CAREER READINESS: MEETING STUDENTS WHERE THEY ARE

Case studies in strategy and practice

EDITED BY BOB GILWORTH AND SANDIE TOWNSLEY

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Contents

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Acknowledgments

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Institutional membership of CR+

CR+ is an informally constituted network of colleagues drawn from institutions which are established users of the Careers Registration approach. Its purpose is mutually supportive exchange of strategy and practice. All the colleagues listed below have contributed to that exchange.

- University of Huddersfield: Claire Aydogan
- University of Leeds: Jane Campbell, Andy Blunt
- University of Exeter: Paul Blackmore, Oliver Laity
- Manchester Metropolitan University: Stephen Boyd, Bea Carter
- University of Leicester: Jason Hardman
- Queen's University, Belfast: Trevor Johnston
- University College Dublin: David Foster, Kevin De Groote
- University of Melbourne: Kathy Ryan
- RMIT University: Leoni Russell, Luella Leon, Rebecca Peachey, Nigel Atkinson
- Griffith University: Caroline Reuckert
- University of Otago: Jackie Dean, Patrick Mazzocco
- Massey University: John Ross

Dr. Noel Edge, CEO of Graduate Careers Australia, Fiona Brammy and Michelle McKinnon of the University of Adelaide and Chris Bridgman of the University of Canterbury, New Zealand, have been welcome guests to the group.

In addition to presentations made by group members, there were also presentations from Abi Blower, Sal Crosland and Gabriella Holt.

VI

1. Introduction: setting the scene

Bob Gilworth

This compendium offers insights into the ways in which universities have taken data-informed approaches to Careers and Employability strategy and operations based on an approach which is fundamentally about seeking to understand students' own perceptions of their career development starting points and journeys at scale and to respond by meeting students where they are with appropriate support and resources.

This is an output from an informally constituted international practice exchange group called "CR+" organised by the University of Huddersfield.

The universities participating in the CR+ group all operate in higher education systems where graduate employment outcomes are significant factors in government policy and institutional strategies.

In all the Higher Education systems represented here, external indicators (such as graduate outcomes data) used in regulation and policy making are often lagging indicators. The data generated through the Careers Registration process comes directly from current students and as some of the case studies demonstrate, it can be used to create internal, leading indicators of student needs, interests and graduate outcomes.

Policy frequently links graduate employment to access and participation and thereby to equity, inclusion and social mobility. Examples include the Australian Universities Accord (Australian Government, 2024) and the regulatory frameworks and activities of the Office for Students in England, notably Access and Participation Plans and the Teaching Excellence Framework (Office for Students, n.d.). In

turn, this is connected to Careers and Employability work in universities, in the spirit of "getting in and getting on" (The Bridge Group, 2017; Hewitt, 2020).

The Careers Registration approach described in this publication enables gathering of information on the self-declared career readiness of all students (the response rate is typically >90%), not only those who are already engaged with opt-in careers provision or other employability-enhancing activities. Linking this to other student data can help to target careers and employability support to where it might make the most difference. The comprehensive coverage of the student population, the capability to provide leading indicators and the linkage to other important data sets, enable the Careers Registration approach to play a part in devising and delivering inclusive, student centred approaches to engagement, opportunity and outcomes.

This publication should be of interest to a broad range of people in and around higher education who may be interested in how universities try to engage with and support their students to create fulfilling futures - hopes and expectation which are shared by all stakeholders.

Careers Registration: the common approach to data-informed careers and employability strategies and operations

The contributing institutions are all adopters of the Careers Registration approach to gathering and using self-report data on career thinking and planning, provided by students through institutional enrolment processes. Careers Registration was instigated at the University of Leeds in 2012 and disseminated at the Association of Graduate Careers Advisory Services (AGCAS) conference in 2013 (Daubney, 2021; Gilworth & Thambar, 2013). Since then, it has been the core of a national learning gain project in the UK (The Careers Group, n.d.; Cobb, 2019; Gilworth & Cobb 2017; Office for Students, 2019). The UK Careers Registration learning gain project has been replicated in Australia (Edge, 2021; NAGCAS, n.d.).

The Careers Registration approach has been implemented in many universities in the UK and in universities in Ireland, Portugal, Australia, and New Zealand. This publication results from the establishment of a mutually supportive network to foster shared learning from experience

and the exchange of good practice. There is no intention to suggest that the members of the CR+ project group have a monopoly on innovation based on the Careers Registration approach. Other mechanisms, such as the Careers Registration Fora hosted by the University of London (The Careers Group, 2024), illustrate the scope of the broader community and showcase interesting work taking place in other institutions, though there is overlap with CR+.

The CR+ group process revolved around presentation and discussion of examples of practice based on themes agreed by the group at the outset. The operation of the group had some of the characteristics and benefits of collaborative enquiry or action research (McNiff, 2013). Essentially, the earlier elements of action research as described by McNiff, such as identifying issues to investigate, asking focussed questions and imagining a way forward could be done collectively, but the trying out (of potential solutions shared with the group), modification, evaluation and reconsideration elements were left to local action by the individual institutions. The themes which guided the topics for group meetings also underpin the structure of this publication.

In the professional and policy discourse, it is not unusual for the terms "Careers Registration" and "Career Readiness" to be used interchangeably. For example, Advance HE in its summary of successful Teaching Excellence Framework (TEF) submissions (Advance HE, 2024, p.11) states that "Careers registration/readiness data was being used to target employability support to those in need." However, for the purpose of using this guide (and more generally), it is probably useful to consider Careers Registration as the name of the process through which data is gathered. The word "Registration" arises from the fact that the process is embedded in enrolment or registration.

Career Readiness on the other hand, can best be understood, in this context, as describing the thinking of individual students about their career development starting points and journeys represented in the data which is produced by the registration process. Typically, the data can be aggregated and analysed at numerous levels, often categorised in line with the career stage or career readiness models which institutions and Careers Services use to visualise, share and act upon the data (Gilworth & Stanbury, 2024). The data may be referred to as Careers Registration

data, based on how it is generated, or Career Readiness data based on what it represents.

The Careers Registration process was set out in in detail in "The Careers Registration Practical Guide" (Cobb et al., 2019) and again by colleagues in Ireland in "the Career Registration Guide" (AHECS, 2022). Whilst not seeking to reproduce the detail of those earlier publications, it is important to provide enough information on how the data is obtained and analysed, to inform understanding of the case studies in this publication. Some of the case studies will also allude to the fundamentals of the process.

Briefly, the Careers Registration process involves students responding to careers and employability related statements/questions, which are embedded into the online enrolment process. The statements are usually presented in two sets. The first (which we will call CR1) is about career thinking and students are asked to indicate the one statement from a list of around ten, which most closely represents their own career thinking at the time. The second (CR2) is about their acquisition of employability enhancing experience and, in this case, students are asked to tick as many examples as apply to them to reflect the totality of their experience at that point. The exact number and wording of statements varies, but the principles of CR1 and CR2 are present in every known iteration of Careers Registration. CR1 and CR2 can be thought of as the "common core" of the approach, wherever it is in place.

Typically, the responses from CR1 are analysed into headline groupings, based on an institutional stage-based model of the career development journey. For example, the original and still widely used Leeds model was Deciding (on options to pursue), Planning (to acquire appropriate experiences, skills and networks) and Competing (for opportunities in chosen career areas). There is usually a headline category (Sorted or similar) to reflect responses from students who say that they have their next step after graduation (job, further study, business start) confirmed.

As illustrated in some of the case studies, there can be benefits in engaging students with the career development models which use the headline categories (Gilworth & Stanbury, 2024), but it is important to be clear that the headline groupings are rarely if ever, presented to

students at enrolment. The students respond to the individual statements/questions.

Examples of statements and the ways in which the resulting data has been categorised and visualised will appear at various stages throughout this guide. Examples can also be seen in the Careers Registration Practical Guide, the AHECS Career Registration Guide and other published pieces referred to later in this introduction.

In recent years, several institutions have added a third (CR3) and in some cases, a fourth (CR4) set of statements to the Careers Registration process. By far the most common addition at CR3 has been to ask students to indicate occupational sector preferences from a list of options. In the UK, there is widespread usage of the Prospects job categories for this purpose (Prospects, n.d.). In the small but growing number of cases where a CR4 is in place, this is being used to gather data on students' location preferences, by asking students to choose their preferred locations for work or further study after graduation. For obvious reasons, the location options are locally defined.

The potential of CR3 and CR4 will be considered in the "next steps" section of this guide, but the focus of the examples in most sections of this guide is on the common core of CR1 and CR2, with particular emphasis on CR1.

Students engage with Careers Registration when they enrol as new students and every time that they re-enrol as continuing students. This means that the data generated can be both cross-sectional and longitudinal. It is common for an opt-out option to exist in enrolment processes, but very uncommon for the opt-out to be used. Amongst the CR+ members, the Careers Registration response rate is typically > 90% and in some cases close to 100%. This reflects the experience of the UK Learning Gain project.

All the members of CR+ are established users of Careers registration. Several of them have multiple years of data. Of course, the University of Leeds, where it all started has most of all. The publication benefits from the expertise of Leeds colleagues as they reflect on the insights that they have derived from over a decade of Career Readiness data. One of the benefits that has arisen from significant time series data at several institutions has been the capability to examine and understand

the strong and enduring association between Careers Readiness data and Graduate Outcomes. This has established Career Readiness data as a leading indicator in careers and employability strategy. This will be explored in more detail in the institutional strategy section of the book.

To position this compendium in its chronological context, it is useful to know that the Careers Registration Practical Guide was published in 2019, as an output of the UK Careers Registration Learning Gain project (2015-2018). Other important and related outputs were Fiona Cobb's (2019) article "There no Going Back: The Transformation of HE Careers Services Using Big Data" and David Winter's (2019) book chapter "The Rise of the Practitioner-Researcher: How big data and evidence-based practice requires practitioners with a research mindset". Both highlight the impact of Careers Registration/ Career Readiness on accelerating the move to data-informed strategy and operations which was a major departure at the time but in just a few years, has become the norm in HE Careers Services. Career Readiness is just one of the key data sets which have driven the impact of data analytics and interpretation on the operation and in several cases, the staffing structure and professional networks of higher education Careers Services (Blunt, 2024).

The AHECS guide was published in 2022 as was the book chapter "Starting Points and Journeys: Careers and Employability in a Data-Rich Environment" (Gilworth, 2022). This was published in between the conclusion of the UK Learning Gain project and the establishment of the CR+ project from which this guide is an output. The chapter sought to distil feedback on the impact of Careers Registration/Career Readiness on Careers and Employability strategy and operations from a community which had built up from and beyond the learning Gain project. This chapter paved the way for the establishment of CR+ which effectively began from the point at which the chapter finishes.

Then and now: "data that we didn't have before"

The starting point for the CR+ project was this question: How do institutions develop and deliver their careers and employability strategies and operations now that they have data that they didn't have before? The

data in question is that which is generated by the Careers Registration process.

At this point, it is important to explain the idea of "data that they didn't have before" Absolutely central to this is the nature of the data and its source, namely a declared sense of career thinking/career readiness obtained directly from (more or less) all students enrolled with the institution at the time. If students' career development is conceptualised as a journey and universities seek to offer some direction on that journey, Careers Registration provided the answer to the key question "where are you now?"

The title of the original presentation at the AGCAS Conference was "Careers Registration: A Data Revolution." The idea was to try to convey what the presenters felt was the unprecedented nature and potential utility of what could now be available through Careers Registration. As the presentation said, "we needed data that we had never had before (and neither has anyone else)." Essentially that data was the answer to the question "where are you now?"

Prior to the inception of Careers Registration, UK institutions had substantial data on the employment situation of the most recent cohort of graduates from the Destination of Leavers from Higher Education (DLHE) survey. The survey was carried out six months after graduation and had a high home student response rate (c80%) (HESA, 2018) The data would typically be available in a useable form approximately one year after graduation. The DLHE was replaced by the Graduate Outcomes survey in 2018. Graduate Outcomes has a longer census date (15 months after graduation) and a lower response rate. Destinations data is always useful to careers and employability professionals and institutions. It has been used to inform higher education careers guidance for much longer than it has been used as a regulatory metric and continues to be so (Prospects, 2023). However, destination data is essentially retrospective and forms the basis of lagging indicators.

There was also data from Careers Service Management Systems on the presenting needs of and interactions with the minority of students who are active users of opt-in careers service. This had the advantage of being current but the disadvantage of not representing the whole student

population. Institutional data on the acquisition of work experience tended to be limited to records of those activities in which the university had some involvement in the organisation, whether curricular or co-curricular. These were not held in one place.

What was not available was: 1. Data on the career thinking of *all* current students (not just those engaged with the Careers Service) in an actionable time frame, while they are still at university. 2. A comprehensive picture of the scale and nature of work experience acquired by all students across the whole of the university, whether it was organised by the university or not. Careers Registration, through CR1 and CR2 respectively, provided the required data. Of course, gathering this data was not the strategic purpose, rather it was an enabler of the ultimate purpose, which was to understand where students were on their career development and employability journeys and to meet them there with careers support based on the insight gained from the data. This was indeed, "data that we had never had before."

The widespread adoption of Careers Registration means that many other institutions have data that they didn't have before. Kate Daubney (2021, p.xiv) suggests that Careers Registration "transformed the HE Careers landscape permanently." Certainly, for adopter institutions, there was a time before Careers Registration and a time after. If there has indeed been a data revolution, we would not expect the before and after situations to be the same. It seems reasonable to ask what difference does it make?

Through the case studies, this publication seeks to illustrate the journey from the *Data* itself, through the *Information* - this is what the data tells us, to the *Insight* derived from the data in its broader context and how that combination informs strategy and operations.

The structure of the book

As the title suggests, this is a practice-based publication. Its primary purpose is to share examples of innovative strategy and practice through the case studies. There has been no imposition of a "house style", rather the contributions are shared by the authors in ways that they felt to be most relevant and helpful to the audience. Relevant references are

included at the end of each chapter; the number of references varies between chapters depending on the style and content of each contribution.

Generally, the contributions are placed in the section of the book according to the main themes to which they relate. However, there is bound to be a degree of overlap, where contributions assigned to one theme have things to say about others.

The themed sections are as follows: 1. Making it Happen and Making it Work: Critical Success Factors. 2. Configuration and Communication of the Careers and Employability Offer to Students. 3. Partnerships: The Careers and Employability Ecosystem. 4. Working with Institutional Strategies and Key Performance Indicators. Following the four main themed sections, there is a section which looks ahead to potential future developments in Careers Registration-related practice.

The Themed sections:

1. Making it Happen and Making it Work: Critical Success Factors

It could be said that the capability to gather Careers Registration data is necessary but not sufficient, to enable the approach to inform careers and employability provision for and engagement with, students.

If the establishment of the data gathering process through enrolment is seen as making Careers Registration *happen,* then all the other activities around analysis, presentation, interpretation, communication, action and evaluation could be seen as making it *work*.

Both making it happen and making it work, depend on the interaction of numerous actors, resources and priorities within universities as large, complex organisations. Over a decade or so, across the community of practice, there have been examples of Careers Services in institutions where the capability to make it happen is in place, but there has been a hiatus between that stage and making it work. There are also examples of colleagues who have paid much attention to the development of practice and feel that they could rapidly make it work, if only they could get the making it happen piece over the line.

Higher education Careers Services are departments of their universities. To achieve their objectives and to play their part in achieving institutional objectives, they need to navigate organisational opportunities and

constraints. They need to work in partnerships with other parts of the university, with which their priorities will overlap. In Careers Registration, this is true of making it happen and making it work.

There is an ever-present need to align the forces of E-the external Environment and V-internal Values with understanding, development and deployment of R-Resources (Thompson & Martin, 2005). For example, the organisational response to the policy, regulatory and market factors in the external environment (E), which relate to careers and employability, will be influenced by institutional identity and ethos – a sense of "how we do things around here" and this combination will manifest itself in institutional strategy. In this context, resources will be allocated, deployed, developed and connected across departmental boundaries. The strategic positioning of the Careers Service and its connections to the broader institutional ecosystem, will both influence and be influenced by, EVR alignment or misalignment (Gilworth, 2019).

These matters of alignment and essential partnerships are picked up in the case studies throughout this book and feature strongly in the two items in this section. The first item in this section is a reflection on the origin of Careers Registration by the presenters of the original "Data Revolution" session at the AGCAS conference in 2013. This piece illustrates the alignment which was essential at the time to make Careers Registration happen and to begin to make it work in a situation where there was no precedent. This is included here because it is useful to reflect on the idea that the original Leeds approach was not just about the data. It was a holistic approach to student engagement, recognised as such by national awards at the time. The account also highlights the importance of the congruence between the student-centred approach inherent in Careers Registration and the prevailing ethos informing institutional strategy.

