Environmental impact reduction micro-placements: An opportunity to overcome business Management students' reluctance to undertake a long-term work experience placement whilst stimulating environmental improvements in businesses?

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Abstract

Work placements are generally accepted as a valuable route into work experience, which provide personal, professional, and academic benefits to the placement student and resource benefits to the placement employer. These placements have traditionally been with larger organisations for 12 months; often termed 'a year in industry'. However, this year in industry is now becoming less attractive for students and a challenge for employers.

In response, a micro-placement programme designed around environmental impact improvements within SMEs was established for business management students; the Student-led Consultancy Programme.

The environmental and SME foci were chosen as SMEs dominate the Business School's regional economy, environmental management is a skills gap and employers expect environmental management skills in graduate recruits.

Micro-placements were designed to provide a less challenging route into work experience for students, and provide businesses with affordable, skilled resource to complete an environmental improvement project. Consequently, the Student-led Environmental Consultancy Programme contributes to the achievement of SDGs 4, 8, 9 and 13.

This paper presents an example of a student-led consultancy project and explores the benefits it gave the placement student and the placement employer. This paper will be of interest to educators and placement coordinators seeking to develop work experience opportunities in Higher Education.

Key words: Student-led consultancy, Micro-placement, Work experience

1. Introduction

The traditional route into work experience for both undergraduates and postgraduate students is through a long-term, 12-month work placement; frequently called a 'year in industry'. It is generally accepted that placement students gain academic, personal, and professional benefits such as the opportunity to acquire skills which cannot be learned in the classroom and to test potential future careers (Elarde and Chong, 2012; Ismail, 2018,). In turn these enable placement students to become more likely to obtain a job with a higher salary (Saniter and Saniter, 2014). This focus on work experience and work readiness emanated from the mass marketisation of

Higher Education, which resulted in competition between Higher Education Institutions (HEIs) and the use of employment destination league tables (Green, Hammer and Star, 2009). There has also been a transfer of responsibility for graduates' employment skills from in-company graduate training to the recruitment of work ready graduates, such that HEIs are now expected to prepare students to operate effectively in their future workplaces (Docherty, 2014). Consequently, there has been an increasing emphasis on the importance of placements as part of the broader educational experience (Saniter and Saniter, 2014).

Despite students considering a degree as a passport to employment, most employers no longer consider a degree sufficient for entry into their workforce (Jackson et al., 2017; Temmerman, 2019). Employers now require graduates to be empowered reflective lifelong learners, with appropriate attitudes and interpersonal skills, gained through practical, relevant work experience (Harvey, 2000; Ismail, 2018; HR News, 2022). Business degrees, unlike health and engineering courses, frequently lack a core element dedicated to gaining work experience in a real-world business. Consequently, many students graduate unable to demonstrate their preparedness for employment (Smith, Ferns and Russell, 2014).

To overcome this, educators encourage students to undertake a work experience placement that enables them to not only develop the required attitudes and interpersonal skills, but to explore career options early enough to change their intended career direction before graduation, become familiar with workplace behaviours and expectations, recognize their skills and skills gaps, and make informed choices about their next steps (Education and Training Foundation, 2021; Institute of Student Employers, 2021).

The value of a placement to the student is well recognized as being a fundamental opportunity to enhance their learning and softer employment skills (Bullock, Gould and Hejmadi, 2009; Institute of Student Employers, 2021). However, the benefits for the employing organization from recruiting a placement student are less well recognized. Previous research has generally framed potential benefits as generic outcomes such as placement students providing lower cost resource (Maertz et al, 2014; Jackson et al, 2017) and has provided little specific detail of the practical benefits for individual organizations or determined the potential value of placements for the placement employer.

This study contributes to closing this gap. It highlights the potential value of placements to the placement employer by presenting the specific benefits received through participation in the Student-led Environmental Consultancy Placement Programme. The pilot placement project is used to explore the opportunities provided to both students and businesses through this novel micro-placement opportunity; a short-term alternative to the traditional 12-month 'year in industry'. The study suggests this student-led environmental consultancy placement may enable the student to bring diversity, creativity, and innovation to the business within a cost-effective skilled resource provision. It also appears to have engaged the student in a more manageable work-based learning experience that may help to overcome the challenges of traditional a placement. This can help develop students' resources in the context of the real-world job market (Finch et al, 2016), whilst maintaining the familiarity of friends and family as they undertake a

work placement whilst studying. This approach may overcome the declining interest in and reluctance to undertake a 'year in industry' placement.

