability when they do not even feel settled into their degree (Hepworth et al. 2015). Hepworth et al. (2015) found that some students within their focus group strongly supported second year being the ideal time to formulate a career plan and develop the basic skills required to navigate selection tasks so the third year could be spent applying for jobs.

Current study

In light of the above, the current study sought to experimentally test whether embedding careers information into a second-year core module would enhance students' career planning and readiness to apply for graduate schemes. Specifically, we were interested in testing the following three research questions. First, does providing career information about potential professions enhance students' career planning. Second, does providing information and training on how to pass common graduate selection tasks enhance student's self-reported knowledge and confidence in passing selection tasks. Third, did the provision of career information make students more likely to apply or intend to apply for internship/work experience. To test out these research questions, students' on two modules (one with careers information/one without careers information) were given two surveys at the start of the module and at the end of the module that measured the level of career planning, knowledge, and confidence with selection tasks, as well as whether they intended/have applied for an internship/work experience. We predicted that providing careers information will enhance careers planning and training on selection tasks will increase self-reported knowledge and confidence with selection tasks. Finally, we predicted students receiving career information will be more likely to apply/intend to apply for an internship or work experience.

Method

Participants

Sixty-four students completed both the pre-and post-survey with 24 (37.5%) in the control module, 24 (37.5%) in the experimental and 16 (25%) in both modules. All students were second-year undergraduate students studying at a UK university. Students in the control group studied Sociology, Sociology with Psychology, Sociology with Criminology, and Sociology with Childhood and Youth Studies. Students in the experimental group were studying Criminology with Psychology, Childhood and Youth Studies with Psychology, and Sociology with Psychology . Those students on the joint honours degree who were involved in both experimental and control modules were classed (for analysis purposes) as being in the experimental group since they had received embedded employability intervention. Fifty-three (83%) students were female and eleven (17%) were male with the average age of the sample being 19 (SD = 1.64) years old. The majority of students had or were currently engaged in part-time work (86%) and to a lesser extent volunteering (53%) although Chi-square tests show no difference between students' levels of part-time work (χ^2 (2) = 0.22, p = .898) or volunteering (χ^2 (2) = 4.85, p = .09) between the control and experimental condition. Equally, an independent t-test showed no difference in overall first-year marks between the two groups of students (Experimental M = 62.37, SD = 5.51, Control M = 61.26, SD = 7.23; t(62) = 0.69, p = .49). Students were recruited through convenience sampling by advertising the study during seminars and lectures within the course. All participants took part voluntarily with no incentives for participation.

Design

A Pre–Post experimental design was utilised to evaluate the efficacy of embedding employability. The pre-survey was administered to both modules in the first two weeks of the Autumn term to

second-year undergraduates (12th October 2020–27th October 2020). The post-survey was conducted in the last two weeks of the Autumn term (4th January 2021–18th January 2021). The independent variable for all three research questions was the module being studied (Experimental vs Control). The dependent variables were items assessing career planning, items identifying students' knowledge and confidence in completing common selection tasks like application forms, interviews, assessment centres, etc., and finally, whether they had applied for an internship/work experience during their first term of the second year. The embedded employability (experimental group) received 'careers corners' which are short 5–10-minute presentations at the end of each module lecture (11 lectures in total) illustrating a potential career option available to them after their degree. They also received three career focussed seminars which covered exploring career options, introducing and practicing psychometric tests (literacy, numeracy, and situational judgment), and how to write 'STAR' based answers to competency-based questions as well as tips on preparing and performing at interviews. The control group did not receive careers corners nor career focussed seminars although they did as part of their module have to work in a group and deliver a presentation. Possible cohort effects due to students in the experimental and control groups coming from different courses are mitigated by the pre–post design which allows us to capture the different baselines students started at and only measure and compare the change that occurred throughout the intervention. Additionally, the checks of prior academic attainment, volunteering, and part-time work suggest the groups were similar in terms of academic grades and work experience/part-time working. This study received ethical approval from the Faculty of Humanities and Social Sciences (FHSS) ethics panel within the University of Portsmouth (ref: FHSS 2020-046).