The second item is based on a research project, which looked at two institutions which had experienced the hiatus between making it happen and making it work.

Having Career Readiness data is one thing and doing something useful and impactful with it is another. Following the AGCAS presentation and alongside the UK Learning Gain project, there was rapid expansion of the adoption of Careers Registration. There was something of a "dash

for data." Feedback from the community suggested that this did not universally or automatically translate into impact.

Several Careers Service leaders felt that they had run into a hiatus in which they had obtained the data but were not really using it. In this section, Sandie Townsley shares her research based on two Careers Services that have experienced the hiatus, through which she identifies Critical Success Factors for moving through and beyond this into creating meaning and impact. It is hoped that anyone reading this, who feels that they are currently in the hiatus situation will be reassured by the fact that they are by no means alone and will gain from the examples of what can be done to move towards greater utility and impact.

2. Configuration and Communication of the Careers and Employability Offer to Students

This section is concerned with the ways in which new insights into the career development journeys and needs of all students shape the configuration of the central Careers and Employability Service offer. What has been the impact on the ways in which the offers are structured, targeted and communicated? How are services using data gathered *from* students to shape their offers *to* students?

This is not the story of data alone but is also the story of the crucial role of the underpinning stage-based conceptual models that the Careers and Employability Services are using to visualise and share the data.

In this section, there is a contribution from Kathy Ryan and Jane Black on the continuing re-invention of the central offer and related student communications and engagement at the University of Melbourne. Andy Blunt discusses the evolution of the conceptual model at Leeds and Dave Stanbury does likewise in relation to developments at Huddersfield.

All the contributors to this guide operate in mass higher education systems. Typically Careers Service staff: student ratios create the need for a substantial amount of group based one to many, delivery of provision to students. In all cases, gathering and acknowledging the answers to the question "where are you now?" consistently shows that students in the Exploring/Deciding phases of career thinking are the largest single group at any time (Gilworth & Cobb, 2017; Kathy Ryan and Jane Black in this volume).

This combination of factors raises the challenge of providing individualised careers guidance, as distinct from "how to" careers education sessions, through one-to-many delivery mechanisms (Edwards, 2024). In this section, Cerian Eastwood and Matthew Howard, from the University of Leeds, provide an insight into the impact of Career Readiness on group-based careers guidance.

The University of Exeter has been sharing its career development model and the rationale for the Careers Registration process, with students for some time and Oliver Laity explains what this means in practice at the University of Exeter. He also explores the link to the careers and employability ecosystem, which connects to case studies in the following section, as well as reviewing the measurement of impact of employability interventions, particularly for students from Widening Participation backgrounds. The impact measurement element could be read in conjunction with contributions in the strategy section.

3. Partnership: The Careers and Employability Ecosystem

Partnership working between professional Careers Services and academic units is an important feature of the careers and employability landscape. Often this extends to other professional service units, particularly where there are employability-related functions which might be organisationally part of the Careers Service in some institutions and not in others. The extent to which the Careers Service/Faculty relationship or alignment is formalised and embedded varies with the institutional Careers Service model, but some level of Faculty alignment is the norm in modern higher education Careers Services (Gilworth, 2019). Some form of an "employability ecosystem" which involves the professional Careers Service and academic units in the shared endeavour of supporting students on their career development journeys is common across the institutions represented in this guide and across the national higher education systems to which they belong.

This section looks at the impact of Career Readiness models and data on the operation of those partnerships and ecosystems. Academic partnership working might be in-curriculum and/or co-curricular. Manchester Metropolitan University (Manchester Met.) has adopted both in-curriculum and co-curricular approaches. This section contains

a contribution from Bea Carter and Stephen Boyd at Manchester Met. Leoni Russell, Luella Leon, Anna Branford and Julian Lee provide an insight into the application of Career Readiness data in and around the curriculum at RMIT University, including the important connection to Work Integrated Learning (WIL). The RMIT approach to Career Readiness is from the perspective of "career educators" (Branford & Leon, 2023). The value of dashboards in visualising and communicating Career Readiness data, features strongly in both the Manchester Met. and RMIT accounts.

Abi Blower describes a pilot project at the University of Huddersfield in which the CR1 statements are embedded into the Virtual Learning Environment (VLE) and used in "real time" with undergraduate students before and after placement experience on a degree programme in the School of Education. Career Readiness data at scale can only be captured once per year through enrolment. This is an example of gathering the data and reflecting on the responses "in the moment" with a coherent subset of the student body and linking this directly to plans for and reflection on work experience. This naturally connects to the discussion about group careers guidance in the previous section of the guide.

Also at Huddersfield, Sal Crosland and Gabriella Holt provide some insight into their research into a relatively under explored area of the use of Career Readiness in institutional ecosystems, namely careers support for Post Graduate Research students. This work is based on a programme which links the Career Readiness data gathering approach and stage -related careers resources, with the PhD supervision system.

4. Career Readiness and Institutional Strategy.

At some level, the decision to implement Careers Registration in any university is a strategic choice. For Careers Registration to happen, the institution must agree to embedding the collection of careers-related information from students into what is often seen as the most fundamental and closely guarded of university business processes, namely enrolment.

The process is closely guarded for understandable reasons. There may be quite reasonable concerns at the prospect of any addition to the process deflecting students from completing their enrolment. So

far, there has been no evidence to suggest that this has happened with Careers Registration. Getting Careers Registration "over the line" into enrolment often requires backing at the institutional senior leadership level. This is needed to show that there is sufficient belief in the strategic significance of the data and resulting insights and actions, to allow for inclusion in enrolment when in many cases, requests for inclusion are routinely turned down. Inclusion has happened in many institutions now, but it would be naïve to expect that its continuation is a given. To remain in place, the process and it outputs need to demonstrate their strategic value.

This responsibility typically sits with the leadership of the Careers Service. This task is very often connected to the idea that Career Readiness provides a leading indicator of external metrics which are important to the institution, such as Graduate Outcomes. It is important to avoid the assumption that institutional leaders are not also interested in and supportive of, the fundamental idea which underpins Careers Registration, which is better understanding of students' needs and striving to meet them.

As reflected in the Critical Success Factors section of this guide, the origin of Careers Registration at Leeds was rooted in an institutional values-driven approach in which understanding students' needs and meeting them was a strategic aim, linked to the view that achieving this would also better serve institutional performance in relation to the employability component of its own education strategy and the related external measures.

The direct connection between the Careers Registration process and the systems which gather and manage other student data enables insights into equity, inclusion and social mobility in the careers and employability context. As mentioned earlier, these are key features of institutional and professional values, university strategies and the policy and regulatory environment.

The strategy and values connection continues at the University of Leeds. In this context, Karen Burland and Jane Campbell provide a case study which offers a very strong link to the previous section of the guide through strategy based on understanding of the ecosystem, whilst also addressing strategic Key Performance Indicators (KPIs). Also at Leeds,

Andy Blunt provides further insight into the links between Careers Readiness data and institutional KPIs.

Manchester Metropolitan University is a leading player in using Career Readiness data in strategy planning and monitoring at various levels throughout the institution. Stephen Boyd and Bea Carter provide illustrations of how that works. The monitoring element links to impact evaluation content in some of the other case studies.

As some of the examples will show, the leading indicator connection to Graduate Outcomes is important. Over the years this has most commonly been based on an association with Career Readiness data for undergraduates at the beginning of their final year. There is an argument that capturing the same data at the end of the final year might provide an even more useful picture. The problem here is the lack of a systemic equivalent to enrolment at the point of course completion/graduation. This was a commonly voiced frustration among the participants in the UK Learning Gain project.

Since then, several institutions have found solutions to this problem. One of those is the University of Leicester. Jason Hardman manages that process and mentions it in this section. Whilst Jason's contribution sits in this section, it is important to note that it also contains information on the Faculty business partner approach which is linked to the partnerships and ecosystem section of the guide.

Looking Ahead

The final section of the guide will look forward to future developments. This section is necessarily speculative, though it is largely based on ideas which are already emerging from the professional community.

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SECTION 1: MAKING IT HAPPEN AND MAKING IT WORK: CRITICAL SUCCESS FACTORS

2. More than just the data: the Careers Registration origin story

Bob Gilworth and Nalayini Thambar

It has been well documented in this guide and elsewhere, that Careers Registration was first developed and implemented at the University of Leeds in 2012. Among the relevant articles and book chapters, it is quite common for there to be some reference to the first dissemination of the approach through the Gilworth and Thambar presentation at the Association of Graduate Careers Advisory Services (AGCAS) conference at Exeter in 2013.

The presentation itself was made available to subscribing members via the AGCAS website for some time after the conference but is now no longer accessible online through the AGCAS archive. Even if it were readily accessible, a slide deck alone would not convey the full narrative of the presentation.

This piece, by the two presenters, seeks to fill that gap in the historical background. The title of the presentation was "Careers Registration: A Data Revolution." The title is not inaccurate, but we feel that it is important to try to convey the holistic, student-centred approach to the origin of Careers Registration and its strategic and operational context. This was a data revolution that was about more than just the data.

Some background to the style and institutional position of the University of Leeds Careers Centre at the time should be useful at this point. By sector standards at the time, the Careers Centre was a large (c60 staff) and comprehensive service. In addition to careers information, advice and guidance and employer engagement, the service

was a centre for placements and internship activity, student enterprise and business start-up support and career development modules in the formal curriculum. In its central operations, it was undoubtedly what Watts and Butcher (2008) would call an "Extended Central Service". It was also very strongly Faculty-aligned, meaning that it was one of the earliest examples of the extended and institutionally embedded model (Gilworth, 2019) which is now the most common model in the UK.

The University of Leeds had been an enthusiastic participant in the UK government's Enterprise in Higher Education (EHE) initiative, which ran from 1987 to 1996. EHE was a policy initiative with "significant impact on the university landscape and the work of careers services" (Winter & Yates, 2021). EHE supported the introduction of career development learning or career management skills (Butcher, 2007; Watts, 2006) into higher education curricula.

The Careers Centre was a key player in EHE and the subsequent development of career development learning at Leeds. The legacy of this was that the Careers Centre became home to numerous career development modules in the formal curriculum, both central electives and departmentally embedded with the latter being the majority. The service had its own Learning and Teaching Committee (LTC) and External Examiner, feeding into the university Learning and Teaching mechanism through the LTC of the School of Education. This meant that the Careers Centre occupied highly unusual organisational territory. It was simultaneously a central professional service (though strongly Faculty-aligned) and a service teaching department while the Director of the Careers Centre reported directly to the Pro-Vice Chancellor for Learning and Teaching (latterly Student Education) and had a seat on the University Learning and Teaching Board.

This description of institutional position illustrates the embedded nature of careers and employability within the strategic and operational educational infrastructure at Leeds. Careers and employability strategies were, therefore, component parts of a broader student-centred educational endeavour. The same is true today (University of Leeds, n.d.; Karen Burland & Jane Campbell in this volume).

In 2011, the HE sector was still several years away from the inception of the Office for Students (in England), the introduction of the Teaching

Excellence Framework (TEF) and the heavily metric-driven regulatory environment which exists today. Nonetheless, Graduate Prospects scores (the proportion of the graduating cohort available for work who are in what are deemed to be graduate level destinations) as measured by the Destination of Leavers from Higher Education (DHLE) were established measures in published league tables. The same metrics were feeding the newly established Key Information Set which would be published for all undergraduate programmes. These measures were important and the university paid attention to them.

However, the key considerations informing universities' employability strategies as defined by Ruth Brigstock and Denise Jackson (2019) are useful here: (i) "short-term graduate employment outcomes" (p.470); (ii) professional readiness; and (iii) "living and working productively and meaningfully across the lifespan" (p.474). Our experience was that, whilst the strategic environment contained all three components, the second and (especially) the third elements were culturally dominant. This ethos connected well with the professional instincts of the Careers Centre, its leadership and staff as well as with the institutional learning and teaching community. In 2012, the institutional ethos was conducive to a strategic initiative which was essentially about shaping provision through better understanding students' needs and aspirations. Contributions to this guide from current Leeds colleagues tend to suggest that this remains the guiding philosophy.

It was in this student-centered strategic context that the Careers Centre leadership team were considering issues which many Higher Education Careers and Employability professionals might see as perennial. Even in a very busy Careers Service with relatively high levels of engagement, how do we connect more effectively with students beyond the engaged minority? How do we bust the myth that the Careers Service exists to serve only to provide application support to those with clear career plans? These were essentially student engagement questions in a university which at the time had around 32,000 students.

The realisation that we needed to fill a huge data gap between understanding something about the destinations of previous graduates, through the DLHE survey, and understanding the career development journeys of our current students, was central to the idea of Careers

Registration. That key players in the university, notably the PVC L&T, Registry and central IT colleagues supported the idea is well documented elsewhere. (Gilworth, 2022).

What was also conveyed in the original conference presentation, but has perhaps been less well documented since, was that gathering, analysing and sharing the data formed one part of the joined-up package of student engagement initiatives which were introduced concurrently.

Alongside the implementation of Careers Registration (CR) through enrolment, the Careers Centre website was re-designed. For example, a student landing page entitled "Your Staring Point" was configured with a clickable tile for each of the statements in the first part of Careers Registration (the career thinking, CR1 statements). Each title led the student user to resources and opportunities, which were relevant to the statement. The main student entry point to the Careers Centre website directly reflected the way in which students were asked to consider their starting points in Careers Registration at enrolment.

A key principle behind this re-design was to convey the idea that the Careers Centre gave equal recognition to all starting points and stages and would meet students where they were on their career development journey. The Careers Centre was not simply an application support service for those with clear plans. The re-design was a non-trivial task.

Another key development was the introduction of automated messaging through which every student received a message from the Careers Centre, which was triggered by their completion of enrolment, with tailored careers information to match the statements that they had chosen and their year of study. The amount of work involved in considering and formulating responses to the numerous response/year group combinations should not be underestimated. At the most basic level, automated messaging delivered a moment of engagement with every student who looked at their message. From evaluation at the time, this appeared to increase footfall in the Careers Centre's front line drop-in central service.

So, whilst the data made a huge and lasting impact through the original conference presentation, it was this whole package which was rewarded with the AGCAS Excellence Award for Student Engagement and judged to be the 'Winner of Winners' in that Award year.

Because of this work, student engagement increased and students' perceptions of their stage in a career development journey became central to the basis of engagement, through the new presentation and communication of the central offer. However, in a highly Faculty-aligned Careers Service, the configuration of the central offer alone was only part of the story. A great deal of student engagement with careers and employability came through and took place within, the main academic units of Schools and Faculties (principal academic units formed by grouping cognate Schools).

In the early 2000s, Leeds was a pioneer in changing the role and title of largely centrally based Careers Advisers to the (now common) Faculty-aligned Careers Consultant. The Faculty arena would be where the visualisation, presentation and interpretation of the new Careers Registration data would have its most immediate impact. At the time, the University had just established Faculty Employability Committees as sub-sets of the Faculty Learning and Teaching Committees. The Faculty Lead Academic for Learning and Teaching usually chaired both groups. The structure was mirrored at university level through a University Employability Committee, reporting into the Learning and Teaching Board. The Careers Centre was routinely represented in all these groups. In each Faculty, this was through the Faculty Careers Consultant and a member of the Careers Centre leadership team.

These structural matters are important because they illustrate that the development of Careers Registration took place in an environment of certainty about established, mainstream Learning and Teaching mechanisms through which the data could be presented, considered and inform action. In developing Careers Registration, we knew that there would be immediate opportunities for the data to be shared beyond the Careers Centre itself and had those channels in mind from the outset.

The impact of sharing the data for the first time was recounted in the conference presentations and in numerous fora since. That impact would have been much less if the Faculty mechanisms to share it had been non-existent or patchy. Looking back, this reinforces a sense of being in the right place at the right time. Although similar structures are now quite common in higher education, they were much less so in

2012, and even now, a lack of established dissemination channels from the careers service into the academic ecosystem can be a challenge in some institutions.

There was a pre-existing career development model around Deciding, Planning and Competing (DPC) which had already been socialized through Faculty channels to some extent. Presentation of the data through these channels used the DPC model, with charts showing the distribution of student responses to the CR1 statements grouped into those headline categories. These could operate at Faculty, School and programme level and by year group. It was possible, and useful, to show Faculty data at the level of the individual career thinking statements and the work experience statements were always shown.