2 Engagement with Placements

2.1 Higher Education Institutions' engagement with placements

In UK the effectiveness of placements is largely embedded in the measures of employability published at the university level (Clarke, 2018). Employability success is established by the number of students in employment six months after graduation which measures the success of the individual HEI rather than the students' personal success. (Cheng et al, 2022). Despite this it is generally accepted that work experience prior to graduation can help students obtain a graduate level role (Mason, Williams and Cranmer, 2009). Consequently, offering placements within HEIs to provide this work experience opportunity is seen as a value adding service that can address the demands for work experience activities from the policy makers and graduate employers (Docherty, 2014; Brooks and Youngson, 2016), and develop a greater awareness of the importance of core employability skills amongst students prior to graduation (Patrick and Crebert, 2004). If successful, this may contribute to a positive placing in employment destination league tables (Green, Hanmer and Star, 2009) and respond to the growing expectations that HEIs produce work ready graduates (Woodfield and McIntosh, 2022)

2.2 Student engagement with placements

The oversupply of graduates requires individuals to differentiate themselves if they are to be successful in the hyper-competitive UK graduate job market (Jackson et al, 2017). In 2022, 800,000 graduates competed for just 300,000 graduate roles; more than 50% of applications were rejected during the first review (Milkround, 2022). One of the most effective ways to achieve differentiation is to gain real-world work experience (Smith, 2021). Traditionally, this has been a through 'year in industry', in which an undergraduate takes a year out of studying, to work full-time in an organization. It is well established that placement students not only gain personal, professional, and academic benefits; for example, they are better prepared for the workplace as they understand the importance of meeting deadlines, time management, and working in teams, skills which cannot be taught in the classroom (Elarde and Chong, 2012; Ismail, 2018). Placement students are also considered to develop self-efficacy, which can promote work readiness as it enables an individual to make career decisions, face challenges and accept risks (Nisa et al (2022). Consequently, students who have undertaken a placement generally have an easier transition from study to work (McLennan and Keating, 2008).

From the student's perspective the placement may also result in significant benefits, for example, the offer of a job to return to after graduation and/or the ability to command a higher salary (Saniter and Saniter, 2014; Williams, 2020). In a separate study into graduate work readiness undertaken by the author, a student identified that the confirmation of a post-university job removed the stress of the final year of study; it removes the need to complete job applications

whilst studying and graduate employers generally accept a lower degree classification than students previously expected.

2.3. Employer engagement with placements

It is generally accepted that an employer engaging in a long-term student placement will receive demonstrable benefits including access to lower cost resource (e.g., Blackwell et al, 2001; Bullock et al, 2009; Paisley and Paisley, 2010; Allen et al, 2013; Edwards, 2014; Finch et al, 2016; Brooks and Youngson, 2016; Crawford and Wang, 2016; Jackson et al, 2017; Romgens , Scoupe and Beasaert, 2020). However, this perspective neglects the benefits that can help make a business more sustainable, for example, the provision of innovative and diverse resources, and the opportunity to engage the organization in fresh ideas and the latest thinking (Placements Scotland, 2019). In addition, placement students can also form part of a longer-term recruitment or Corporate Social Responsibility (CSR) strategy. These are explored in more detail below.

2.3.1 Placement students as an innovative resource

Placement students provide an opportunity for organisations to gain access to fresh talent with fresh ideas (Placements Scotland, 2019; Bespoke HR, 2021). They can bring innovation, creativity, and new perspectives, as well as additional resource that has the added benefit of being a variable, indirect labour cost rather than fixed cost (Jackson et al, 2017; Indeed, 2022). Placement students also offer employers an opportunity to recruit different types of staff with different skillsets in the lower risk, lower cost recruitment environment that is offered by placements (Bespoke HR, 2021).

Placement students with innovative skillsets and qualities can offer organisations the opportunity to find temporary resource that closes a skills gap (Bespoke HR, 2021). This can be particularly useful for a specific project where existing resource is unavailable, or a specific skillset is not available internally; having one person with appropriate skills to focus on one piece of work for a fixed period can be very productive (Institute of Student Employers, 2021). As students seeking placement put themselves forward with support from their university, they are likely to possess the skills the employer hopes for and includes within the role descriptor (Education and Training Foundation, 2021). In addition, as working with underrepresented groups is high on universities' agendas, work is frequently undertaken to encourage placements for under-represented groups (Woodfield and McIntosh, 2022). This can encourage company diversity as well as helping students build confidence and resilience (Institute of Student Employers, 2021).

2.3.2 Placement students facilitating a recruitment pipeline

Student work experience placements may help to reduce recruitment costs in both the short and longer term. In the short term, costs are reduced as placements generally receive applications from a pool of talented individuals who offer themselves in response to a single job advert; frequently for SMEs such roles are advertised through a university free of charge (Institute of

Student Employers, 2021). Longer-term recruitment costs may also be lowered, and a recruitment pipeline created, as placement students frequently re-join their placement organisation after graduation and/or encourage their friends to apply to the organisation (Placement Scotland, 2019; Bespoke HR, 2021). Further, this can encourage staff retention as placement students are less likely to leave their first role than non-placement students; 47% of graduates leave their first job after graduation in the first 5 years if they have not previously completed a work placement, with 20% leaving to change career path (Institute of Student Employers, 2021).