Materials

Both surveys were completed online using the Online Surveys platform (formerly Bristol Online Surveys). The pre-survey consisted of the information sheet, consent form, and then a ten-item questionnaire. The pre-survey also captured demographic details like gender, age, the module of study, part-time work, etc. Both surveys collected student IDs which were used to link responses between the pre-and post-surveys. Once linked this information was deleted to protect students' anonymity. Both surveys also captured items measuring career planning, and self-report knowledge and confidence on selection tasks. Career planning consisted of 4 items on a 1 (Strongly Disagree)-10 (Strongly Agree) scale which consisted of statements like 'I have a clear idea of what I want to do after university', 'I have spent a lot of time planning/researching what I would like to do' or reverse scored items like 'I think it is too early in my studies to think about careers' and 'I have no idea what I want to do and don't know how to begin planning my future career'. Internal consistency was acceptable with Cronbach Alpha of α.73 in the Pre-survey and α.79 in the post-survey (Tavakol and Dennick 2011). Self-report knowledge and confidence of selection tasks were measured by asking students 'How much do you know about each of these job selection methods' or 'How confident would you feel completing each of these methods?'. They were then presented with 11 selection tasks (i.e. application forms, assessment centres, curriculum vitae, etc.) that they could rate on a 1–4 scale from 'Nothing' to 'A lot' for knowledge or 'Not confident at all' to 'Very Confident'. Internal Consistency was good for both Pre and Post knowledge and Confidence items (Pre-Knowledge α.85; Post-Knowledge α.88; Pre-Confidence α.84; Post-Confidence α.88). A fictitious selection task was also included, referred to as 'Person Centred Grounding', to evaluate whether students were simply giving socially desirable responses (King and Bruner 2000; Larson 2019). Finally, in the post-survey, we had a single item assessing whether they had applied or intended to apply for an internship or work experience. The questionnaire used to collect data at the pre and post-time points for this study has been uploaded to Open Science Framework (OSF) (https://osf.io/4mrzk/?view_only=4117fc45ed0847259d802dd30cf3845f) should interested readers wish to review or use them.

Procedure

Participants were invited to complete the pre-and post-survey during seminars in the first and last two weeks of the Autumn term. Participants were informed of the nature of the study verbally and on the first page of the survey and were asked to consent before participating. Each participant then worked through the rest of the online survey.

Results

All analyses were conducted in RStudio (version 1.1.453 running R 3.5.0). The script and dataset can be found on the OSF website. Before conducting the analyses, difference scores were created for items measuring career planning, and students' knowledge and confidence with selection tasks. This involved taking the pre-item score away from the post-item score. For example, a confidence score on interviews of 2 out of 10 before the module would be taken away from a score of 6 out of 10 at the end of the module to yield a difference score of 4. Three sum scores were created for career planning, knowledge of selection tasks, and confidence in completing selection tasks. The career planning sum score involved the four items measuring career planning. The sum scores for knowledge and confidence was a composite of participants' ratings for all the selection tasks except the fictitious task. One-tailed independent sample *t*-tests and chi-square were used to establish bivariate relationships, whilst multiple regression and logistic regression was used to establish multivariate relationships. Benjamin Hochberg corrections were applied in cases where multiple *t*-tests were conducted to control for the false discovery rate (Benjamini and Hochberg 1995; Thissen, Steinberg, and Kuang 2002).

Does embedding career information in modules help their career planning?

As can be seen in Figure 1 embedding employability information using careers corners and a seminar dedicated to the process of exploring potential career options seems to have had positive effects on their career planning. Students in the experimental group on average reported having a clearer idea about what they wanted to do as a career at the end of the module compared to those in the control group (Experimental: $M = 1.56$, SD = 2.55; Control: $M = 0.13$, SD = 1.96; $t(62) = -2.33$, $p < .05$, $d = 0.59$). They were also less likely to report that it was too early to start thinking about their career (Experimental: $M = -0.87$, SD = 2.99; Control: $M = 0.47$, SD = 2.21; $t(62) = 1.90$, $p < .05$, $d = 0.48$) and less likely to report that they had no idea what they wanted to do after university (Experimental: $M =$