The headline categories created user-friendly visualization and carried important messages through Faculty channels. However, it is important to be clear that the enrolment process, central web presence and the direct communications to students from the Careers Centre as mentioned earlier, operated at the level of the individual statements, not the headline categories. Students were not asked if they were Deciding, Planning or Competing. They were asked to respond to clear statements about career thinking and work experience and the Careers Centre "starting points" web pages and the automated response messages aligned with those statements. A crucial part of the work in developing Careers Registration and the package of student engagement and communication around it, was deriving the statements from student focus groups. This was another key student engagement task which formed part of the overall package around the "data revolution."

Since then, as illustrated in this guide, several institutions (including Leeds) have engaged students directly with their headline categories and, as a result, either evolved their model or retained the original.

In the very early stages at Leeds, the Faculty channels enabled consideration of the data and helped to shift the conversation about student engagement to consider not just volume and frequency of engagement but also the basis for engagement, informed directly by students' own perceptions of their career thinking and acquisition of

work experience. Crucially, the data represented all students, not just the engaged minority.

The headline categories were very useful in this regard. For example, the fact that over 40% of undergraduate students at the beginning of their final year, chose statements which placed them in the Deciding category of the career development model was a powerful message in shaping the shared employability endeavour and the distribution of scarce resources in Faculties.

The intention was that over time, the data would support an evidence-based approach and the expert position of the Careers professional), particularly in the academic environment (Thambar, 2019). For the data to make a difference, it needs to be conveyed and explained by careers and employability professionals, particularly Faculty-facing Careers Consultants, who need to be supported in this as part of a broader evidence-based and research-informed approach (Winter, 2019).

Driven largely by the policy and regulatory environment, a data-informed approach to careers and employability work in higher education is much more common today. This has resulted in changes to the staffing make-up of some Careers Services. By 2021, the responses to an AGCAS resourcing survey showed that the proportion of higher education Careers Services with an in-house data analyst or similar role was around 1 in 5, whilst in-house IT/web development roles existed in just over 16%. (AGCAS, 2021). In 2012, the University of Leeds Careers Centre was an outlier in having a team of people with expertise in IT/ web development and data analysis and visualization (Sam Daoud Mata, Jim Bird and David Cooper). That in-house team was crucial to turning the data itself (What?) into meaningful, user-friendly information which could be interpreted by Careers and Employability staff and linked to student communications and resources (So What?) and to inform action (Now What?).

We hope that this account gives a flavour of the original conference presentation, with some enhancement through knowledge of developments since it was delivered. Hindsight enables us to look back at the collection of factors, over and above having the original idea, which needed to be brought together to create the whole package that we presented in 2013.

The contributions to this guide show that once the data is in place (and we do not underestimate the effort to get to that point), it is the starting point for making a difference, not an end. The Data Revolution continues to be about more than the data.

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3. Making it work: critical success factors in implementing Careers Registration post-hiatus

Sandie Townsley

Introduction

Careers registration is an approach used within many higher education institutions (HEIs) to gather data from enrolled students regarding their career development and journeys (Gilworth, 2023a). Initiated at the University of Leeds in 2012, the careers registration (CR) process is used to collect data on students' current careers readiness and other employability related measures in the majority of UK HEIs (Gilworth, 2023b). However, gathering the data does not, by itself, create any benefit for either students or organisations (Kandiko Howson, 2019); rather it is the timely use of the data to support decision making that creates the benefit (Cobb, 2019).

Practical advice exists for organisations seeking to implement careers registration for the first time (Cobb, Gilworth & Winter, 2019). In contrast, the research reported below focused on HEIs that have experienced a "hiatus" between initiating CR and realising the full value of the data, a situation that a number of HEIs have experienced. The need to make use of the data for student benefit has been a theme throughout the literature (Gilworth, 2019; Winter, 2019) and there is

now a concern that, unless the data is used effectively, access to the data might be lost (Gilworth, 2023b).

This report is based on a professional research project conducted in summer 2023 which aimed to identify the critical success factors (CSFs) for moving beyond a hiatus. By examining the conditions necessary for the adoption of CR, the research aimed to provide practical insights for organisations looking to extract more value from their existing CR data.

Methodology

This exploratory, qualitative study was conducted within two case study institutions which had both experienced a hiatus in CR utilisation. The HEIs selected had a number of similarlities: both were post-'92 universities in the north of England; both offered a mix of vocational and academic courses; and their Graduate Outcome results were similar (The Complete University Guide, 2023). However, there were key differences in size, timing of CR re-introduction, and corporate strategy. Institution B had approximately twice the number of students and was further advanced with implementation of CR. In addition, careers and employability was a key component of corporate strategy at Institution B and the CES had more than twice the average careers service staff:student ratio (AGCAS, 2021). By contrast, careers and employability was a less explicit strategic priority at Institution A and the CES had approximately half the average careers service staff:student ratio (AGCAS, 2021).

Eight interviews were conducted in total with 3 respondents from institution A and 5 from institution B. Whilst role titles differed between organisations, the Head of Service, at least one Faculty facing Careers Consultant and at least one person closely involved with the data were included in each case. Unfortunately, short timelines meant that it was not possible to include respondents from other parts of the organisation. It is important to bear in mind that the research was not intended to be representative or comprehensive, but rather to provide a basis from which to work.

Findings

Clear themes emerged from the research resulting in the identification of six critical success factors (CSFs):

- Timely, reliable and flexible access to the data
- Resource to analyse the data
- Internal (CES) confidence with the data
- Organisational credibility of the information
- Organisational demand for the information
- Corporate strategy prioritising employability and student outcomes

Each of these CSFs is addressed in detail below.

Whilst they are identified and described individiually, it is important to note that there are significant linkages between them. Drawing from the field of systems analysis (Jackson, 2019), an HEI could be considered a complex institutional system within which the CSFs form multiple, self-reinforcing loops. Thus, a positive change in one CSF initiates a cycle of positive changes in other CSFs ultimately reinforcing the initial improvement.

Timely, reliable and flexible access to the data
Both institutions stressed the importance of being able to access the data in a timely, reliable and flexible manner. One key benefit of CR is that it provides information about current students and, therefore, the opportunity for HEIs to adapt to the specific needs of their students in real time. The greater the delay between the data being collected and it being made available for use, the lower the benefit achieved. CR data's high response rate is achieved through inclusion in the annual enrollment process; however, this results in the CR data being collected and held centrally by teams for whom extracting CR data is often a low priority relative to statutory information. Achieving timely access to the data is fundamental to utilising CR effectively.

The reliability of access to the data was also considered crucial.   In one institution, the data was held in an unreliable system which created

a significant barrier to using the information, particularly in a resource constrained environment. Adding CR data to the main data platform ensured greater reliability at this institution.

Similarly, flexible access to the data was essential in enabling analysis and wider communication of the data and findings. Without it, analysis was challenging and limited to a small group of data experts. With flexible access, it was easier to interrogate the data to generate information and it facilitated sharing information with a wider group of colleagues whether within the Careers and Employability Service (CES) or across the organisation more broadly.

Although there are many potential systems solutions, these were seen to be less important than achieving the overarching requirement that access is reliable and flexible. In one case studied, a high degree of success was achieved with the manual extraction of data and population of dashboards for analysis.

Resource to analyse the data
The importance of having resource available to analyse the CR data was recognised by both institutions studied. However, they were at different stages of development during the research.

At institution B, an early decision was taken to invest in a dedicated data analyst role within the CES, which enabled the team to extract the full benefit from the CR data. The data analysis capacity has subsequently grown and now includes a team responsible for data analysis and for regular training to support the analysis skills of most members of the CES.

By contrast, institution A experienced organisational and personnel changes which removed key CR analysis skills and knowledge from the CES. The resulting small CES team had minimal resource to analyse the data, contributing to the hiatus, and the ongoing lack of resource continues to limit the benefit that institution A can extract from CR data. The CES team overcame these constraints by partnering with data analysis colleagues in other teams to make progress with CR data. Since the research was conducted, flexible and widespread access to the

data has been achieved enabling colleagues throughout the institution to analyse the data.

The advent of 'big data' and the drive to make use of it within HE CESs has challenged services to increase their data analysis capability and capacity, an issue reflected in the literature. Winter (2019) emphasised the need for careers professionals to be well versed in analysis and research skills but feared that "there is still a deficit in the confidence and capability of careers staff to deal with such data" (Winter, 2019, p.176). Evidence based practice and decision making is seen as essential for the effectiveness of the CES and for professional credibility of practitioners (Gilworth, 2019; Thambar, 2019). However, fewer than 40% of HEI CESs employ a data manager/analyst/coordinator/officer (AGCAS, 2021) and careers staff have relatively low levels of confidence in analysing and presenting data (Winter, 2018). This remains a significant consideration for organisations wishing to further exploit their CR dataset.

Internal (CES) confidence with the data
An initial lack of confidence within the respective teams contributed to the hiatus period as staff were unsure how to sensibly interpret and use the data. In both organisations, those responsible for initiating CR had moved roles resulting in little organisational memory of the intended purpose. The non-linear measurement scale used in CR in which students can move both forwards and backwards complicated the interpretation of results as it was not obvious how to define improvement. There were concerns about the reliability and consistency of the self-reported data. In addition, the link to outcomes such as Destination of Leavers from Higher Education (DHLE) or Graduate Outcomes Survey (GO) was not immediately obvious from the questions or analysis.

Increasing CES confidence with the data was critical to overcoming the hiatus in each organisation, although different methods were employed to achieve it.

Institution B, an early adopter of CR, addressed the analytical elements first. The team adapted the questionnaire to ensure that the data gathered was both actionable and reliable, and introduced CR-like questions to graduation documentation to gain a final measure of career

readiness. They conducted detailed analysis of the data to discover patterns and linkages and then focused on sharing the findings across the CES to ensure that the whole service was familiar with the approach and the findings.

By contrast, institution A was later in addressing the CR hiatus and gained confidence through learning from other institutions' experiences. Whilst lack of access and analytical resource limited the actionability of the full data set, the CES team instead developed confidence in the underlying career development model by involving students and other stakeholders in revising the framework for their specific needs.

Organisational credibility
In both cases, achieving organisational credibility of the data was critical to the adoption of CR. As outlined above, CR data might not be intuitive to interpret, particularly for those outside the CES, due to students' ability to "progress backwards". Additionally, the self-reporting nature of the data is different from the more objective measures typically used in management information. A further challenge is that the tool is designed for internal institutional use rather than inter-institutional analysis. Although this potentially restricts the comparability of findings and depth of data published there have been a number of shared projects, including the UK Careers Registration Learning Gain Project (Kandiko Howson, 2019), and a variety of publications on the data and on the career development model (Cobb, 2019; Gilworth & Cobb, 2017; Stanbury & Gilworth, 2024; Tapley & Gilworth, 2024) which allow for insights to be shared across the sector.

The study found several approaches which appeared to be effective in increasing organisational credibility: analytic robustness; socialising the underlying model; institutional endorsement; and academic leadership/ involvement.

Institution B developed and demonstrated analytical robustness, leveraging the work outlined above. The team ensured the reliability of the data by modifying the questionnaire to increase respondent consistency and actionability of the data, by tightly maintaining the comparability of questions over time and by collecting similar data at the point of graduation. To demonstrate the reliability of the data, analysis

was conducted showing the consistency of the results over time and to highlight the size and robustness of the data set. Further analysis of the associations between CR responses and GO metrics demonstrated the value of CR data in managing a key organisational performance measure.

Both institutions increased organisational credibility through socialising the underlying career development model. CES teams presented CR data and findings to multiple groups with interest in, and responsibility for, employability outcomes, raising the profile of CR and organisational confidence in the data. As mentioned above, the team at Institution A additionally involved a wide range of stakeholders in refining the underpinning career development model. This process increased awareness and buy-in to the overarching approach as well as improving organisational credibility.

Institutional endorsement further increased credibility. Institution B initially introduced CR as a performance metric within the CES and both institutions made CR data widely available on mainstream management information systems, endorsing the data within the organisation.

It is also likely that, in a university setting, the conduct of academic research into CR and the involvement of academics in the field confers significant credibility within the organisation. In institution B, CR was introduced as part of a national research project which would have required organisational commitment to CR data at the outset and subsequently conveyed credibility. Within institution A, increasing the academic profile of CR through leading and participating in research was perceived to enhance credibility within the organisation.

Organisational demand for data
Organisational demand for the data is essential to its widespread use and is particularly intertwined with the corporate strategy. Lack of organisational interest in employability and graduate outcomes was a fundamental barrier to CR use in both organisations and both cases experienced a period of trying to share the data with other parts of their institutions with little initial take-up. However, this changed once employability and graduate outcomes became strategic priorities, as CR data provided essential information for addressing these priorities.

The cases showed that organisational demand was most effectively generated and managed through building CR data into regular business processes, such as annual strategy meetings, course evaluations and validation and revalidation processes. Gilworth (2023a, p.459) describes the benefit of these "structurally facilitated" mechanisms for dialogue between CES staff and academics; and the challenges faced when business processes do not require a sharing of information.

Corporate strategy
The importance of strategic focus on graduate outcomes to the adoption of CR is evident in both cases, supporting the assertion that "the centrality of the direct relationship to institutional strategy cannot be overemphasised," (Gilworth 2023a, p.455).

In both organisations, the strategic drive to improve graduate outcomes led to an increased focus on CR as a source of actionable information. However, the differing timing and scale of strategic focus given to employability and graduate outcomes in the two cases studies is evident in the extent of CR adoption. Institution A's relatively recent focus on graduate outcomes resulted in the underlying CR model becoming more robust and prominent, and the data becoming widely available. The early strategic commitment to student outcomes made in institution B resulted in significant investment in the CES, and the adoption of CR as a key corporate metric embedded in business processes and part of the university vernacular.

Conclusion

Six CSFs were identified for overcoming a hiatus in adopting CR:

- Timely, reliable and flexible access to the data
- Resource to analyse the data
- Internal (CES) confidence with the data
- Organisational credibility of the information
- Organisational demand for the information
- Corporate strategy prioritising employability and student outcomes

It is possible to consider the CSFs through the perspective of EVR analysis which proposes that an organisation's environment (E), its values (V) or "the way business is done around here" and the allocation of resources (R) are intertwined (Gilworth, 2019). The external environment increasingly prioritised employability and student outcomes. Each organisation's values influenced how it initially responded, but ultimately the environmental changes created a strategic imperative to focus on employability and student outcomes, resulting in a changed allocation of resources. Over time, employability and student outcomes become established within ongoing business processes, creating new values (V).

This analysis captures the interrelationships between many of the CSFs: timely, reliable and flexible access to the data; resource to analyse the data; organisational demand for the information; and corporate strategy prioritising employability and student outcomes. Of these, corporate strategy would appear to be the most significant as it has a systematic impact on all the other CSFs and a critical impact on the adoption of CR data. It might be possible to influence corporate strategy, but the CES cannot determine the implementation of CR in isolation (Gilworth, 2023a). However, the cases studied show that it is not necessary to wait until strategic commitment has been achieved to take steps to overcome a hiatus period. In particular, being creative about access to the data and partnering with colleagues outside the CES have proved effective.

In addition, the study identified two CSFs not previously identified in the literature: internal CES confidence with the CR data and organisational credibility of the information. It is likely that these were revealed through examination of "hiatus" case studies and consideration of the specific barriers they faced. To overcome these barriers, the cases studied focused on developing an understanding of the data, interpretation and findings through either extensive analysis or learning from other institutions; this knowledge was then shared within the CES. They socialised the career development model with partners and stakeholders, sought institutional endorsement and enhanced the academic profile of CR. These CSFs, and the approaches described above, could potentially be addressed despite a lack of corporate

commitment to utilising CR and, as such, they might be useful for other "hiatus" organisations to consider.

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SECTION 2: CONFIGURATION AND COMMUNICATION OF THE CAREERS AND EMPLOYABILITY OFFER TO STUDENTS

4. Career Mapping: bringing data and framework to service

Kathy Ryan and Jane Black

Introduction

At the University of Melbourne, the Careers Registration methodology has been named Career Mapping – an umbrella term which catches both the process of student data-gathering at enrolment, and the attendant conceptual framework of Discover, Focus, Apply and Sorted (Cobb et al., 2019). It was introduced in 2020 in pilot form using an opt-in survey to test questions and shape plans for the arrival of a larger data set in 2021, followed by a complete data set in 2022.

Although collaborations across the University have enabled survey implementation and data provision, the management of the Careers Registration methodology, since its inception, has sat with the relatively small Careers and Employability (C&E) team. The first few years have been spent making sense of the data for optimal service design, engaging and supporting individual student career development and leveraging insights to expand service reach through better collaborations and partnerships.