Employing and training a placement student can also enable a company to develop the specific skills needed by the organisation and the industry sector (Placement Scotland, 2019; Education and Training Foundation, 2021). In addition, placement students may drive the development of management skills. For example, the need to manage the placement can develop the skills of existing staff, including supervisory skills such as coaching and mentoring, which in turn can boost morale and job satisfaction (Bespoke HR, 2021).

2.3.3 Placement students' contribution to a CSR strategy

Recruiting a placement student can offer a business an opportunity to contribute to their Corporate Social Responsibility and sustainability practices which in turn can offer a public relations benefit by increasing the attractiveness of employment (Placement Scotland, 2019). Employing a placement student can enable the business to give something back to the student community whilst narrowing the skills gaps in their industrial or service sector (Education and Training Foundation, 2021). It is also widely accepted as an effective way to enable future graduates to both obtain and retain a job (Van der Heije and Van der Heije, 2006) and help the economy by preparing students for the world of work (Education and Training Foundation 2021). Thus, employing a placement student can enable a business to contribute to the Sustainable Development Goals, specifically Goals 7 (Decent Work and Economic Growth) and 9 (Industry Innovation and Infrastructure), the world-wide programme that drives government, business, and individuals to make the world a better place (United Nations,nd).

2.4 Challenges of placements

Traditionally placements for students have operated as a 'year in industry' within an undergraduate or postgraduate programme, with Higher Education being perceived as the preparation for work readiness and employability (Hillage and Pollard, 1998; Hodgkinson, 2005; Eraut, 2009). However, despite the well-recognized personal, professional, and academic benefits for students that can promote success in the hyper-competitive graduate job market, there has been a significant downward trend in number of students opting to go on such a long-term placement (Finch and Peacock, 2015; Education and Training Foundation, 2021; Institute of Student Employers, 2021). This may be due to a lack of confidence and/or self-awareness, a lack of understanding of the benefits of taking a placement, personal responsibilities, unwillingness to

leave friends and family, unwillingness to leave an existing part-time job, or desire to complete formal education as soon as possible (Education and Training Foundation, 2021; Institute of Student Employers, 2021).

Employing organisations also face challenges in offering a placement. In smaller organisations where staff perform multiple functions there may be little time to train and support a placement student, and long-term placements may be too costly (Jackson et al, 2017). It is frequently difficult to determine the extent of administration, coordination and support required so the placement can be difficult to cost (Clark et al, 2014). In addition, many employers' have little understanding of how to get involved, identify a suitable student, identify a suitable role or project for the placement student, generate resources to coordinate the placement and/or how to supervise and mentor the student (Jackson et al, 2017; (Dalrymple, Kemp and Smith, 2014).). Ultimately, some placements may not add value or become unsuccessful as there is a misalignment between the employing organisation's expectations and arrangements, and the purpose of the placement expected by the university (Patrick et al, 2009). To overcome this, HEI placement coordinators, workplace supervisors, and students must cooperate effectively to maximise the placement's value (Dalrymple, Kemp and Smith, 2014).

3. A micro-placement to overcome challenges

3.1 Responding to placement challenges

To overcome these challenges and encourage more students to undertake a work experience placement, the authors have developed an innovative approach to placements: a student-led environmental impact consultancy micro-placement. Within this micro-placement the student works a maximum of 20 hours per week over a period of 12 weeks whilst maintaining their studies. It may therefore be more attractive to students who are reluctant to undertake long term placements. It is undertaken during semester or a holiday period and is undertaken with a local SME. This overcomes students' challenges proposed above by enabling them to maintain their university relationships, social circles, family commitments, etc. whilst gaining work experience in the real world. The programme does not require students to relocate, give up part-time jobs, or fall behind their friends in obtaining a degree. It does, however, allow them to and develop their competitive advantage and personal resources in the highly competitive graduate job market and explore a potential future career which is vital for future career success (Van der Heije and van de Heije, 2006; Finch and Peacock, 2015; Institute of Student Employers, 2021).

In this placement the student acts as a consultant and focuses on a bespoke project that will develop an understanding of environmental impacts for the placement organization. The project is designed as a collaboration between the authors and the business to focus on a key area of their recognized need, starting with an environmental audit.