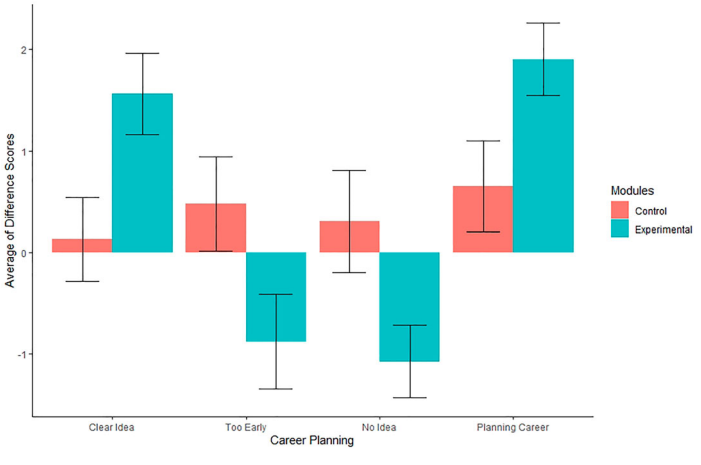

Figure 1. Differences between experimental and control groups with career planning.

−1.07, SD = 2.30; Control $M = 0.30$, SD = 2.40; $t(62) = -2.27$, $p < .05$, $d = 0.58$). The experimental group on average spent more time researching/planning their career than the control group (Experimental: $M = 1.90$, SD = 2.28; Control: $M = 0.65$, SD = 2.14; $t(62) = -2.15$, $p < .05$, $d = 0.55$). All independent t-test were significant with small to medium effect sizes supporting the idea that these results are unlikely to have occurred if the null hypothesis (i.e. embedding career information did not improve career planning) were true. Furthermore, a multiple regression was conducted to see if gender, volunteering, part-time work or prior academic attainment might better explain career planning scores than the intervention. The result showed that only the career intervention was a significant predictor ($\beta = 0.38$ SE = 0.12, $p < .01$) (see Supplementary material for more details).

Does embedded training increase self-report knowledge and confidence in selection tasks?

The training on selection tasks was primarily delivered in two seminars: one focuses on psychometric testing and the other on application forms and interviews. From these two sessions, the students in the experimental group reported feeling substantially more knowledgeable than the control group on a variety of selection tasks like assessment centres, interviews, logical reasoning tests, numerical reasoning tests, presentations, role plays/group tasks, situational judgement tests and verbal reasoning tests (see Table 1). The largest effect sizes were seen for psychometric tests (logical reasoning, verbal reasoning, numerical reasoning tests, situational judgement tests) and interviews. The multiple regression showed that only the career intervention predictor was significant in explaining variability in knowledge on selection tasks ($\beta = 0.44$, SE = 0.11, $p < .001$) (see Supplementary material for more details). There are two reasons to be cautious of some of these findings. First, the students reported feeling more knowledgeable about a fictitious selection task (e.g. 'Person Centred Ground') which was included to test for social desirability in responses. Second, the students from the experimental group also reported feeling more knowledgeable about presentations despite the fact their module did not contain presentations whereas the control group did. Interpretations of these findings will be explored in the discussion. (Figure 2).

In addition to increases in self-reported knowledge, we also see positive changes in students' self-confidence with completing selection tasks. In particular, students reported increased confidence with application forms, interviews, logical reasoning tests, numerical reasoning tests, role play/group tasks, situational judgement, and verbal reasoning tests (see Table 2). The effect sizes are medium to strong for psychometric tests and medium for interviews, role plays/group tasks and application forms. Interestingly, no difference in self-reported confidence was found between the experimental and the control group for person-centred grounding or presentations. Equally, neither self-reported knowledge nor confidence improved for either CVs or pre-interviews for either control or experimental groups which given their limited coverage in the seminar is perhaps not too surprising. The multiple regression on overall confidence scores indicated that

Table 1. Differences between experimental and control groups on self-reported knowledge of commonly used selection tasks.