A key driver for the introduction of Career Mapping at the University came from major customer experience (Cx) work in 2019, in which students told us that career was individual and that they needed personal, bespoke advice. Many try to independently navigate through their career development journey with little support which often increased anxiety and stress. Students said career was a concept dependent on self-awareness and action, and decisions that start to define their future were

sometimes postponed until late in their degree, which was often too late. They also said that in order to connect and engage with services, the offering needed to be relevant and specific.

Emerging alongside was the rise of the Career Registration methodology in Australia, which seemed a transformative powerhouse on which to base decisions for a refreshed, contemporary service design coming off the insights from Cx projects. It offered an evidence-based approach coupled with a journey-framework that echoed the well-established career development Watts DOTS model (Law & Watts, 2003) but curated for a higher education context. It was a ready-made package to be applied and adapted to the University of Melbourne careers service and beyond.

Implementing Career Mapping

In 2020, the University settled on data-gathering survey (career census) comprising two questions that prompt students to self-identify career-readiness and report on their experiences in the past 12 months.

As shown in Figure 4.1, the career-readiness question (CR1) gives students 12 statements from which they must choose one, with their responses clustered into Career Mapping phases of Discover, Focus, Apply, Sorted. The experiences question (CR2) asks students to identify the experiences they have undertaken in the past 12 months, providing 18 options from which they can choose multiple, spanning no experience, paid or unpaid experiences and / or sought careers advice. The survey is embedded in the enrolment process, open from the period November to March, and has typically returned 47,000-plus responses each year.

Career Mapping Phases

DISCOVER

I am not ready to start thinking about my career yet.

I have no career ideas yet but want to start thinking.

I have some ideas about my career, and I am ready to start planning.

FOCUS

I have a career in mind and intend to gain relevant work experience.

I know what I want to do but I am not sure how to get there.

I have thought about my first job but have not planned my career beyond that.

APPLY

I am ready to apply for graduate level/professional opportunities.

I am ready to apply for further study.

I have been applying for opportunities and so far, I have not been successful.

SORTED

I have applied for further study.

I am already working in my chosen career.

I am pursuing my current course out of personal interest.

Figure 4.1: the University of Melbourne's career-readiness survey statements

C&E made an early intentional decision to use the data and insights to improve service design. In 2020, C&E reported approximately 28% of enrolled students had engaged with the service over the past 12 months, either with in-person services or online tools and resources. Importantly, the 2020 pilot to test the Career Mapping approach demonstrated much higher engagement from students in the partner faculty, than the other 10 cohorts. This confirmed the decision to use the framework to design better, more targeted services aimed at helping individuals create agency early so they can develop their career journey with meaning and purpose.

This practice-based case study aims to present a picture of the impact of Career Mapping as it is interwoven through the C&E service offering.

Towards An Evidence-Informed Service Design
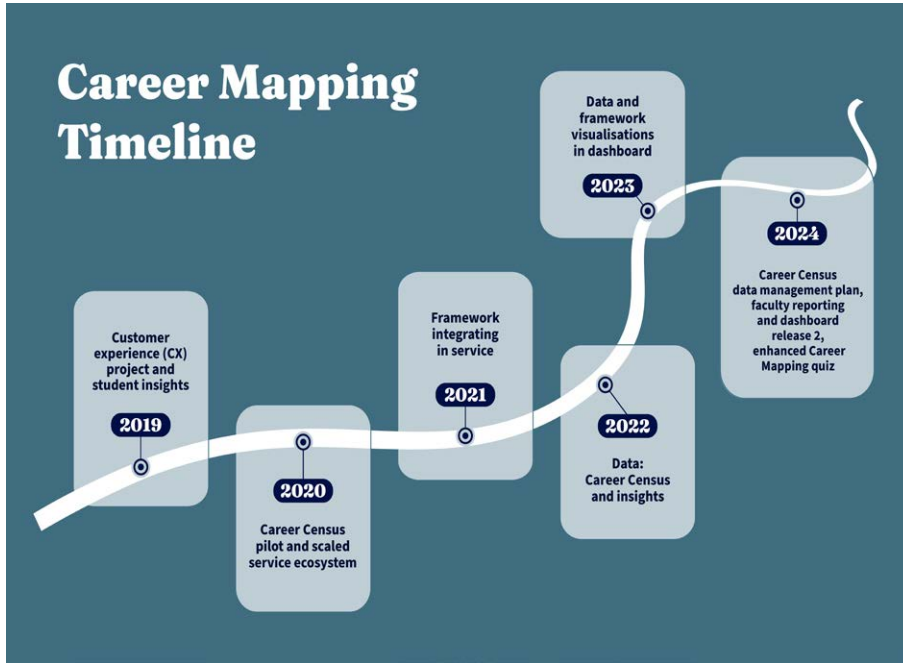
Figure 4.2: The University of Melbourne's timeline of Career Mapping implementation

From year-one, the University's career-readiness (CR1) results lined up with the remarkably consistent distribution of headline responses from multiple institutions in the UK (Gilworth, 2023) that is, the highest proportion of students identified in early phases of career readiness – Discover (2024 – 40%) and Focus (2024 – 32%). Perhaps because of the distinctive Melbourne curriculum, and the inclusion of undergraduate and graduate enrolled students in the career census, a still significant portion of the University's student population consistently identifies in the Sorted bucket (2024 – 20%), while Apply remains the smallest segment (2024 – 9%).

Yet the University's student career-readiness profile defined by the results of the census was inversely proportional to the traditional C&E's service design, in which the majority of services, tools and resources were

targeted to students in the smaller Apply category. While this made sense to some degree – these students are keenly attuned to their employability at this point, and in need of timely guidance – the Cx insights did elevate the importance of helping students with their career development early in their studies, and the need for more supported navigation through careers services and related activities.

C&E focused on identifying where to expand and scale up services across the career-readiness phases, making the framework useful and visible to students and other partners, and using the data to directly communicate to students with targeted referrals tailored to their career-readiness phase.

 Key components of Career Mapping included:

1. Embedding the framework throughout online and face-to-face offerings, including:

   • Development of new online learning modules for each of the Career Mapping phases such as *What should I do with my life?* and *Developing your career plan* for Discover students, and for students in Sorted phase *How to meet professionals in your field*.
   • Design of explainer resources for use in 1-1 appointments.
   • Construction of new / refreshed in-person content tailored to phases, such as *What can I do with my degree* (D), *How can I get an internship* (F), *Optimising your job search* (A) and *Using curiosity for career design* (S).
   • Integration of polling in group sessions and tailored activities and examples.
   • Layering over existing programs to measure and make visible to students their progress / movement through the phases.

2. Implementation of an annual communications and interventions plan to directly target students according to their phase and refer them to relevant services and resources, based on refreshed service design. In 2024, there has been a shift in service focus to more intentionally target students in the Discover phase,

encouraging early career planning, and supporting smoother transitions for final-year students.

3. Launch of a design system to provide agreed language and a visual representation of Discover, Focus, Apply and Sorted that enabled students to understand and use the framework to guide actions and decisions, which was integrated through physical and online C&E spaces (see table 4.1 below).

4. Production of a basic Career Mapping Quiz which duplicated the career census survey in a format to enable students to self-identify their carer career-readiness in real-time, see the phase they belong to, and identify programs, activities and resources relevant to their phase.

Phase	Tagline	Descriptor
Discover	Open to possibilities	Discover who you are and careers to fit you
Focus	Draw your map	Focus on your next steps and sign up to opportunities
Apply	Make your move	Apply for opportunities and connect with professionals
Sorted	Your story continues	Transition to work or further study and continue to build connections

Table 4.1: Career Mapping design system includes visual assets and common descriptors

With Career Mapping, C&E had the opportunity to progress from a one-size-fits-all approach, to a 'personalised at scale' model that enabled design and communication of services to the whole-of-University cohort but filtered relevant to the individual student's starting point (Gilworth, 2021).

Methodology

Collecting student information in the career-census provided C&E with an invaluable data set but did not provide the student with any return information, either about their career readiness phase or practical guidance or inspiration to drive career curiosity or engagement with service. As enabling student agency was a key objective, C&E initiated a proactive approach to directly communicate to students about their career-readiness and provide recommended careers interventions tailored to their starting point.
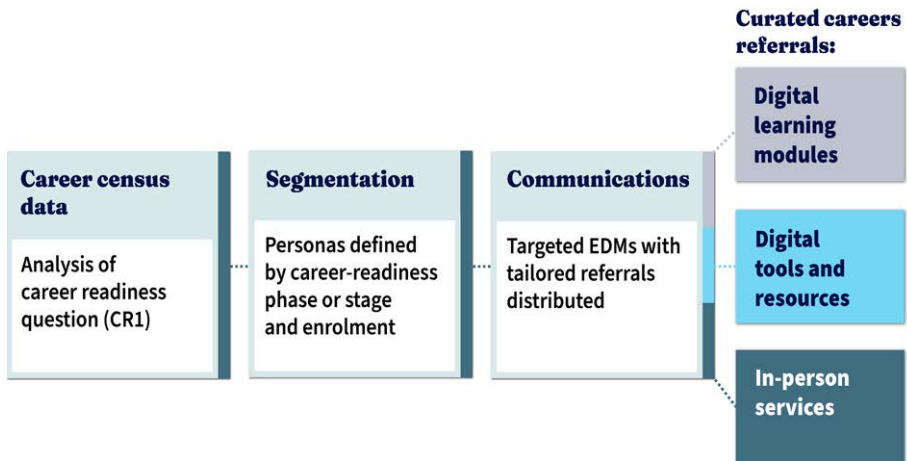
Figure 4.3: Career Mapping service design – communications and interventions plan

The annual communications and interventions plan, which consists of three campaigns per year, comprises electronic direct mail (EDM) sent to all enrolled students, segmented into personas based on either their career readiness phase (Discover, Focus, Apply, Sorted) or the more granular career readiness (articulated as the 12 statements in the CR1 survey question), combined with enrolment and demographic data. Campaign timing is planned around key events and in line with wider University communications, acknowledging that the demand for student engagement with email messages is high during certain times of the academic year. Tailored communications are designed to engage students

with the career mapping framework and direct them to a relevant call to action. Communications are developed in line with the University brand guidelines in terms of style, visual elements and tone of voice.

Persona: Referral:

3 Discover, final-year undergraduate → **1:1 appointment:** Discover your career plan

5 Focus: I have a career in mind and intend to gain relevant experience → **Online learning module:** How to get an internship

7 Apply: I am ready to apply for graduate level / professional opportunities → **Webinar:** Optimising your job search
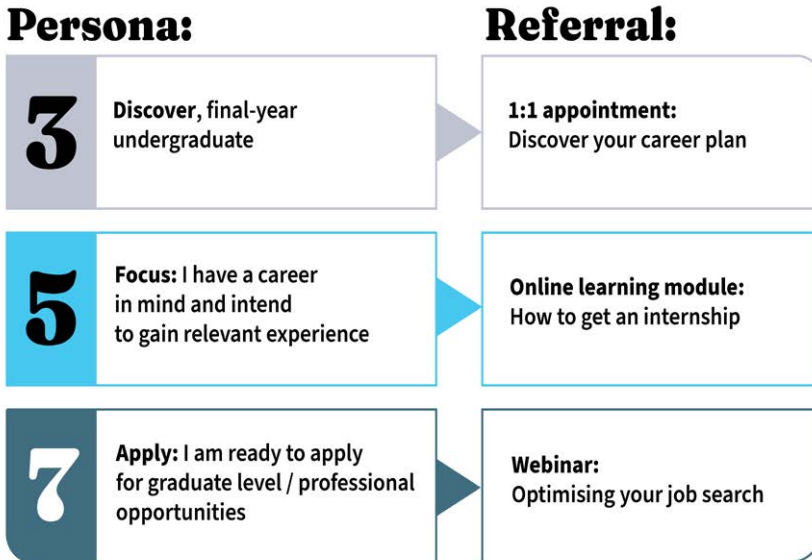
Figure 4.4: Career Mapping design: examples of persona segmentations and referrals

Since the implementation of Career Mapping, C&E has distributed:

- 2022: 21 tailored emails with curated referrals across 9-10 personas
- 2023: 27 tailored emails with curated referrals across 8-10 personas
- 2024: 23 tailored emails with curated referrals across 8-12 personas

Engagement targets for EDMs were set at an average 50% open rate and a click rate of 5% for each campaign, at benchmark levels for non-essential emails. Tracking engagement through to conversion has focused on in-person events where the engagement sequence is straightforward, and in some cases through to interactions with online tools within 24 hours to one week after EDM distribution.

Discussion

One of the biggest challenges facing the C&E team was building a data management plan, including emerging considerations about ethical and best practices for data gathering and use, access, sharing and security. There was a need to manoeuvre and grow team capability to activate the potential of such a large data set, a challenge that continues today. University team partners have been crucial in providing much-needed guidance and expertise on best practice data management, nevertheless, there remains a responsibility within the team to recruit, develop and support people to manage the data responsibility and analyse and provide insights in a way that does justice to the students who privilege C&E with such rich information base.

Career Mapping has been a key driver for a refreshed service model that flexes and adapts to meet the individual where they are, while offering a foundational suite of services to address challenges of scale. It provides an evidence base for annual planning decisions on priority cohorts, optimal engagement strategies and service improvements. It's a bold approach because of its moveability, but the data insights keep the student and their career-readiness at the centre of service-level decisions about strategy and operations. For example, in semester 2, 2024, the team has launched a new program aimed at encouraging early-year undergraduate Discover students to engage with their career development through small group sessions, and Discover final-year undergraduates to accelerate their career planning through extended 1-1 appointments. Implementation has involved changes across the machinery of service such as system reconfiguration, staff PD, dynamic rostering and new resource development.

Timing is also a tricky consideration. Because the career census mechanism does not provide the respondent with real-time visibility of their career readiness phase, the communications of a student's Career Mapping results are delayed. Students complete the survey at the point of enrolment, which can mean some months may have passed since they answered their career-readiness question and when they receive their first communications. It is logical that within this space, an individual's career-readiness may have moved, and certainly by the time they receive

the third communications, it is most likely many would have made some decisions or taken actions that put them at a different point of the career readiness journey.

To mitigate against potential confusion that could come from students no longer identifying with the career readiness group they indicated earlier in the year, and to keep it relevant and meaningful, C&E propagates the Career Mapping Quiz throughout service points. It shows the student what their career-readiness phase is and presents a quick description of what this means and provides a number of tailored referrals. The quiz is embedded into the EDM templates to give students the option of 'trying again' if the content of the EDM was not speaking directly to their current career-readiness.

Towards 2025

In 2024, C&E has made a significant investment in the development of an improved version of the Career Mapping Quiz, with a new custom diagnostic tool to enable students to self-service using the Career Mapping framework. Due for release at the end of the year, it will be a front door to service and provide an engaging and meaningful navigation experience for students based on their current phase of career-readiness.

The team has also recently grown to include capacity and expertise to expand the reach and impact of the career census data. This will enable implementation of an enhanced data management plan including release 2 of a Career Mapping dashboard, faculty reporting, case studies and insights to support cohorts in-curriculum.

Career Mapping Service Design Outcomes

Since 2022, the C&E communications and interventions plan has implemented the distribution of more than 70 distinct emails resulting in average open and click rates shown below:

Year	Campaign	Open rate	Click rate
2022	EDM campaign #1	66.84%	8.04%
	EDM campaign #2	68.27%	6.3%
	EDM campaign #3	70.03%	8.03%
2023	EDM campaign #1	69.81%	5.91%
	EDM campaign #2	67.47%	3.87%
	EDM campaign #3	66.43%	7.76%
2024	EDM campaign #1	75.39%	5.72%
	EDM campaign #2* early-years	60%	4%
	EDM campaign #2* final-years	66%	7%

Table 4.2: Results from Career mapping comms and interventions campaigns
*incomplete data – ongoing campaign

The interventions engagement metrics offer a mixed picture. While conversion to bookings for in-person services are straightforward, referrals to online tools and resources and other programs don't provide an A to B throughline as they can often be cross-promoted and are not time bound. However, C&E does attempt to build an evidence-based understanding of how successful each campaign has been in helping drive student engagement to services and uses results and indicators to inform dynamic service design and scheduling. Some examples include:

- 2024 Discover Final Year EDM with a call to action (CTA) to extended careers appointment: This EDM is achieving an open rate of around 70% and a click rate of 6% each time it is sent. Over the first few weeks, this campaign has resulted in 38 bookings for extended final year appointments. The offering will be evaluated at end of semester to inform 2025 service design.