As the HEI is in an area dominated by SMEs and extensively recruits graduates from the local areas, most students progress into employment with smaller organizations after graduation. To develop familiarity with their most likely future work environment, as well as helping local

businesses to access innovative skillsets, SMEs are targeted for these placements. The environmental focus was chosen as SMEs are increasingly facing demands for environmental impact improvements and reporting from customers and legislation, or a desire to become more sustainable; many do not have the knowledge and skills to deliver these changing demands. The authors, who designed this this programme, also work in a sustainable and ethical business school which has a clear focus on responsible management education and possess the expertise and resource to support the students and companies participating in short-term placement micro-placement projects.

To maximize the positive outcomes of these student-led micro-placements the authors train the students in data collection, analysis and presentation techniques based on tried and tested environmental auditing and reporting processes such as those utilized in ISO14001, ISO50001 and the Global Reporting Initiatives.

Alongside the potential environmental improvements offered, this approach may benefit the placement employer as it provides a cost-effective skilled resource for around 12-15% of the cost of a year-long placement and 30% of the cost of an established business consultant.

3.2 An example of the student-led environmental consultancy micro-placement

The student-led environmental consultancy project presented here is the pilot project of the micro-placement programme. It was established with a specialist plastic manufacturing and distribution company who are based near the Business School and supply the National Health Service (NHS) with a range of specialist products. The project was designed with this placement employer to address their need to understand their carbon emissions and establish how emissions could be reduced.

The placement employer in the pilot project had a clear rationale for undertaking the student-led consultancy environmental impact project; they face a growing demand for carbon emissions data from customers. Many customers now demand carbon emissions data within tender submission documents; UK public tendering bodies such as the NHS, may exclude potential suppliers from the tendering opportunities if they do not provide emissions data and a formal carbon management strategy. The inclusion of carbon emissions data within tender submissions is soon to become a mandatory requirement for UK public bodies' tenders. In addition to obtaining carbon emissions data that supported their future tendering, the placement employer wanted to voluntarily adopt good carbon management practices but struggled to find sufficient and appropriate internal resource to undertake the required data collection and analysis.

After initial discussions with the placement employer's project lead, the authors who are a Principal Lecturer and the Sustainability Lead, and the Business Development Manager for the Business School proposed a placement role designed to establish Scope 1 and 2 emissions for the placement employer. The planned output was a carbon emission audit, which could be used for tender documentation and provide the baseline from which to develop a carbon management strategy, and the identification of areas of opportunity to reduce carbon emissions. It was agreed

that this would be presented as a formal written report and presentation to the senior management team of the company.

This agreed role was formally written in a job description by the Placements Coordinator for the Business School to prime the recruitment process. The student-led consultancy role was then edited and approved by the placement employer and the authors before being publicized through the Business School's online placement portal. Ten applications were received. After a first review and filtering of the submitted CVs, five potential candidates were forwarded to the placement employer's project lead. Interviews were conducted by the project lead and an offer made to a candidate, an international postgraduate student.

The placement employer's project lead and student agreed to run the project online as it largely involved data collection and analysis. Weekly meetings were held between the project lead and student to monitor progress and facilitate support required. Guidance from the authors was provided on an ad hoc basis as required by the student and project lead. In practice minimal guidance was needed as the task was well defined and the placement student managed the project independently. The project lead had successfully recruited placement students in previous year long placements so was confident of the opportunity a student placement could provide the company.

3.3. Evaluation of the pilot student-led environmental consultancy micro-placement

Upon completion of the project the placement employer was asked to reflect on the placement process, outcomes, and impact so that the benefits received from the placement project could be captured and shared. These were discussed in separate project debrief sessions between the authors and the placement employer's project lead and between the authors and placement student and then written up by the project lead and student in their project reports. Additionally, the project lead and student were asked to identify those parts of the project that worked well and to suggest potential improvements that could enhance future student-led consultancy projects. The findings of these reflections are presented below.

4. Impact of the student-led consultancy project

4.1 Benefits for the company provided by the placement student

The placement organization had a clear motivation for establishing the micro-placement, which enabled a clear structure and goal to be established. For example,

> *"The requirements for reporting Co2 for medical device companies is changing. This required us to make changes or risk losing out to competitors for tenders. This need was the driving force for organizational buy in for the project from all levels of management within the company."*

Whilst the placement organization obtained focused lower-cost resource, as recognized by Jackson et al (2017) and Indeed (2022), and the innovative resource that engaged the company in the latest sustainability thinking and fresh ideas proposed by Placements Scotland (2019) and Bespoke HR (2022), this study identified that the placement organization also obtained more specific, valuable outcomes above and beyond the generic benefits previously proposed (e.g. Blackwell et al, 2001; Bullock et al, 2009; Paisley and Paisley, 2010; Allen et al, 2013; Edwards, 2014; Finch et al, 2016; Brooks and Youngson, 2016; Crawford and Wang, 2016; Romgens, Scoupe and Beasaert, 2020). These are explored below.