Selection tasks	Control *M* (SD)	Experimental *M* (SD)	*t* value	*p* value	Cohen's *d*
Application Forms	0.00 (0.67)	0.29 (0.87)	−1.49	0.084	0.35
Assessment Centres	0.17 (0.78)	0.61 (1.05)	−1.89	0.043*	0.44
CV	0.30 (0.93)	0.10 (0.94)	0.851	0.80	0.22
Interview	−0.17 (0.72)	0.54 (0.67)	−3.89	<0.001***	1.00
Logical Tests	0.00 (1.04)	1.05 (1.05)	−3.85	<0.001***	0.97
Numerical Reasoning Test	−0.22 (0.90)	0.95 (0.97)	−4.83	<0.001***	1.20
Person Centred Grounding	−0.04 (1.02)	0.44 (1.12)	−1.88	0.043*	0.40
Pre-Interviews	0.48 (0.59)	0.44 (0.84)	0.22	0.639	0.05
Presentations	−0.04 (0.56)	0.54 (1.00)	−2.19	0.033*	0.56
Role plays/Group Tasks	0.22 (0.67)	0.63 (1.04)	−1.94	0.043*	0.44
Situational Judgement Test	0.13 (0.69)	0.76 (1.14)	−2.73	<0.01**	0.61
Verbal Reasoning Test	−0.17 (0.72)	0.90 (0.92)	−5.20	<0.001***	1.23

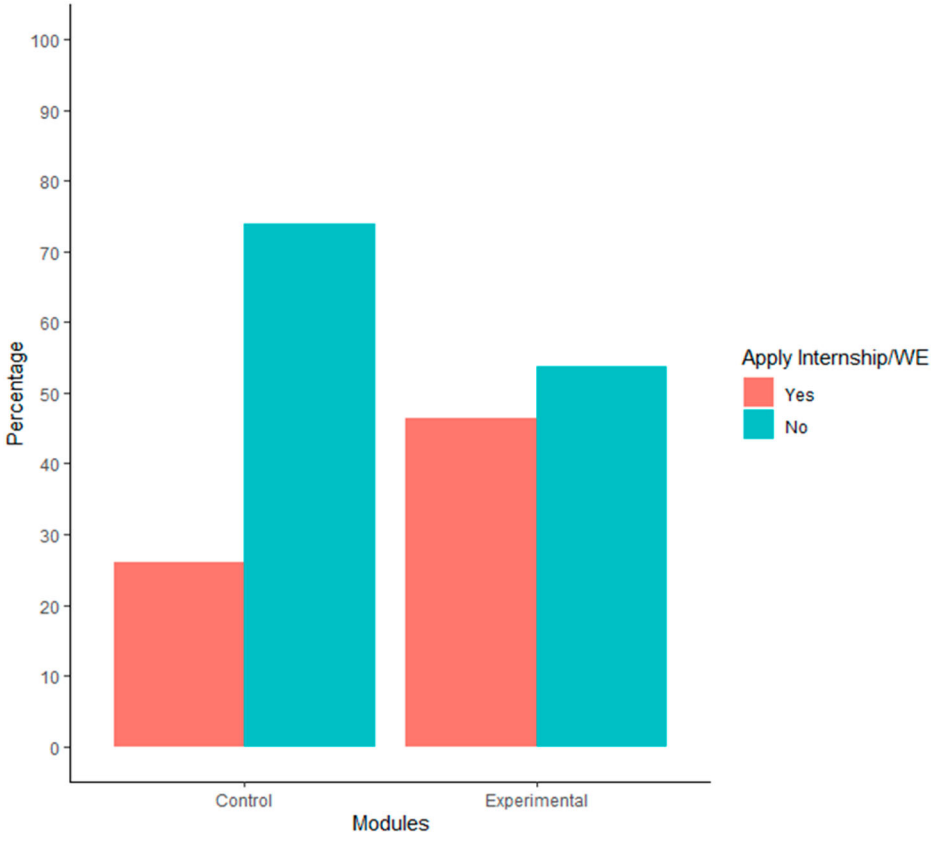

Figure 2. Percentage of students that had or intend to apply for internships/work experience during the course of the term.

Table 2. Difference in confidence scores on common selection tasks between experimental and control groups.