- 2022 Discover EDM with a CTA to *What can I do with my degree?* seminar. This EDM achieved an open rate of 70% and a click rate of 3.5%, below the 5% target. This could be explained by the Discover cohort being more difficult to engage, especially those in stage one who said they are not yet ready to start career planning. However, importantly, the students that attended the webinar and provided feedback (25%), 100% reported finding the webinar relevant to their current career mapping phase and current career needs. This session continues to be offered based on positive student feedback.
- 2023 Apply EDM with a CTA to *Get back on track* workshop sent to a small group of students who had indicated they were applying for opportunities but had not had success. The EDM achieved an open rate of 73% and click rate of 6.7%. The workshop received an NPS score of 100 and 100% of those that attended and provided feedback reported the content to be relevant to their phase and needs. This highlights the importance of this type of intervention and messaging for those students who may be finding the job seeking process challenging and continues to be offered with iterative improvements.
- 2022 Apply EDM with a CTA to the Smart Resume platform achieved open rate of 68.46% and an open rate of 6.94%. Over the subsequent week, there were 165 new sign ups to the AI-review tool, compared to a weekly average of 93 sign-ups. This continues to be a regular referral in direct-email campaigns.

It is worth noting that a small C&E quarterly survey (discontinued in Q4 2023) showed a consistent bump in NPS when students reported that they knew their Career Mapping phase.

Conclusion

The Career Mapping annual plan is a complex umbrella initiative bringing together multiple operational strands including data management and analysis, service design, communications and service delivery. It is clear that the personalised, targeted nature of communications and

interventions is engaging students, and those who are attending and participating are reporting high levels of satisfaction with service, and content relevancy.

The data is enabling a contemporary approach to service design that is flexible and responsive and is meeting students where they are in the career journey. The deeper picture of student progression from communications to engagement continues to be a focus for evaluation, with the next phase pointed at tracking student movement through multiple service points. Full analysis of students' career readiness from enrolment, through study course, to outcome is a future focus for C&E as team capacity grows. It is worth noting that in 2023, C&E reported significant growth with 55% of the overall student cohort having had an interaction with C&E services or platforms, of which the work of Career Mapping makes a significant contribution.

There are other streams of activity, not discussed in detail here, but which are squarely pointed towards advancing the Career Mapping methodology, including release of the enhanced Career Mapping Quiz at the end of 2024. Work progresses to visualise the data in a dashboard as a mechanism to take Career Mapping beyond C&E and strengthen partnerships with academic divisions with the goal of cracking open opportunities for careers and employability learning in the curriculum. Activating the wellspring of insights from the CR2 question on experiences remains an ongoing area of focus. This is the third year the University has drawn a full data set from enrolled students from the career census, but the challenge of maximising the transformation that big data (Cobb, 2019) can provide for enhancing student careers and employability feels like it is just beginning.

Acknowledgements

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5. Operationalising the conceptual model

Andy Blunt

How it started, how it's going

The University of Leeds is proud to be the birthplace of Career Readiness. Bob Gilworth and a team of careers professionals developed a blueprint for embedding an on-course measure of career progression in Higher Education, signalling a step change for the University of Leeds and, over time, for the sector more broadly. That blueprint has been adapted and tweaked in its implementation across numerous higher education institutions both in the UK and abroad.

Fast forward thirteen years and very little has changed in how we track the data at the University of Leeds. The language of the statements has held across the years, the point of data collection is the same and the timelines for reporting are unchanged. There has, however, been a shift in the audience for the data which has impacted on the way it is reported and how we train staff to use it.

Decide, Plan, Compete: a student perspective

In 2018, the then Deputy Head of Student Careers began a co-creation project with our Students' Union to redevelop our employability framework; a project aiming to inform a new employability strategy for the university. After conducting focus groups and many conversations with the elected officers, the feedback was relatively clear: students

disliked the language of Career Readiness which prevented them from engaging with it. The word 'compete' was the most contentious as students felt that it was not accessible and did not reflect their values.

This feeling was especially prominent in our arts programmes. When coupled with the corporate brand of the careers service at that time, arts students were left with a general view that the service was not for them and that it prioritised graduate schemes and earning money rather than finding your passion; as such students perceived the service as being more relevant for Business School or Engineering students. Their perceptions were driven by the language that we used and the way in which we chose to present ourselves to them.

This prompted two major changes for our service: an under-the-radar-but-quite-complete rebrand of the careers service and a complete rethink about how we encourage students to engage with their career journey – an employability framework.

A framework for life, not just their studies

At the University of Leeds, we are proud of our commitment to our 'Leeds for Life' approach, where our doors remain open to alumni throughout their life for career support. The newly developed employability framework aimed to give students a tool that they could carry with them throughout their life too. The concept was based on firm understanding that career paths are not linear. There are twists, there are turns. Our minds change. Our circumstances change. So, we developed a framework that responds to this never-ending cycle of career development.
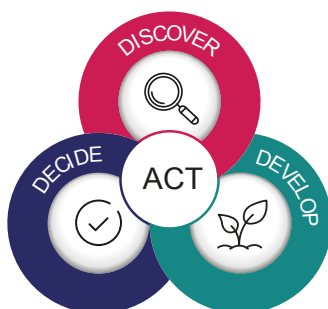

Figure 5.1: University of Leeds framework of career development

In the framework, there are three core elements: Discover, Develop and Decide. The idea, supported by the visualisation of the framework (figure 5.2), is that a career journey will take students into one of these states at different times on a never-ending cycle. The most important underlying principle throughout, housed in the centre of the graphic, is ensuring that students are acting on opportunities to progress their career journey. Sometimes that involves exploring/finding new opportunities (Discover), trying something new, like an internship (Develop), and realising that something is or is not a good fit (Decide). Deciding that a particular line of work is not a good fit is not a failure in the way we conceive of our cycle; it is deemed to be a sign of growth, because the student has learned something about themselves. The crucial element in our conceptualisation is that actions are happening; it is only when there is no activity that career planning stalls.

The role of Career Readiness at Leeds

The project helped us to conclude that although as a careers service the data insights from Career Readiness were highly valuable, they were not particularly helpful to our students. Knowing that they are deciding, planning or competing doesn't overly give them a framework to develop into their next steps or progress in their journey. That does not, however, mean that the categorisation of the data does not have value, but rather it does not have value for the students.

We concluded that the primary audience of Career Readiness was staff. With over 40,000 students at any given time, we are unable to react to the granularity of individual journeys or individualised statements, but we can use the categories to give us a sense of our direction of travel. We can use the categories to identify pockets of concern or success. At the macro level, the data can inform interventions, it can redirect resources, and it can pre-empt where our problem areas are for outcomes.

However, the categories of 'Decide, Plan, Compete' do not offer much utility to the majority of staff, so the project group looked at the statements with a different lens: operationalised groupings. The work aimed to group our nineteen statements into categories that would make sense to any staff member at the university – no matter how engaged in careers practice they may be.

Operationalising Career Readiness

The project group coordinated a series of focus groups with careers practitioners where we had the statements on individual post-its, in no particular order, and tasked the participants with grouping those statements together based on 'similar characteristics of need' from a careers support perspective. They were also asked to write down the kinds of interventions or advice that might go to those groupings. Fresh post-its were used each time and the focus groups consistently placed those statements in similar groups, with slight differences in agreement on the interventions or advice needed.

The project group compiled the outputs of these focus groups together and created six new categories for Career Readiness:

1. Not started thinking
2. Looking for information
3. Looking for experience
4. Looking to apply
5. Next step confirmed
6. No comment

Each of these categories give a clear summary of student progress in career thinking. The detail of the statements and categories can be found in figure 5.2 below. Three of them offer a clear message about the kinds of activities that are likely to spark engagement: 'Looking for information', 'Looking for experience' and 'Looking to apply'. For instance, students who are eligible to undertake a placement would be placed within the 'looking for experience' category and would therefore be prime candidates to be offered a placement hunt workshop or information session. Students who are 'Looking to apply' might be best supported with interventions around mock interviews, CV or application support.

Statement	2011 Category	2018 Category
I am not ready to start thinking about my career yet	Decide	Not started thinking
*I have not yet thought about my career choice or specialty beyond graduation	Decide	Not started thinking
I have no career ideas yet but want to start thinking	Decide	Not started thinking
*I would like to consider career options which are not directly connected to my degree programme	Decide	Looking for information
*I have ideas about my career choice or specialty beyond graduation but need to explore the options	Decide	Looking for information
I know what I want to do but I am not sure how to get there	Plan	Looking for information
I have some ideas about my career and I am ready to start planning	Decide	Looking for information
*I need the right experience and networks in place to secure the professional career path I want	Plan	Looking for Experience
*I am confident that I have a sound plan in place to acquire the experience and contacts that I need	Plan	Looking for Experience
I want to spend a year gaining experience	Plan	Looking for Experience
I have a career in mind and intend to gain relevant work experience	Plan	Looking for Experience
I am ready to apply for graduate level / professional opportunities	Compete	Looking to apply
I am ready to apply for further study	Compete	Looking to apply
I have been applying for opportunities and so far I have not been successful	Compete	Looking to apply
*I am ready to apply for my chosen career but would welcome support with the application process	Compete	Looking to apply
*I am ready to apply for my chosen career and am confident about the application process	Compete	Looking to apply
*I have a job, postgraduate course or my own practice already confirmed	Confirmed	Next step confirmed
I have a job, further study or my own business plan confirmed	Confirmed	Next step confirmed
No comment		No Comment

Figure 5.2: Career Readiness statements and categorisation at the University of Leeds

When you apply the categories to the delivery areas of your service, it is possible to very quickly see how to structure engagement activities to align to Career Readiness grouping in a best-fit approach. This makes it possible to drive the right support and resources to particular segments

of the intended audience; when combined with good marketing support this will gradually increase engagement.

Such data groups also provide valuable insights into where communications or engagement activities do not have the desired impact. Contacting students who are 'Not started thinking' with regular newsletters summarising available placement opportunities may not be the most effective use of time or resource. Sending information to students who have already secured their future role is equally inefficient. Embedding this information into practice and process can have a positive impact on how student engagement is approached.

Balancing detail with deliverability

Ultimately, the purpose of tracking Career Readiness is to elicit change – the goal at the University of Leeds is to leverage this data to enable students to develop in their career thinking. Within the 'Not Started thinking' category we are trying to spark behavioural change and help the student to begin thinking.

Most psychological models of behavioural change will follow some variation of requiring: skills, opportunity and motivation (Michie et al., 2011). The motivation factor is something that can get lost in categorisation of Career Readiness statements. Take the example of two statements in the 'Not started thinking' category:

1. I am not ready to start thinking about my career yet
2. I have no career ideas yet but want to start thinking

If you were to use only the Career Readiness category of 'Not started thinking' to identify interventions, you would treat students in these two statements the same. Chances are, you would also potentially label them both as belonging to a hard-to-reach group. However, there is a clear motivation imbalance between students choosing these two statements: neither are ready for their future, but one statement shows willingness to start thinking. Ultimately, there is motivation there that can be capitalised upon.

When we work with departments to talk about targeting interventions, we often refer to that second statement as a group to prioritise. If we develop targeted interventions, we are likely to elicit the behavioural change we're seeking and help them to progress in their readiness journey. But the same engagement strategies will probably not work for students selecting that first statement.

What this highlights is that the ultimate challenge in using the data to deliver interventions at scale is that statements which have slightly different nuances are grouped together in order to make the data more intelligible to our staff audience. This makes it feel more manageable and allows the institution not to feel overwhelmed with the scale potential statements. After all, charting nineteen statements would overwhelm most receivers of reports. The usability of the data therefore needs to be balanced with its nuance.

Examples like the 'Not started thinking' one above can be found in every category of the data. In 'Looking for information' there is a statement that is ready to plan their approach and another that knows where they want to be, but not how to get there. The same intervention might work for the student, but the engagement hook will be slightly different. In 'Looking to apply' there are statements suggesting students are ready to apply vs one that says they have been actively applying and getting nowhere. Again, the same intervention will support this student, but if students cannot see themselves in descriptions, they often overlook them as being helpful for them. Ultimately, the devil is in the details when it comes to engagement.

Considerations for your own institution

Whether you read this and think you would like to take a similar approach to the conceptual model or not, our recommendation is that first and foremost you consider the audiences for your data. If you have embedded the Career Readiness model with students and would like to continue doing so, continue to code your data in that way and talk to students with that language. That does not prevent you from developing an operational view of the same data to empower your staff to make better informed targeted interventions.

You could use the framework that we have outlined in this case study, or you could run a similar exercise with your careers professionals. Our process involved conducting a series of focus groups with practitioners across the university where we asked them to organise the statements into groups based on their properties and characteristics. We compiled the outputs and tested them with colleagues in order to ensure they made sense and could be implemented operationally.

Once you have got that operational framework agreed, you begin the real task of utilising the data to improve your services – ideally at scale.

In a subsequent case study, colleagues at the University of Leeds showcase one of our initiatives involved delivering guidance services at scale whilst using the Career Readiness groupings to target student engagement. Taking this targeted approach allowed practitioners to reflect on the group needs and adjust their content to make the most impact.

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6. Revisiting the conceptual model*

Dave Stanbury

The University of Huddersfield has undertaken a project to review and reconceptualise the classic Career Readiness Questions / Questionnaire (CRQ) (Cobb et al., 2019) and to embed a new career planning model into professional practice. The project was a collaborative effort, led by the Deputy Head of the Careers and Employability Service (CES) with important contributions from Claire Aydogan, Head of the CES and Abby Abbott, Digital Content and Engagement Coordinator. The background to the project is that CRQ data has been gathered by Huddersfield since 2018/19. Historically the university has asked about prior work experience, career learning needs and sectoral interest as well as the standard 10 career readiness questions. Students complete the survey as part of registration (and re-registration) in September of each year. Completion rates are typically close to 100% with circa. 19,000 individual respondents. Over time the survey has become a well-established part of the employability infrastructure being reported on annually by the Careers and Employability Services (CES) and valued by internal stakeholders.

The project was initiated in Autumn 2020. At that time, it was clear that a growing number of universities were making greater use of CRQ than Huddersfield. There was at least one example of a university using

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* This is an extended and updated version of a case study which originally appeared as a section of a longer article by Bob Gilworth and Dave Stanbury on Prospects Luminate in June 2024.

CRQ to create a real time student dashboard in its Careers Service Management System (CSMS). This pointed to the potential to engage students in using their own data more actively in their career planning. It was also apparent that other universities were using CRQ terms on their websites as part of their broader information strategy and, in some cases, also using student CRQ status to target marketing messages. At the same time, it appeared that use of CRQ data at Huddersfield had plateaued. Analysis of data and dissemination within the University was located with the CES and was not directly connected with the wider set of employability data provided centrally. Systems and capacity factors also meant that there was often a delay between collecting the data and being able to release it to Schools.

Taken together this pointed to the need to strategically reposition use of CRQ within the institution. The initial aim was to review the CRQ statements used in enrolment and the headline categories (or terms) used to categorise the responses, to provide a solid platform for future developments. Reviewing the categorisation terms supported an ambition to review the classic Decide, Plan, Compete model (Gilworth, 2022) which had been imported in the process of setting up the data collection. This became the focus of the project.

The consultation aims were defined as follows:

- Check if the current four over-arching terms (Decide, Plan, Compete and Sorted) were fit for purpose, including the intention to share the terms with students.
- Consider if there are more suitable alternatives.

The project identified 6 key criteria for assessing CRQ terms. Terms adopted should:

- Resonate with and engage students.
- Enable students to effectively undertake career self-management by helping them identify key developmental tasks.
- Be meaningful for a range of School stakeholders.
- Facilitate interpretation and dissemination of career readiness data results.

- Be accepted by the CES and the Global Professional Award team (responsible for delivery of the University's employability award).
- Be congruent with current and emergent career development learning approaches being used with the University.

Process / Method

The consultation was composed of four overlapping phases: (i) Researching practice elsewhere across the HE sector; (ii) feedback from stakeholders on the classic CRQ terms and alternatives; (iii) reflection on findings; (iv) feedback on options identified.

Phase (i) entailed an interview with an academic colleague with an overview of national and international practice in this area (academic adviser to the project) followed by desk-based research on CRQ practice at other universities identified through purposive sampling. This yielded a set of initial examples, with an additional example added in early during phase (ii). Examples were chosen to illustrate the diversity of good / innovative practice across the sector, provide contrasting approaches, and pragmatically constitute a short list that could be easily shared with stakeholders.