The success of the project has been accepted by those involved: the placement employer, the student, and the study's authors. The organization's placement lead, recognized:

> *"The most valuable learning experience was what a great resource students can be in this situation. It solved a problem for us, and it offers the students some real-world work experience. It really is win-win and somewhat of an under-utilized resource. Other than that, obviously the output of the student's work has been incredibly useful and has put us on a road to being a more sustainable company."*

The outcomes of the micro-placement project were presented in the end of placement written report which detailed the environmental impacts from the company's carbon emissions and the source of the emissions. This was also presented by the student to the senior leadership team. The report provided a baseline understanding for the organization and a tool for corporate communication. The Chief Executive reported the findings of the report to all staff members and has adopted its findings to develop a corporate sustainability vision and an environmental impact reduction strategy; the senior leadership team committed to move forward by setting energy consumption reduction and emissions reduction targets following the end of placement report presentation. The senior leadership team were impressed by the student's work and have published project report to their staff, customers, and LinkedIn community, and have begun to act upon the evidence presented and recommendations suggested.

Key benefits of the placement student's work for the placement employer were the provision of evidence that demonstrated that carbon emissions are a problem for the organization, and that the extent of the problem was greater than previously thought. This was established by the student's collection, analysis, and presentation of emissions figures from each of the company's three sites for both emissions Scopes 1 and 2.

The student's work highlighted the company's corporate culture as a contributing factor to the emissions problems established through the project. The student demonstrated that the company had simply considered that emissions were everyone's problem. However, through this project the organization realized that because of this, they had allowed emissions to be no one's problem. At the project review meeting the senior leadership team committed to enhance sustainability practices by setting targets to reduce energy consumption and reduce emissions. In addition, the project prompted the company to undertake a review of their sustainability organization, staff responsibilities and communication. This involved communicating the student's report with all staff and rethinking the roles and responsibilities of sustainability to

establish a formal sustainability structure within the business. Whilst Placement Scotland (2019) recognized that a student's contributions to the placement organization's CSR and sustainability practices as a potential public relations benefit, this study suggests the contribution can also change internal practices and enable the management team to rethink corporate structures and accountability for sustainability.

The data analysis conducted by the micro-placement student presented information with which to make evidence-based decisions on sourcing, logistics and stock holding practice within the organisation. For example, understanding the emissions impacts of the current airfreighted products from the USA has enabled the company to evaluate the opportunity to utilise sea freight and local stock holding to reduce carbon emissions.

Following the placement student's calculation of Scope 1 and 2 emissions and proposal of emissions reduction interventions, work is now underway to understand carbon offsetting opportunities and sources of lower carbon electricity. The placement student not only provided information with which to make evidence-based decisions, it helped to highlight and close skills gaps as previously recognized by the Education and Training Foundation (2021) and Placement Scotland (2019). For example, the student's work identified that the three company sites had local purchase agreements for electricity, with the three sources providing a range of carbon intensive electricity. It also raised additional issues that the organization have now appointed owners to address; why the three different sites consume fuel differently, e.g., differences in fuel efficiency of heating systems, different fuel tariffs, etc., how can fuel efficient be improvement and what cannot be done?

The data analysis of electricity undertaken by the student highlighted an opportunity to reduce emissions by sourcing electricity from one supplier who provides lower carbon power, e.g., EDF from nuclear generation or Octopus from wind generation. This objective is now built into the contract renewal process. In addition, at the project review meeting a member of the senior leadership team was appointed to explore carbon offsetting as a way to address emissions that cannot be reduced through energy consumption reduction and the use of lower carbon sources of electricity.

The project lead confirmed the evidence provided by the placement student through the emissions audit will now be used to support the organization's EcoVardis supply chain accreditation (https://ecovadis.com/) which is required for NHS tenders. This was facilitated by the student's skillset and completion of a focused task, previously recognized as a placement benefit by Bespoke HR (2021). It will protect future corporate growth and development. The value of potential student-led projects for the placement organization was highlighted:

> *"The student certainly delivered on all the tasks we asked her to carry out. Beyond that she also highlighted "easy" areas we could improve in regards to our CO2 emissions. Another extra benefit was simply the fact it has opened out eye to how useful student led projects like this can be to the company."*

4.2 Benefits for the student provided by the micro-placement project

The placement student had a clear goal in undertaking this micro-placement project,

> *"The main reason to undertake this project was to gain practical knowledge of Sustainability along with the academic knowledge."*

Whilst the study shows clearly that the student-led consultancy project was of considerable benefit to the placement organization, it appears from the student's reflections that it was also of meaningful personal and professional benefit to her as well. For example, the student reflected on professional skills development.