Selection tasks	Control *M* (SD)	Experimental *M* (SD)	*t* value	*p* value	Cohen's *d*
Application Forms	−0.13 (0.69)	0.44 (0.78)	−3.02	<0.01**	0.74
Assessment Centres	0.09 (0.60)	0.44 (0.92)	−1.85	0.052	0.42
CV	0.26 (0.81)	0.07 (0.88)	0.86	0.804	0.21
Interview	−0.04 (0.56)	0.37 (0.73)	−2.50	0.013*	0.59
Logical Tests	−0.13 (0.92)	0.63 (1.09)	−2.98	<0.01**	0.72
Numerical Reasoning Test	−0.09 (0.79)	0.59 (1.05)	−2.89	<0.01**	0.68
Person Centred Grounding	0.26 (0.62)	0.24 (0.77)	0.10	0.616	0.02
Pre-Interviews	0.52 (0.73)	0.49 (0.90)	0.16	0.616	0.04
Presentations	0.26 (0.96)	0.49 (1.16)	−0.84	0.271	0.02
Role plays/Group Tasks	−0.04 (0.77)	0.66 (1.02)	−3.12	<0.01**	0.73
Situational Judgement Tests	0.04 (0.77)	0.80 (1.08)	−3.28	<0.01**	0.75
Verbal Reasoning Test	−0.17 (0.72)	0.90 (0.92)	−5.20	<0.001***	1.23

being in the experimental group led to higher confidence ($\beta = 0.47$, SE = 0.11, $p < .001$) whilst being male led to lower confidence scores ($\beta = -0.28$, SE = 0.11, $p < .05$) (see Supplementary material for more details).

Were students in the embedded employability module more likely to apply for internship/ work experience?

The students in the embedded employability module were more likely to have applied or intended to apply for an internship/work experience during the module with nineteen out of forty-one (46%)

having applied compared to only six out seventeen (26%) from the control group. A chi-squared test shows that this difference is unlikely to have occurred if the null hypothesis were true (χ^2 (1) = 30.44, $p < .001$, φ .69). To put the size of this effect into perspective the odds ratio is 1.77 suggesting that those in the experimental group were 1.77 times more likely to have applied/intend to apply for an internship/work experience than those in the control group. A logistic regression controlling for gender, volunteering, part-time work, and prior academic attainment found that only the career intervention was a significant predictor of applying/intending to apply for internships (OR = 81.43, SE = 0.96, $p < .001$).

Discussion

The current study explored the impact of providing embedded employability information to second-year undergraduate students. There were three key areas of focus. These were, whether embedded employability information provided students with a clearer understanding of a career they desired; whether their confidence and knowledge of selection tasks improved, and whether their likelihood to apply for relevant work experience increased. The analyses revealed three key findings. First, those students exposed to weekly career corners and given a seminar exploring their career options were more likely to agree with statements indicating that they have a clearer idea of what career they would like to pursue in the future. Second, students in the embedded condition reported increased knowledge and confidence with commonly used selection tasks, which was especially true for psychometric tests (literacy, numeracy, and situational judgements) compared to students in the control condition. Third, students on the embedded employability module over the first term of the second year were more likely to report applying, or intending to apply, for relevant work experience.

The finding that students in the embedded employability condition felt like they had a clearer career idea, had spent more time planning and researching their career, and were less likely to agree that the second year is too early to start developing their career ideas is encouraging. Williams, Hutchings, and Phelps (2021) also found, in the eight-week follow-up to their 'Life module' (which contained employability information), an increase in certainty around career options although surprisingly, this was not found in the evaluation directly after the module. Due to a lack of control group though it also could not be ruled out that their finding was simply due to students developing more career certainty over time. The unique finding of this study, however, is that the increase in career planning happens at the end of the embedded module and does not within the control group. This allows us to be more confident that the 'Career Corners' and a seminar exploring careers can be a useful tool for educators to enhance career planning in their students. From an educator's perspective showcasing different careers at the end of each lecture ensures that students are aware of a range of potential careers suitable for their degrees so they can make more informed choices about what career is likely to suit them best.