The consultation took the form of small semi-structured focus groups with key stakeholders. At these, the project was explained and set within the institutional context. It was made clear that the purpose was to ensure that terms used were fit for purpose. During the focus groups, each set of terms was presented separately, and attendees were encouraged to identify issues (positive / negative) with each in a non-directive context. Importantly, feedback was only sought in relation to the terms. The way in which each university used their terms and embedded them in local practice was out of scope. The focus groups ran over four months which enabled insights and issues identified from earlier sessions to be fed-forward into later ones. Focus groups were held with the following groups: The CES Careers and Guidance Team (Careers Consultants and Careers and Employability Advisors); The Global Professional Award Team (Trainers responsible for delivering the employability award); the CES Business Partnership Team (staff who

work with graduate employers): Students Union Sabbatical Officers. This approach of running focus groups with discrete sub-groups was designed to ensure that each distinctive voice could be heard, in co-developing the approach from the outset.

Discussion

Based on the consultation, the project concluded that Huddersfield should not continue to use the current set of CRQ terms exactly as they were. While 'Decide' and 'Plan' were uncontroversial and widely viewed as acceptable, significant problems were identified with the two other terms. In *all* groups, *most* people had strong reactions against the term 'Compete' which was felt by some to be "intimidating and negative", and potentially demotivating. Defenders of 'Compete, however, referred to the need to signal to students the realities of the competitive jobs market. The term 'Apply' was frequently offered unprompted as a more acceptable alternative.

Instances of the term 'Sorted' being misunderstood were cited. These included in a careers education exercise, where some students regarded being at university or having a part time job as being 'sorted'. There was a perceived risk that students approaching graduation or after might think they were sorted, when their careers were still open to change and development. SU Officers noted that the term was not necessarily understood by International Students. There was no consensus on what term would be a better replacement, however. Suggestions included, 'transition', 'ambition' 'accelerate' and 'succeed'. The latter provoked some strong and mixed reactions. Concerns included the potential for creating heightened expectations and putting pressure upon students. The impossibility of guaranteeing success for all was noted, as was the desirability of students defining their own career success. The situation of students who were retired or planning on non-paid roles was also noted.

The examples generated by the desk research all had merit. The balance of opinion favoured short, positive, memorable and action orientated approaches, with 'Discover, Develop, Decide and Act' (DDDA) gaining the most support. All the groups which considered this example (GPA, BPT and the SU) preferred its formula.

There was a widespread recognition that all terms potentially need explanation and would benefit from framing for contexts. It was acknowledged that career development is complex and iterative and that the set of terms used should express this. This was a subjective and institutionally specific exercise. Other institutions have embraced terms that Huddersfield has rejected and vice –versa.

Development

The project identified and evaluated three options for change.

Option 1: Minor changes to the Classic CRQ model. With this option 'Decide' and 'Plan', would be retained; 'Compete' replaced with 'Apply' and an alternative to 'Sorted' used. One challenge with this would be what to replace 'Sorted' with. Synonyms such as 'completed', 'finished' or 'concluded' arguably lacked energy and similarly the term 'placed' felt too passive. 'Succeed', on the other hand was likely to prove controversial as outlined earlier. Option 1 would have been relatively easy to implement but would have forfeited the opportunity for strategic change. Furthermore, the Classic model and set of terms appears to imply a linear movement that begins with making a career decision. Using a modified form of the Classic model was felt to run the risk of obscuring the dynamic and adaptive nature of career development.

Option 2: Adopt the DDDA model from the desk research. All groups that considered the formula of terms used by this University rated it positively. It was seen as using memorable terms which had positive energy and conveyed the dynamic nature of career development. However, the project concluded that there was scope to retain the conceptual clarity of classic CRQ and to convey a stronger idea of process to aid career development, whilst emulating/retaining the strengths of the DDDA model.

Option 3: The Huddersfield model. The Huddersfield model aims to combine the dynamic and iterative quality of the DDDA example with the process clarity of classic CRQ. Starting with 'Explore,' the model

moves clockwise though 'Decide', 'Prepare' and 'Apply', through to 'Develop' which speaks to the need to remain employable even when employed. Reflection and Resilience are central and ever present, relating to each stage but also capable of being treated as distinct activities. The large arrows show the main direction of travel while the smaller ones indicate the possibility of feedback and revision at each stage.

Authors: D. Stanbury & C. Aydogan; Designer: A. Butcher (2021)

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Figure 6.1 The Huddersfield Model

Each of the elements is explained in table 6.1 below.

Element	Description	Rationale
Explore	Investigating career ideas. Self-awareness. Developing and discovering new skills, interests and values and priorities.	Accommodates Opportunity and Self-awareness so is compatible with DOTS. Front-loads career planning with dynamic and divergent student led-activities. Is an expansive and open space that encourages exploration and creative approaches
Decide	Refers to making a distinct career decision including those that are tentative and provisional.	Forming a (provisional) career decision is a key step in developing a career and enabling efforts to be effectively focused. By naming this as a goal we can focus students' attention and direct them to relevant resources. By identifying this as a distinct moment, it is distinguished from the micro decisions which are part and parcel of the 'Explore' stage.
Prepare	Things a student needs to do to improve their chances of achieving their goal. Gaining the right skills / experience / qualifications / evidence base; gaining the right contacts; understanding how to narrate their self-presentation for role / company / PG opportunities; how to set up a business.	By making this a distinct stage, these positioning activities are distinguished from those that occur within the Explore phase. Cues students to the need to compile a portfolio of evidence appropriate to the target audience. Corresponds to the 'Plan' stage of CRQ. Speaks to the need to accrue social and cultural capital.
Apply	The process of applying for an opportunity and the associated recruitment and selection processes	Separates the recruitment and selection process from the preparatory 'positioning' activities which need to be put in place before hand.

Table 6.1 Explanation of each element of the Huddersfield Model

Project Outcomes

Feedback was gained on the Huddersfield model from key stakeholders: the Academic adviser, SU Sabbatical Officers, the CES, the GPA team and, subsequently, School-based academic employability leads. Feedback across the board was positive. The SU, for instance, really liked that the circle showed that students could go through the cycle several times and that it allowed for movement in both directions. They described it as 'mobile' 'flexible,' 'relatable,' and 'intuitive'. Staff valued the way that it included those in work, fitted with employer recruitment and selection practices, and supported an iterative approach to career learning based on reflection. The adoption of the new Huddersfield model concluded the developmental phase of the project and signalled the start of the implementation phase.

Having adopted our new Career Planning model our focus has moved from inception to institutional engagement. Currently, implementation is occurring at five levels.

Level I: informational infrastructure. Making the model available across the university, accessible to students and highly visible is a pre-requisite for effective engagement. To this end the model has been added to the Careers Service webpages, in a dedicated section on career planning: https://students.hud.ac.uk/opportunities/careers/career-planning/

Level 2: Engaging academics. In September 2023, the Planning team added CRQ survey results to the University's main staff data dashboard, along with information on Graduate Outcomes, etc., providing in-depth, real-time data at a course and school level to all academics. The Careers Service has capitalised on this by including CRQ data at a school and course level in the annual planning documents (School Enterprise and Employability Plans) created by Careers Consultants. Furthermore, course teams are encouraged to reflect on CRQ data and labour market information and discuss them with their Careers Consultant as part of Registry quality assurance processes such as Subject Review and Annual Evaluation.

Level 3: Supporting resources. To enable students to use the Career Planning model we have created over 40 research-informed, self-help guides addressing all stages of the career planning process. These address topics as diverse as managing mistakes, coping with imposter syndrome and making your own luck. Each Guide is completely stand-alone, meaning that students can pick and mix those that best address their situation. The guides have been mapped to each of the stages and a master list is also available as an alphabetically arranged library on the Careers Service website.

Level 4: Undergraduate career development learning. Since 2023/24, we have included the Career Planning model as a key part of the Global Professional Award Programme (GPA). The GPA addresses Wellbeing, Employability and Enterprise and is taught by a dedicated team based in the Careers Service. Importantly, because this is timetabled into the curriculum for most undergraduate degrees, we have been able to share the Career Planning model with thousands of students. In addition, the Careers Service has tested approaches to engaging students in course specific discussions, where the model has proved an effective aid to classroom discussion, individual reflection and personal action as can be seen in the Childhood Studies case study described in more detail elsewhere in this publication.

Level 5: PGR processes. Working in partnership, the Careers Service, the Graduate School, PGR student representatives, Registry, the Student Communication and Engagement Team and the Strategic Teaching and Development Team have devised a survey tool with a bespoke set of CRQ statements tailored to PhD options. By completing the survey, students are automatically emailed a package of tailored advice, weblinks and self-help guides. From August 2024, students are required to undertake the survey and discuss the results with their supervisor in preparation for their year two Progression Monitoring Meeting. This approach, which you can read about in more detail in the case study elsewhere in this publication, is designed to deliver a consistent and scalable, low-cost intervention which complements the wider approach to skills training in the Graduate School.

Level 6: Professional development. Working with the University's International Centre for Career Development, we are planning to pilot staff training sessions about employability for academics. These sessions will make links between the underpinning theory base of employability and establish common ground with the broader academic endeavor of universities. They are intended to prepare the ground for the course specific analysis and advice by Careers Consultants that supports the quality assurance Registry processes. Moreover, these sessions will offer an opportunity to promote our Career Planning model and invite academics to consider how their students can engage with it and the self-help guides.

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7. Using Career Readiness to support group career guidance

Cerian Eastwood and Matthew Howard

Introduction

Group careers guidance is becoming a prominent topic of discussion within Higher Education (HE) careers and employability services. There is currently limited research on the delivery and impact of group careers guidance work within HE – an area of research which the University of Leeds is contributing to, using careers readiness (CR) data and language to support student progression.

This case study will provide an overview of the strategic use of CR to augment careers guidance provision at scale, at a large Russell Group institution.

Discover how the University of Leeds Careers Service embarked on a robust pilot of group careers guidance, driven by a vision to adapt one-to-one career guidance expertise to small group settings and to bolster service capacity. Over a six-week period in the 2023/24 Semester 1, the pilot reached a diverse range of students, offering insights into its efficacy, the usefulness of CR targeted interventions of this nature, and its potential within HE. After a successful pilot, group career guidance is now business-as-usual across the service, with CR pivotal to ongoing delivery and evolution.

Cultivating the Foundations for Group Careers Guidance

Defining Group Careers Guidance

At its core, 'group careers guidance' involves the application of techniques typically associated with one-to-one career guidance, such as contracting, exploration and reflection, in a small group setting. Group careers guidance creates a space for students to discuss and explore their career ideas, facilitated by experienced career practitioners in a semi-sheltered social environment. Groups can be either homogeneous or heterogeneous, with a students' motivation to engage being a key parameter.

Taking inspiration from group counseling, the Group Integrative Narrative Approach (GINA) (Meldrum, 2017) is recognised as a blueprint for careers professionals looking to implement group careers guidance. The GINA model is based around GROW coaching models (Whitmore, 2002; Yates, 2014) and person-centered counselling techniques (Rogers, 1961). Meldrum's (2017) pilot of group careers guidance with secondary school students (age 16-17) in Scotland suggested the huge potential of this approach, should guidance practitioners be curious to innovate – an invitation which the University of Leeds was keen to accept and apply to a HE context.

Pilot Overview

In Semester 1 of 2023/24, a six-week, pilot of extra-curricular group careers guidance was conducted, engaging 121 students across 23 sessions. Groups were attended by 5.2 students on average, and each 1-hour session was in-person. This approach represented a 160% increase in guidance capacity compared to traditional 30-minute one-to-one appointments. Figure 7.1, below, provides an overview of the student demographics who engaged with the pilot.
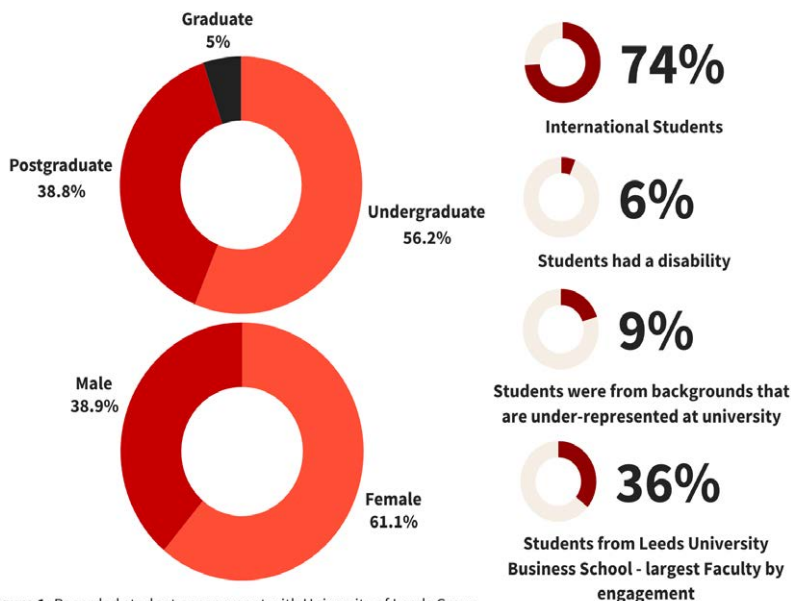
Figure 1: Recorded student engagement with University of Leeds Group Careers Guidance Pilot (October to November 2023). 121 students.

Figure 7.1: Recorded student engagement

Each session was facilitated by an experienced careers practitioner and supported by a colleague; sessions doubling up as CPD opportunities for aspiring guidance practitioners and encouraging cross-service collaboration. Pilot objectives:

1. To ease the pressure and demand for one-to-one guidance appointments during 'peak', scaling up provision.
2. To offer a new, comfortable way for students to engage with the Careers Service. Creating opportunities for students to share plans, ideas, and considerations with their peers in a supportive environment (peers careers learning) and engage in collaborative problem solving.
3. To increase the proportion of students who are either thinking, or developing, in their Career Readiness.

During Semester 1 there is always a high demand for one-to-one guidance appointments. Introducing group guidance appointments helped to meet

this demand, recognising that many students could benefit by increasing their confidence in their ability and knowledge on how to move forward with their career planning. It was also acknowledged that students may feel solidarity in the presence of their peers, at the same stage of CR. In our experience, students can sometimes benefit from a precursor to a one-to-one appointment to help frame their career thinking, which could be a group session.

Career Readiness Language to Target Engagement
CR was identified as a strategic dataset when planning the group careers guidance pilot, helping to target sessions to specific student groups, encouraging attendance, ownership, and a sense of belonging among participants. Our Careers Service has been utilising CR data and language since it was pioneered at the University of Leeds in 2012.

After a series of student focus groups, it was agreed that group careers guidance would be locally marketed as 'Group Careers Support'. CR readiness statements and categories were then used to theme sessions. Students were able to book onto whichever session felt most appropriate for their current stage of career thinking, via a CRM platform. The two themes/titles communicated to students were:

a) 'Group Careers Support - I have *some ideas about my career, and I am ready to start planning'*, or
b) *'Group Careers Support - I have no career ideas yet but want to start thinking.'*

Use of CR language helped the service to engage students who may not be at a significant career decision point, but who are ready to make progress, and who would benefit most at the start of the academic year. The scheduling of sessions, across October and November, provided students with ample time to develop their career thinking, book onto further support as required (e.g., skills workshops, a mentoring scheme), and set actions in motion to meet application deadlines.

Listening to the feelings and career experiences of your peers can have a positive impact on your confidence. A theme across all sessions were those 'lightbulb moments', with students realising that they were

not alone in their stage of career readiness. Referring to CR language in session titles, when advertising group career guidance in newsletters or social media, and within sessions themselves, helping to normalise the complexity of career development journeys. Another piece of feedback was that students enjoyed and felt comfortable attending sessions themed by CR, as their peers understood them – they felt validated in their career thinking, their worries, concerns and aspirations.

We anticipated that group careers support sessions might be popular with international students. Subsequently, we planned three bespoke sessions for international students, also themed using CR language.

CR data collected during the registration process played a pivotal role in advertising the group career guidance interventions. Although sessions were open to all student groups, targeted emails were sent to all first-year students who had identified themselves as being in the two CR categories. CR data, integrated into the services' CRM, was integral in allowing us to target promotions to first-year students who had the potential to benefit most from the sessions. To ease the pressure and demand for one-to-one guidance appointments, a strategic decision was made that first-year students were only able to book onto group careers guidance during the pilot.

Career Readiness to Tailor Delivery
Group career guidance sessions were themed around two CR categories: 'No Idea' and 'Some Ideas'. Topics, activities, and discussions were tailored to align with the career readiness of the students attending each session. Mirroring one-to-one appointments, students were empowered to propose and co-design areas of focus during the contracting phase of each session. Moreover, students co-created guidelines for how group members treat one another and how confidentiality is maintained. Fostering cohesion is a key predictor of outcomes in group guidance, as it is in group therapy (Burlingame et al., 2018).