> *"I have gained professional experience working on this project. I could correlate my academic knowledge with the tasks, and it gave me new insights and an understanding of sustainability…. this opportunity opened up new avenues for me on the professional front and added weight to my CV."*

This mirrors the expectations of the Institute of Student Employers (2021) and Education and Training Foundation (2021) who advocate placements as an opportunity for the student to recognize their skills and close skills gaps. In addition to recognizing their development of specific skills, the placement student also acknowledged the impact of the consultancy project on her personal behaviours. For example,

> *"It's not only business or corporations' responsibility, but each individual is also responsible to act. I learned how small changes can also make an impact and can contribute to emissions reduction. For instance, I started to unplug or turn off the devices when not in use to reduce electricity consumption, use water efficiently, etc."*

The student recognized that the project helped to develop sustainability knowledge, for example UK environmental regulations. In addition she reflected upon her development of skills for the collection, collation, analysis and presentation of data, the use of IT, and presenting the data in visual formats to enhance its' impact. All of these are the real-world skills recognized as vital to ensure graduates are better prepared for the workplace by Elarde and Cheong (2012), Ismail (2018) and Smith (2021). However, perhaps the most important learning point that the student understood was,

> *"I learned to communicate my ideas and thoughts effectively"*

The authors recognized the student's development of self-efficacy and confidence during the project as suggested by Nisa et al (2022). Following the placement, the student successfully applied for a data analyst role within the University's Library. The real-world experience gained through the consultancy placement enabled her to demonstrate the real-world learning and preparedness for employment and overcome the common graduates' skills gap identified by Smith, Ferns and Russell (2014).

From the reflections on the project provided by the placement student, the recognition of professional skills development, subject learning and communication skills have been beneficial from a personal and professional level. This suggests student-led consultancy projects can

provide the opportunities for students to develop both the learning and softer employment skills that are not available in the classroom (Elarde and Cheong, 2012); Ismail, 2018; Smith, 2021). These are recognized by Bullock, Gould and Hejmadi (2009) and Institute of Student Employers (2021) as key preparation for the workplace. The project lead and senior management team were so impressed by the student's engagement, effort, and professionalism they offered her a full-time job after-graduation, a positive outcome of placements previously recognized by Saniter and Saniter (2014) and Williams (2020).

5. Good practice and challenges in the student-led consultancy project

The organization's project lead was also asked to reflect on what contributed to the success of the project. Good practice came from many designment and practice elements within the project which will be of use to other placement practitioners.

Establishing a single project lead who operates as the placement student's mentor was highlighted as good practice. In this project the project lead had previously run student placements and worked in academia so knew how to support the student. However, whilst this was beneficial, this previous experience was not considered a pre-requisite for a consultancy placement; staff from the HEI can coach and support the placement lead(s) as well as the student when required. The project lead highlighted the project's limited scope and defined objectives as good practice,

> *"The best approach is to have a very set task for the student to carry out. The short time frame of these projects don't allow much time for the student to get up to speed with anything out of their comfort zone. Therefore, have a set project in mind, with clear milestones and deliverables that allow the student the best chance of getting the work done in the time allotted.*

Project success was considered to have been promoted by based basing it on a single problem as advocated by the Institute of Student Employers (2021). The clear problem statement set by the placement employer for the placement student enabled all participants to have a clear focus, which gave the student a clear vision from the start. It also defined the timeframe and what the employer expected from the student. This expectation was fully met by the placement, for example the project lead reflected,

> *"We found that basing the work on a "set" problem worked really well. There was a problem statement and a timeframe to which the student could work from. This clear vision from the start made it straight forward for the student and made it clear what we were expecting from them."*

The opportunity for a student to provide additional, lower cost resource (Jackson et al, 2017; Placement Scotland, 2019; Indeed (2022) was identified by this study. For example, the project lead recognized good practice from,

> *"The ability to get a task/project completed in a concise timeframe to a high level, while not needing to add workload to current staff or having to go through a full recruitment process to find someone who can do the work."*

Although the micro-placement was considered to be a success by the placement employer, the student and the authors, a challenge has been established within the project. The major concern, although it proved to be easily managed, was the virtual operation of the project. Working online was required as the company is not served by public transport and the student did not drive. However, despite this initial challenge, the project lead recognized,

> *"Communication is always the issue when working remotely. But this was managed well and didn't cause any issues. The benefit was that the student could concentrate on the task she was working on, and not worrying about a difficult commute."*

To address this challenge, the student and project lead established a formal communication process with a daily communication via Teams messaging, a weekly project update session and monthly project reviews all of which were held face-to-face online through the Teams portal. In addition, the authors provided ad hoc guidance. Both the student and the project lead recognised the value of the support available and highlighted this as good practice in driving both the successful outcomes of the project and facilitating the effective running of the project.