The second finding that students on the embedded module who were taught about common selection methods (i.e. application forms, interviews, psychometrics) reported increased knowledge and confidence on common selection methods is also encouraging. Although interpretation needs to be nuanced since there was also a small effect on topics not covered on the course in any depth (i.e. CV's, Pre-Interviews) and also for 'person-centred ground' which was a fictitious assessment we created to account for potential social desirability (i.e. participant respond positively to make a good impression on those reviewing the questionnaires) (Larson 2019). Importantly though, the effect sizes for those tasks not covered or the fictitious task are smaller and they are only marginally significant. Selection tasks that were covered in the seminars in more detail have larger effect sizes. This, combined with the confidence data where the fictitious task and selection tasks not covered are non-significant, gives us more certainty that overall career focussed seminars have a positive impact on self-reported knowledge and confidence with selection tasks. This finding builds on previous work which found that those students who had previous experience of psychometric tests were more likely to pass them (Bradley et al. 2020). The trouble is that previous research has

shown that many students never actually seek out this information from university career services, especially if this kind of employability teaching and learning is not embedded within their degree (Andrews and Russell 2012; Bradley, Quigley, and Bailey 2019). This has very real implications for academics as it implies that we have it within our power to help our students successfully navigate common selection tasks and to acquire what we hope will be satisfying and meaningful employment.

The final key result was that students in the embedded employability module were 1.77 times more likely to have applied/intend to apply for an internship during the first term of the second year than the control group. This highlights how engaging with employability earlier in the degree programme can be valuable because it gives students more time to develop a portfolio of experiences (i.e. work experience, volunteering, etc.) that can then be used to help them stand out on application forms and at interviews. We know that applications without any work experience are unlikely to be successful (High Fliers 2018). These findings are consistent with previous studies that show the benefits of embedded employability and gaining work experience. For instance, Bates et al. (2019) found that students enrolled in a degree programme where they completed a Work-Integrated Learning (WIL) course (i.e. interactive work-based learning experiences), in addition to a professional development course, were more likely to be in employment or in further study within four months of completing their degree, according to the Australian Graduate Survey. However, work-based learning experiences can be affected by economical and societal issues as has been demonstrated through the COVID-19 pandemic, thus highlighting the need for methods of embedding employability such as the 'Careers Corners' employed in the current study which do not rely upon placements.

Limitations

One potential limitation is that the outcomes used are subjective and not behavioural, therefore there is always the risk that subjective perceptions of knowledge and confidence will not translate into the actual ability to pass psychometric tests. However, in previous research we did find that practice with common selection tasks was a key predictor in their ability to pass the tests (Bradley et al. 2020). As such, the inclusion of them on the curriculum should not only lead to greater self-reported knowledge and confidence but also success in passing them. Another limitation of the study was that it was conducted at a single institution with a relatively small sample size, as such we should be cautious in generalising the findings. The items used in this study to measure career planning, knowledge, and confidence in selection tasks were created for this study which has the benefit that they are specifically targeted to what we wish to measure. However, they did not go through a multi-study scale construction process, therefore apart from the internal reliability of the scales which was good we do not know about other measurement characteristics like test-retest reliability or predictive validity, etc. Finally, although the same instructor taught all of the participants in the experimental group and the majority of participants in the control group there will have been some participants in the control group who had a different instructor (precise numbers unknown). We believe this is highly unlikely to influence the group differences because students in the control condition did not receive any of the employability-related lectures and seminars which we believe is driving the effects.

Conclusions

Previous research has shown how common parallel approaches to employability are and how they fail to reach a large number of students, thus leaving many students ill-prepared to face the strains of graduate selection tasks (Andrews and Russell 2012; Bradley, Quigley, and Bailey 2019). This research demonstrates that employability that is embedded within the curriculum can have positive effects on students' self-reported career planning, knowledge, and confidence with common selections

tasks, and crucially can also increase their participation and intention to participate in work experiences . These results highlight the importance of embedding practical employability (i.e. career planning and passing common selection tasks) within the curriculum of second-year undergraduate courses so students have time to gain valuable work experiences that will be an important factor in their likelihood of securing a job offer in the final year.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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