Careers practitioners recognised that CR stage was an influence in how the student groups selected topics of discussion, and that CR was a factor which shaped the 'texture' of each session e.g., the delivery format, outcomes and content of sessions. CR language and open questions, themed around CR, were used with students throughout each session.

Within 'No Idea' themed group guidance, topics of focus included:

- Developing self-awareness
- Identifying strengths
- Understanding values
- Finding work experience
- Key skills which employers are looking for

Within 'Some Ideas' themed group guidance, topics of focus included:

- Bouncing back after job application rejections
- Networking and making connections with industry professionals
- Placement application strategies
- Transitioning into a graduate job
- Specific industry questions e.g., career paths within finance

Across both themes of group guidance interventions, students were encouraged to action-plan, reflect, summarise discussion points, and signposted to the full menu of careers services available.

A resource box was created for use in each session with a printed copy of the contract and session structure, along with activities that could be used within the session. These activities were not compulsory, but to use if beneficial to the students and included flashcards on resilience and growth mindset. These activities were curated around CR, for example, within 'No Idea' sessions, activities related to identifying values and strengths.

Evaluation – Measuring Success
The pilot's success was evaluated through confidence gain data from students, attendance data, and qualitative feedback from both students and Careers Consultants.

Students were asked 'How confident do you feel progressing your career ideas? Rate from 1 (lowest) to 10 (highest)' at both the start, and at the end, of each session. Student career confidence increased within all 23 sessions, indicating a positive impact of attending a session on a students' career thinking.

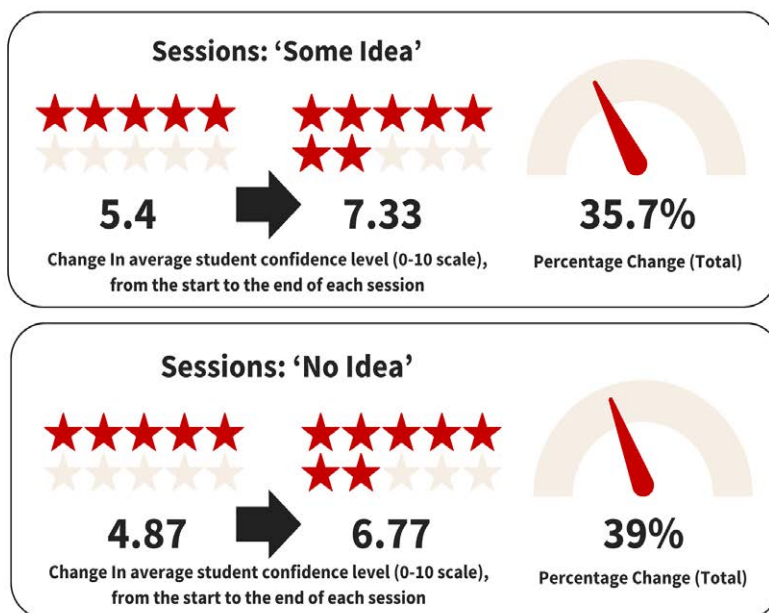Figure 7.2 below visually represents average student confidence change, by CR theme, across all 23 sessions:

Sessions: 'Some Idea'

5.4 → 7.33   35.7%

Change In average student confidence level (0-10 scale), from the start to the end of each session   Percentage Change (Total)

Sessions: 'No Idea'

4.87 → 6.77   39%

Change In average student confidence level (0-10 scale), from the start to the end of each session   Percentage Change (Total)

Figure 2: Recorded student confidence data, University of Leeds Group Careers Guidance Pilot (October to November 2023). 121 students.

Figure 7.2: Recorded student confidence data

Four weeks post-session, students were surveyed to track the career actions they had taken. Actions included applying for opportunities, improving their CV, booking one-to-one guidance and attending career events.

After the 2024/25 registration, we intend to compare students' CR statements with those from the previous year to measure progress and learning gain. At the time of writing this case study, comparative data was not yet collected.

Feedback from students:

> *"Feeling like you are not the only person with doubts and concerns about your career is so important! My favourite part was just having these open discussions with the other students and sharing*

helpful tips and advice on books to read or websites to visit when you are feeling stuck."

"*Sometimes it is just nice hearing what other people are thinking too which helps with personal overwhelm…listening and sharing ideas with other people was also motivating.*"

Feedback from careers practitioners:

"*I was originally wondering how I might facilitate potentially wide-ranging participant needs but, as it was, with each group session, we found much overlap in queries and the variety of questions made the discussions dynamic, stimulating and fast-moving.*"

"*…once underway, the students can learn from each other's experiences or, if they don't have much in the way of experience, ideas as to how others in the group might tackle the problems they face; so, the sharing of ideas.*"

Future Direction

A key conclusion from the pilot was that use of CR language and data helped target group career guidance, structure sessions, and enhance the experience and potential learning gain of students. Students with similar CR levels positively engaged in sessions together, supporting their career development. However, it is recommended to identify additional commonalities, alongside CR stage, such as year of study and faculty, in future sessions to further strengthen student connectedness and career thinking.

During the pilot, separate sessions for international students were successful, with strong interest observed from this group. Group career guidance offers an exciting opportunity to tailor support to international students, who face complex career decisions and unique challenges.

There is potential for group career guidance to support distinct student groups' employability and self-efficacy, informed by CR, to help close progression gaps. These groups could include care-experienced

and estranged students, under-represented students, students with a disability, and mature students.

Tailored icebreakers could be useful for building cohesion within group career guidance. More work is also recommended to explore how HE students respond to online, versus face-to-face, group careers guidance.

Strategic Toolkit

Implementing group careers guidance, rolled out using CR data and language, can significantly benefit both students and career services. Sessions provide a scalable way to offer guidance interventions, foster a sense of community, and help students develop their career readiness with peer support.

This toolkit provides a structured approach for senior management to introduce and refine group careers guidance within their institutions:

Initial Planning

- Consider conducting initial surveys and/or focus groups, to understand student preferences and the demand for group careers guidance.
- Determine which student demographics, or CR stages, would benefit most from group guidance, and at which point in their student journey.
- Agree on the language used to describe group guidance to student audiences, considering use of CR language. Test different terminologies with student focus groups to find the most engaging and clear language. Develop a glossary of terms related to career guidance for consistency in communication.
- Is there an opportunity to deliver group guidance within your curriculum, or would this sit best in your extracurricular space?
- Consider starting with a pilot and review. Collect detailed feedback during the pilot to refine and evaluate.
- Explore and agree the session themes, this could be based on CR stages. For example:

- - "I have no career ideas yet, but I want to start thinking"
  - "I have some ideas about my career, and I am ready to start planning"
- Confirm marketing and communications for the sessions, including use of a CRM to manage bookings.
- 5 to 6 students represent an ideal group size. Experiment with different group sizes to find the optimal number at your university.
- Explore and agree whether students are to access sessions as stand-alone, or as a series.
- Consider which mode students might prefer online, face-to-face, hybrid.
- Consider the length of sessions, e.g., 1-hour or longer.

Resourcing Group Guidance

- Develop a staffing workload plan, considering who could support the delivery.
- Consider practitioner training needs, and their CPD journey.
- Designate a project manager to oversee the implementation, design, organisation and continuous improvement of group guidance sessions.

Group Guidance in Practice

- Establish clear guidelines and expectations for both facilitators and students at the beginning of sessions.
- Consider if any activities or resources are required, e.g., career coaching cards.
- Ensure the sessions are accessible to all students.
- Consider how to ensure that all students feel heard, supported and comfortable engaging with the session.

Evaluation

- Organise debrief sessions for practitioners to share experiences and improve practices.
- Implement real-time feedback tools (e.g., digital polls) during sessions to gauge immediate reactions.
- Develop metrics to measure effectiveness, such as student satisfaction, confidence change, career action completion, and longer-term career outcomes.
- Use follow-up surveys to track the impact of sessions on students' career development.
- Consider undertaking a comparative analysis of CR data, to measure the student learning gain.

Figure 7.3: Photo of group career guidance

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8. Socialising Career Readiness with students and tutors to enhance engagement

Oliver Laity

Heine (2023) states that developing career readiness in an individual not only includes developing new skills, creating goals and preparing for a career, but that it should also place emphasis on how students should make the most of opportunities to engage with employers at careers fairs and recruitment events. This will enable students to better understand what employers are looking for when they are making hiring decisions. McCarron (2023), when outlining what a career readiness model could entail, referred to the use of reflection, particularly when advising students to reflect on how well prepared they are for life after university. The model proposes using the concepts of exploration, development and application, to enable students to self-evaluate their preparedness and then to identify their next steps, including accessing career development resources.

   At the University of Exeter, we are attempting to achieve student self-awareness, self-evaluation, and bespoke engagement with services based on the Careers Registration, Career Readiness model. To achieve our mission of **'supporting student transition into professional careers & beyond'**, we are using Careers Registration information to achieve, amongst other things:

- Creation of filterable data resources
- 'Triangulating data' for maximum targeting and impact

- A transferable framework to measure impact
- Bespoke services at scale
- Informed staff and self-aware students

At Exeter, Careers Registration is structured as follows:

- 8 questions posed to all students at the point of online enrolment each year
- Used as strategic performance indicators
- An intervention tool for the careers service and faculties
- 'Exit' survey delivered at Graduation
- Follow up work with recent graduates (internal 6-month survey)
- Filter-able via Widening Participation (WP) markers

Student awareness of Careers Registration ('Decide Plan Compete')

One area that sets Exeter apart is that we have reflected student's self-assessment in terms of their career planning back to them in the form of marketing. We are making students aware of their 'status' and therefore their most effective next steps in terms of careers engagement and services.

Ongoing work in this area includes:

- Service 'labelling' (i.e. Mentoring as 'Plan', Interview Skills as 'Compete' etc.)
- Student direct and bespoke emails
- App dashboards
- Decide, Plan and Compete (DPC) one-to-one 'health checks' designed and delivered

Each area is addressed in turn below.

Service Labelling
At Exeter we have taken the time to label our services to where they might most effectively sit within Decide, Plan and Compete (see Figures 8.1 and 8.2).
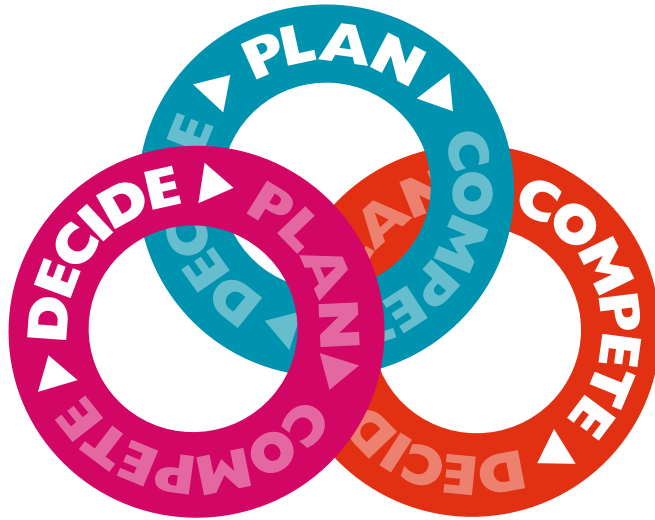
Figure 8.1: The Decide Plan Compete model used at University of Exeter

This follows through into webpages, online resources, signposting and triaging of enquiries so that we ask the correct questions and route enquiries to the most relevant and effective next steps for students.

Promotional videos and student Vlogs have begun to happen to support the concept and will continue into 2024/25 as we encourage students to talk about relevant services and their thought-processes of being in one of those phases. Promotion of DPC includes:

- Animated promotion on TV screens around campus
- Above the line marketing (see Figure 8.3 below)
- Career timelines (see https://www.exeter.ac.uk/students/careers/research/careerplanning/ and Figure 8.4 below)
- Service promotion through appointments and events.

Activity/Scheme/Resource	Decide	Plan	Compete	Already Secured
Handshake	Y	Y	Y	Y
My Career Zone Digital	Y	Y	Y	Y
Create Your Future	Y			
The Exeter Award	Y	Y	Y	
The Exeter Leaders Award	Y	Y	Y	
Careers Guidance Appointments	Y			
Careers Advice Appointments		Y	Y	
Careers Fairs	Y	Y	Y	
Career Research	Y	Y	Y	
Grand Challenges	Y	Y	Y	Y
Green Consultants		Y	Y	
Aspiring Educators		Y	Y	
Skills Events	Y	Y	Y	Y
Professional Pathways	Y	Y		
Career Mentor Scheme		Y	Y	
Ask An Alum		Y	Y	
Access to Internships (A2I)		Y	Y	
Employer and Alumni Events		Y	Y	
Internships		Y	Y	
Placement and Study Abroad		Y	Y	Y
Enterprise and Student Startups		Y	Y	Y

Figure 8.2: Service labelling according to Decide, Plan, Compete

Figure 8.3: Example of above the line marketing to students incorporating career readiness
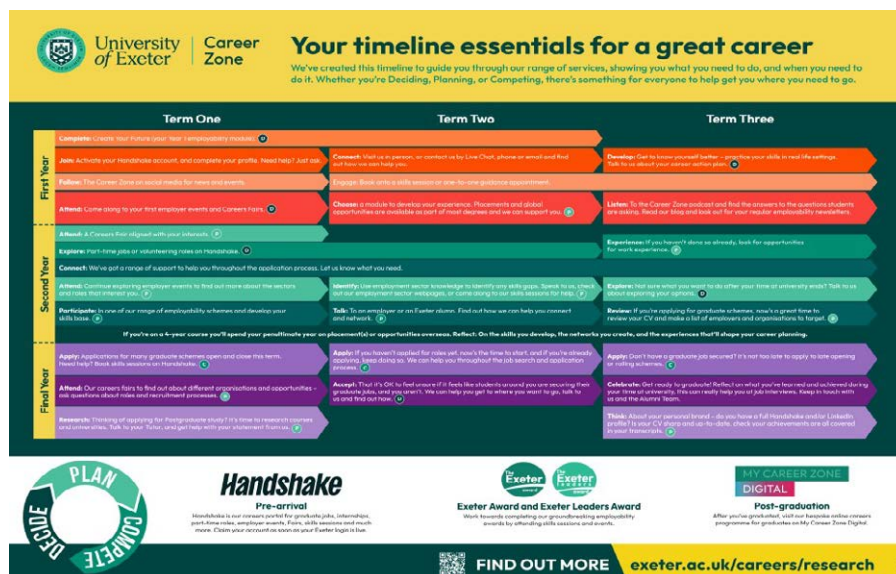
Figure 8.4: Example of careers timetable incorporating career readiness

Direct and bespoke emails

Subsequent to the Career Registration survey being asked at enrolment, participants are emailed according to their self-assessed planning stage (Q1 of the survey). These emails are tailored according to whether the student is in the Decide, Plan, Compete, or Secured stage.

During the enrolment process these emails are automated and sent automatically through SITS (Exeter's student information system) once the student has registered. Please see an example email below:

Dear [FirstName],

Thank you for completing the Careers Planning section of the Registration form. From your response we can see that you are in the "Competing" stage of your career progression.

This is a great position to be in, especially if you want to start work or further study soon after you graduate. Given the competitiveness of the job market, we recommend you take advantage of the careers resources available to someone in your position. As a first step

we recommend that you visit the following Competing web page, which has been tailored to meet the needs of students who are ready to make applications. After exploring these online resources, we recommend that you visit the Career Zone, or one of its satellites located at the Hubs, for further advice and to book a one-to-one appointment with one of our careers consultants.

As registration for graduation is governed by a different process, we are not able to send out automated emails via SITS. Instead, emails are sent out via outlook or our careers system.

Grouping students and graduates according to their career planning stage not only allows for the service to target these individuals in terms of email messaging, but also in terms of promotions. During the third term of academic year, 'Deciding' finalists were invited to pick up a free USB stick which contained useful content for someone in their situation. More recently we have used 'decide' and 'plan' alongside a low level of career service engagement to create target lists for campaigns and boot camp activity under the title 'Get Ready to Graduate'.

Exeter App and Student Dashboards
Prior to an app relaunch in 2024, all students had access to their Careers Registration results on the iExeter App. For an idea of what a student saw via this app, please see the images below which display the home page and 'my employability' sections and then the 'my employability' dashboard.