6. Limitations of the study and next steps

The study into the student-led consultancy project presented here reflects the pilot project conducted. Consequently, research into the outcomes of further projects is required to enable generalizations to be made about the value of micro-placements for both the placement employer and the student. If this proves that micro-placements focused on environmental impact improvements are successful in driving change within SMEs, the approach could be used be extended to additional topics. In addition, the student-led consultancy approach could be adapted to offer shorter projects (both part-time or full-time) that may further engage students in real-world work experience and SMEs in more effective sustainability practices.

7. Conclusion

From the reflections on the short-term student-led consultancy project presented above it is clear a valuable impact was made for the both the placement employer and the student; for the organization this did not end on conclusion of the placement project. Whilst the placement student delivered the planned emissions audit, gaining valuable personal, academic, and business skills, additional benefits were also delivered for the placement organization beyond those expected. For example, the student demonstrated that the placement organization needed to manage the company culture and staffing differently to achieve the carbon management focus they desired. The Scope 1 and 2 emissions data and opportunities to mitigate emissions impacts also enabled the company to make evidence-based decisions, develop sustainability.

understanding and skills for environmental impact reduction. It will also facilitate EcoVardis accreditation which protects future business opportunities. Overall, the student-led consultancy project has provided the placement employer with an emissions baseline and opportunities for environmental improvement from which to financially and strategically benefit whilst contributing to the Sustainable Development Goals and mitigation of climate change.

References

Allen K, Quinn J, Hollingworth S, Rose A (2013) Becoming employable students and 'ideal' creative workers: exclusion and inequality in higher education work placements. Br J Sociol Educ 34(3): 31-452.

Bespoke HR (2021) Small business guide to hiring placement students. https://www.bespokehr.com/small-business-guide-to-hiring-placement-students/ (Last Accessed 18 November 2022)

Blackwell A, Bowes L, Harvey L, Hesketh A, Knight P (2001) Transforming Work Experience in Higher Education. Br Educ Res J 27(3): 269-285.

Brooks R, Youngson P (2016) Undergraduate work placements: an analysis of the effects on career progression. Stud High Educ 41(9): 1563-1578.

Bullock K, Gould V, Hejmadi M, Lock G (2009) Work placement experience: should I stay, or should I go? High Educ Res Dev 28(5): 481-494.

Cheng M, Adekola O, Albia J, Cai S (2022) Employability in higher education: a review of key stakeholders' perspectives, Higher Education Evaluation and Development 16(1): 16-31.

Clarke M (2018) Rethinking graduate employability: the role of capital, individual attributes and context. Stud High Educ 43(11): 1923-1937.

Clark L, Rowe A, Cantori A, Bilgin A, Mukuria V (2014) The Power Dynamics and Politics of Survey Design: Measuring Workload Associated with Teaching, Administering and Supporting Work-Integrated Learning Courses. Stud High Educ 41(6): 1055-1073.

Crawford I, Wang Z (2016) The impact of placements on the academic performance of UK and international students in higher education. Stud High Educ 41(4): 712-733.

Dalrymple R, Kemp C, Smith P (2014) Characterising Work-Based Learning as a Triadic Learning Endeavour. Journal of Further and Higher Education. 38(1) pp. 75–89.

Docherty D (2014) Universities must produce graduates who are ready for any workplace. https://www.theguardian.com/higher-education-network/2014/may/22/universities-must-produce-graduates-who-are-ready-for-workplace

Education and Training Foundation (2021) The value of work experience to students and employers. https://www.et-foundation.co.uk/t-level-professional-development-tlpd/the-value-of-work-experience-to-students-and-employers/. (Last Accessed 21 February 2023).

Elarde J, Chong F (2012) The Pedagogical Value of "Eduployment": Information Technoogy Internships in Rural Areas. In Proceedings of the 13th Annual conference on Information Technology Education. 189-194. https://dl.acm.org/doi/pdf/10.1145/2380552.2380607 (Last Accessed 20 November 2022).

Eraut M (2009) Transfer of Knowledge Between Education and Workplace Settings. In Knowledge, Values and Educational Policy. A Critical Perspective, edited by H. Daniels, H. Lauder, and J. Porter, 65–84. Routledge: London.

Finch D, Peacock M, Levallet N, Foster W (2016) A dynamic capabilities view of employability. J Educ Train 58 (1): 61 – 81.

Green W, Hammer S, Star C (2009) Facing up to the challenge: why is it so hard to develop graduate attributes? High Educ Res Dev. 28(1): 17-29.

HR News (2022) Employers reassess value of degrees in face of worker shortages https://hrnews.co.uk/employees-reassess-value-of-degrees-in-face-of-worker-shortages/ . (Last Accessed 21 February 2023).

Harvey L (2000) New realities: The relationship between higher education and employment, Tert. Educ. Manag., 6(1): 3-17.

Hillage J, Pollard E (1998) Employability: Developing a Framework for Policy Analysis. London: DfEE.

Hodkinson P (2005) Reconceptualising the Relations Between College-Based and Workplace Learning. Journal of Workplace Learning 17(8): 521–532.

Indeed (2022) What Is Labor Cost? Definition, Direct vs. Indirect Costs and Examples. https://www.indeed.com/career-advice/career-development/labor-cost (Last Accessed 20 November 2022)

Institute of Student Employers (2021) 5 reasons why employers are running micro-placements. https://insights.ise.org.uk/work-experience-internships/blog-5-reasons-why-more-employers-are-running-micro-placements/ (Last Accessed 18 November 2022)

Ismail Z (2018) Benefits of Internships for Interns and Host Organisations https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/13848/Internships.pdf?sequence=1&isAllowed=y (Last Accessed 21 February 2023).

Jackson D, Rowbottom D, Ferns S, McLaren D (2017) Employer Understanding of Work Integrated Learning and the Challenges if Engaging in Work Placement Opportunities. Stud Cont Educ 39(1): 35-51.

Mason G, Williams G, Cranmer S, (2009) Employability Skills Initiatives in Higher Education: What Effects Do They Have on Graduate Labour Market Outcomes? Education Economics 17(1): 1–30.

McLennan B, Keating S (2008) Work-integrated learning (WIL) in Australian Universities: The Challenges of Mainstreaming WIL. ALTC NAGCAS National Symposium.

Maertz, C., Stoeberl, P. and Marks, J. (2014) Building successful internships: lessons from the research for interns, schools and employers. Career Dev Int, 19(1): 123-142.

Milkround (2022) How competitive are graduate schemes? https://www.milkround.com/advice/how-competitive-are-graduate-schemes (Accessed 22 February 2023)

Nisa N, Sugiharto D, Awalya A (2021) The Relationship between Creative Thinking, Problem Solving Skills, and Self Efficacy with Work Readiness. Journal Bimbingan Konse*ling*, *10*(1): 8-13.

Paisey C, Paisey N (2010) Developing skills via work placements in accounting: Student and employer views. Account Forum 34(2): 89-108.

Patrick C, Crebert G. (2004) The Contribution of Work Placement to Generic Skills Development. Creating Flexible Learning Environments: Proceedings of the 15th Australasian Conference for the Australasian Association for Engineering Education and the 10th Australasian Women in Engineering Forum, Australasian Association for Engineering Education.

Patrick D, Peach C, Pocknee C, Webb F, Fletcher M, Pretto G (2009) The WIL (Work Integrated Learning) Report: A National Scoping Study, Final Report. Brisbane: Queensland University of Technology.

Placements Scotland (2019) What are the benefits of undertaking a placement through e-Placement Scotland?, https://www.e-placementscotland.com/our-blog/view/26/what-are-the-benefits-of-undertaking-a-placement-through-e-placement-scotland.aspx (Last Accessed 1 March 2023).

Römgens I, Scoupe R, Beausaert S (2020) Unraveling the concept of employability, bringing together research on employability in higher education and the workplace Stud High Educ 45(12): 2588-2603.

Saniter N, Saniter T (2014) Door opener or waste of time? The effects of student internships on labor market outcomes. IZA Discsusion Papers 8141, Institute for the Study of Labor (IZA).

Smith J (2021) Work placements. https://www.prospects.ac.uk/jobs-and-work-experience/work-experience-and-internships/work-placements (Last Accessed 18 February 2023)

Smith C, Ferns, S, Russell L (2014) The impact of Work integrated learning on student work-readiness, The impact of Work integrated learning on student work-readiness: Final Report, Curtin University of Technology, LSN Teaching Development Unit.

Temmerman N (2019) When a degree just isn't enough, also offer upskilling. University World News. Available at: https://www.universityworldnews.com/post.php?story=20190304094729650 (Last Accessed: 18 February 2023)

United Nations (no date). The 17 Goals. https://sdgs.un.org/goals. (Last Accessed 20 November 2022).

Van der Heijde C, Van der Heijden B (2006) A Competence-based and Multidimensional Operationalization and Measurement of Employability. Human Resource Management 45(3) pp. 449–476.

Williams V (2020) Career Focus: Top 6 reasons you should do a work placement. https://www.kaplanpathways.com/blog/top-6-reasons-to-do-a-work-placement/ (Last Accessed: 18 February 2023)

Woodfield L, McIntosh R (2022) Employability Blog Series: Three Policy Turning Points that Changed the Higher Education Employability Agenda. https://www.hepi.ac.uk/2022/03/11/employability-blog-series-three-policy-turning-points-that-changed-the-higher-education-employability-agenda/ (Last Accesses 27 February 2023)