Figure 8.5: iExeter App homepage and navigation to 'my employability' sections
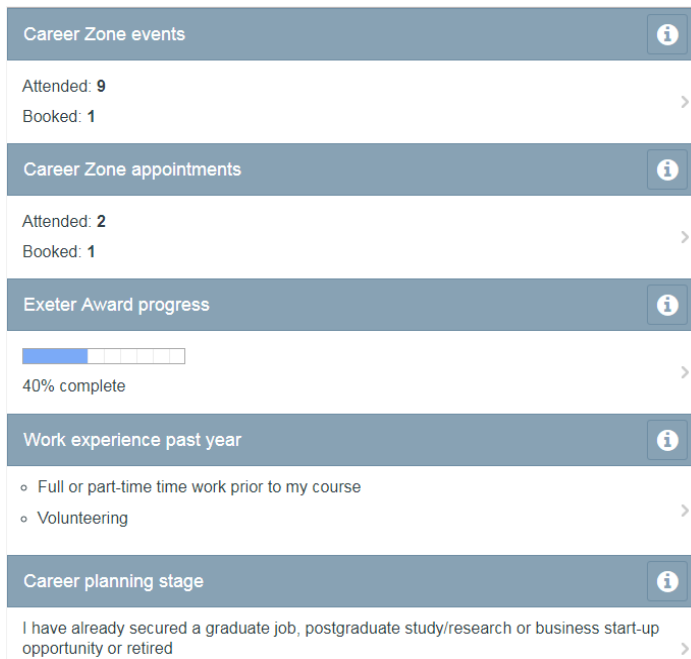
Figure 8.6: Example of the iExeter App 'my employability' dashboard

Career 'health checks'

Since 2022 we have empowered our student staff to provide tailored careers support to students with Career Health Checks, in conjunction with the 'Decide', 'Plan' and 'Compete' promotional material.

- Our staff offer the Health Check support, which is incentivised with a small prize draw too. We ask what stage students are at with their career planning.
- With the students' statement added to their online profile within the careers system (Handshake) we are also able to check the career planning stage of students.
- The suggested activities on the health check form will change depending on which career planning stage the student identifies with; these activities correspond to those on the 'decide', 'plan' and 'compete' flyers and other promotional materials such as careers timelines, student staff use these to reinforce the message.
- If the student answers 'no' to a question on the form, guidance will appear below to help staff to suggest next steps.
- The student can request a copy of the responses which should give them a good idea of where they are with their career planning and what they should do next.
- At the end of each health check, we encourage the student to check back in a few weeks to review their progress – the form can be overwritten and added to so it's a good way of tracking progress over the course of the year.

As well as providing peer-to-peer bespoke support and an 'onward' action plan, this method of engagement has also contributed over 500 pieces of student feedback per year regarding our services.

Using Careers Registration and careers readiness to boost academic engagement and support

In order to inspire, inform and motivate academic colleagues into action, we are engaging in ongoing work including:

- Development of tutor dashboards
- Production and dissemination of Careers Data packs and Employability presentations
- Tutor support information and resources

These are addressed in turn below.

Tutor dashboard

All personal tutors have access to the Tutor Dashboard, which allows them to not only monitor their tutees' academic progression, but also their careers progression via the Employability tab. Within this dashboard the personal tutor will be able to see their tutee's latest Careers Registration results, as well as the number of events and appointments they have attended and whether they are enrolled on the Exeter Award. All careers data within this dashboard is updated daily, and therefore will reflect changes following the completing of Careers Registration at graduation sign-up.

This tool should help facilitate careers conversations within personal tutor meetings and make signposting easier.

Discipline data packs, Faculty presentations and Power BI dashboards

During July/August the Careers Information Team compiles discipline data packs/employability presentations for all Faculties. These reports investigate the impacts of engagement and Careers Registration on Graduate Outcomes scores. The first Data Packs are issued in August; revised Data Packs are released in October and include the latest Careers Registration enrolment data.

On a termly basis, the team attends Faculty employability meetings to present a rolling schedule of data, invite discussion and suggest recommended interventions. Based on feedback received, the team are shortening the presentations and building dashboards to present 'real time' data filters and evolving the meeting agenda to invite greater discussion about interventions and recommendations.

Careers Registration forms a significant part of departmental KPI reporting, is sponsored and supported both by the Director of Education

and Student Services and the DVC for Education, and, as described above, has been used in reporting which is increasingly informing the development of Faculty employability and engagement strategies.

Personal tutor support and resources
Emails are sent to personal tutors highlighting the support and resources available to help them proactively engage with their tutees regarding employability and careers.   Below is an example email linking data to dashboarding solutions mentioned above with a reminder to contact graduates at potential risk of un/under employment:

In November last year we sent you an email informing you of your tutees self-reported career planning stage and their work experience risk level. We hope you found this information of value and it helped shape any employability/careers conversations you were having with your personal tutees.

The mechanism we used to collect this data (Careers Registration) at enrolment has recently been replicated with graduation sign-up, and you can see the results from your personal tutees below. Collecting this data at graduation, as well as enrolment, allows us to compare an individual student's results to see how they have progressed in their final year at Exeter. Additionally it allows us to target those finalists that might require additional support, with specific resources and help.

We thought it would be useful to share this with you so that you have an understanding of how your tutees were feeling going into graduation, and which ones of them could be 'at risk' of not finding graduate level employment or further study. If you don't see one of your tutees in the below list, this is because they are either not attending graduation or decided not to complete the survey.

We appreciate it can be difficult to stay in touch with graduates, but should you want to reach out to your 'at risk' tutees this could prove invaluable given their situation. A range of resources have

been created to assist tutors and academic colleagues in order to facilitate these sorts of conversations with students and these can be found here. Alternatively you may be aware of discipline specific opportunities which could be useful to your tutees.

If you wish to request more information or have any questions at all, please reply to this email and my team will be happy to help. We recognise this is a new resource and would be interested to hear of your experiences in using this information and receive any feedback.

Kind regards,
The Career Zone Team.

Your Tutees' Career Planning Information			
Student ID	**Student Name**	**Career Planning Stage**	**Work Experience Risk Level***
123456789	Student 1	Applying/Competing	Low
234567891	Student 2	Planning	Low
345678912	Student 3	Planning	Low
456789123	Student 4	Applying/Competing	Low
567891234	Student 5	Planning	Low
678912345	Student 6	Applying/Competing	High

Table 8.1: Example 'Your Tutees' Career planning information' table included in email to tutors

In the 'Career Zone' dashboard, you will be able to view an overview of a student's employability progress. The dashboard will display the number of appointments and events the student has attended, as well as their progression through the Exeter Award.
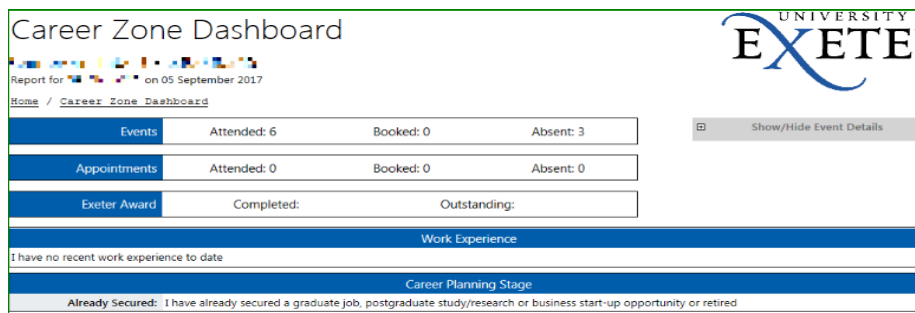
Figure 8.7: Example Career Zone Dashboard included in email to tutors

The role for Careers Registration in measuring the impact of interventions

Careers Registration data has been used at Exeter as part of a Theory of change model, employing the methods contained within Contribution Analysis.

Contribution analysis (Mayne 2012, 2019) assesses the overall contribution of an intervention to the observed results. It does this through an iterative and step by step process to verify a theory of change, incorporating new evidence that examine the 'causal mechanisms' at play. Thus, providing a 'logic chain' that sequences the short-, medium- and long-term impacts of an activity. In this case, the analysis seeks to shine a light on the contribution of the University of Exeter's Global Leaders Experience scheme to influence (a) students career preparedness/ employability and (b) actual employment outcomes.

Contribution analysis is a theory-based method, which it has been argued is a good way to evaluate interventions in the social world, which are complex and highly influenced by the context in which they are situated (Harrison & Waller, 2017). It can provide causal explanations when a counterfactual or control group is not possible and when the number of participants is small. Contribution analysis recognises that the intervention being evaluated is one ingredient in a 'causal cake' rather than designed to answer the question 'X' causes 'Y' (TASO, 2022).

Contribution analysis was used to evaluate the impact of the University of Exeter's Global Leaders Experience scheme (GLE) – an outbound mobility programme designed to provide opportunities for students from widening participation backgrounds to gain valuable international careers experience. The contribution analysis approach involved the development of a theory of change, which was then assessed though the collection of new data, including interviews, focus groups and graduate outcomes data.

Figure 8.8: Schematic of Theory of Change developed for Global Leaders Experience

The evaluation provided evidence for the plausibility of the theory of change, indicating that the GLE scheme had a transformational impact on participants confidence, skills and career preparation whilst providing tangible experiences that were valuable in securing recruitment opportunities. There was some indicative evidence that GLE participants were more likely to be in skilled graduate roles 6 months and 15 months after graduation.
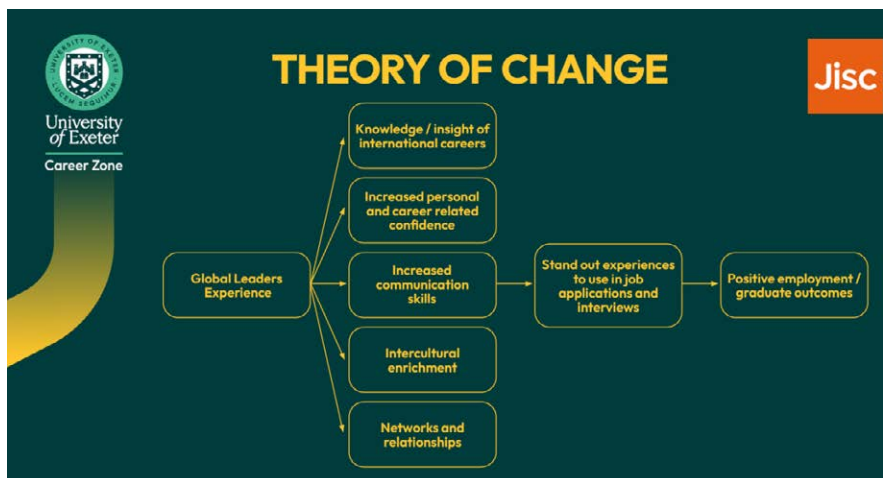
Figure 8.9: Evidence of impact gathered from participants

This evaluation provides insight into the efficacy of outbound mobility programmes to support the progression of students from widening participation backgrounds. It also provides an applied case study of contribution analysis as an evaluation method for employability interventions, which may be of interest to other providers who seek to evaluate similar interventions where the intervention to outcomes relationships is complex, where there are small numbers of participants, and where it is not practicable to form a comparison group.

In collaboration with TASO (Transforming Access and Student Outcomes in Higher Education), the University of Exeter recently evaluated its own Access to Internships (A2i) scheme - an internships scheme specifically for students who meet widening participation criteria. It showed that A2i and other university internships were positively correlated with good graduate outcomes. Interns were statistically more likely to be in employment or further study at 6 and 15 months and more likely to receive a positive graduate outcome (as measured by the graduate outcomes survey) than a comparator group. Survey and interviews with participating students also showed that A2i internships provided increases in career related knowledge, confidence and skills whilst providing tangible experiences for students to draw from during the recruitment process.

There are still many elements to consider when attempting to identify impact that is isolated from other factors. In a Prospects Luminate article (Braide et al., 2024) we explain more about these elements, such as: providing true additional value; running control group research to identify real differences; and elements of 'deadweight' activity which need to be fully thought through, in terms of project viability. Further methodological thinking is certainly required around the areas of self-reported evidence and assessment, and the theory of contribution analysis in order to understand and hopefully 'master' this approach into the future.

Summary thoughts

There have been huge benefits of our approach to Careers Registration and some drawbacks.

Student self-awareness is still low; although labelling of services and targeted messaging does work, students will still need to be guided towards the correct resources rather than know exactly what to do next. Integration into tutoring and digital services will help but has taken a backward step since COVID and needs re-introduction.

The overlap between DPC and student timelines has helped us to do something we thought would be contradictory – use career readiness as a tool to be prescriptive rather than allow student-led choice. It has become clear since the pandemic that students want to be directed more than before. Feedback such as 'I didn't know you offered these services' has been tempered by illustrating when students should be engaging and with what, directing enquiries through the Career Zone team and triaging them towards a bespoke next step or action plan based on need and planning stage. The ultimate result of us being clearer and more directive was that Exeter was named 4th best career service in the UK by student-review, according to Student Crowd.

The opportunity cost of our customer-focussed approach has been that we are not as advanced with our dashboard work, although it would certainly help with behind-the-scenes analysis and therefore planning.

Further plans

At Exeter we are now looking in the direction of curriculum integration, further tutor support and academic familiarisation (including a new role of 'pastoral mentors'), automation of student awareness and integration with self-assessed skills acquisition. Specific actions will include:

- Careers staff survey; surveyed about their readiness to engage with careers registration data.
  - Enabling us to produce further recommendations for using careers registration data including for student engagement, use of dashboards, and training for careers staff.
- Sharing results; regular dissemination and strategic engagement activities.
  - Which may include an event aimed at Planning officers, Careers staff and institutional stakeholders.
- Full integration into the new Student app – 'MyExeter'

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SECTION 3: PARTNERSHIP: THE CAREERS AND EMPLOYABILITY ECOSYSTEM

9. Embedding Careers Registration data through the careers and employability ecosystem

Bea Carter and Stephen Boyd

In today's rapidly evolving higher education landscape, career services play a pivotal role in guiding students toward successful graduate outcomes (Hewitt, 2020). As institutions strive to meet the diverse needs of students and stakeholders, career professionals are increasingly recognising the importance of leveraging their institutional ecosystems to drive student success and foster meaningful connections within the academic community (AGCAS, n.d.). To more proactively engage with these ecosystems, a new model has been devised at Manchester Metropolitan University by Dr Stephen Boyd and Rachael Collins which has assisted the recent evolution of our approach in managing the relationships needed to maximise traction and interaction with careers registration data.

This institutional ecosystem framework encompasses an interconnected web of stakeholders, resources and relationships, and is designed to incentivise a proactive approach to understanding the nuanced complexities of these partnerships. The framework supports a collaborative community and shared ownership of challenges but also helps us to stay relevant and agile in response to changing needs and strategic priorities. By understanding the dynamics of the ecosystem, and cultivating these relationships, we can drive positive change via our careers data.

The approach has been designed to empower career services to maximise their engagement and impact, offering a more conscious understanding of the contributors within the institutional ecosystems, each playing a distinct role in driving innovation, collaboration and progress. These contributors, ranging from informed consultants to critical friends, play an integral part in shaping the ecosystem's dynamics. They provide specialised knowledge, champion new ideas, facilitate resource access, foster connections and challenge the status quo.

ECOSYSTEM CONTRIBUTORS
MAXIMISING CONNECTIONS, LEVERAGING POTENTIAL

EXPERTS

Description: Individuals or teams with specialised knowledge and skills relevant to the institutional ecosystem, providing valuable insights and guidance.

Role: Experts serve as subject matter authorities within the ecosystem, offering expertise in specific areas such as technology, finance, marketing, or industry-specific knowledge.

INNOVATION CHAMPIONS

Description: Individuals or teams who advocate for new ideas and approaches within the ecosystem, inspiring others to embrace change and progress.

Role: Innovation champions are proactive in promoting a culture of creativity and experimentation. They identify emerging trends, propose novel solutions to drive continuous improvement within the ecosystem.

RESOURCE FACILITORS

Description: Individuals or teams who facilitate access to resources, whether it's funding, data, technology, or human capital, enabling projects & initiatives to move forward.

Role: Resource facilitators play a crucial role in connecting ecosystem participants with the resources they need to succeed.

INFLUENTIAL ADVOCATES

Description: Individuals or teams who hold sway within the ecosystem, capable of rallying support and garnering buy-in for initiatives and collaborations.

Role: Influential advocates leverage their credibility, authority, or social capital to champion initiatives and mobilise stakeholders towards a common goal.

CONNECTORS

Description: Individuals or teams skilled at making connections and fostering relationships within the ecosystem, facilitating collaboration and knowledge exchange.

Role: Connectors act as connectors and relationship builders, cultivating a robust network of contacts and facilitating introductions between ecosystem participants to drive collective learning and growth.

CRITICAL FRIENDS

Description: Individuals or teams who challenge existing norms & assumptions, pushing for continuous improvement & innovation within the ecosystem.

Role: Critical thinkers question established practices, identify inefficiencies, and propose alternative strategies to drive innovation and progress.
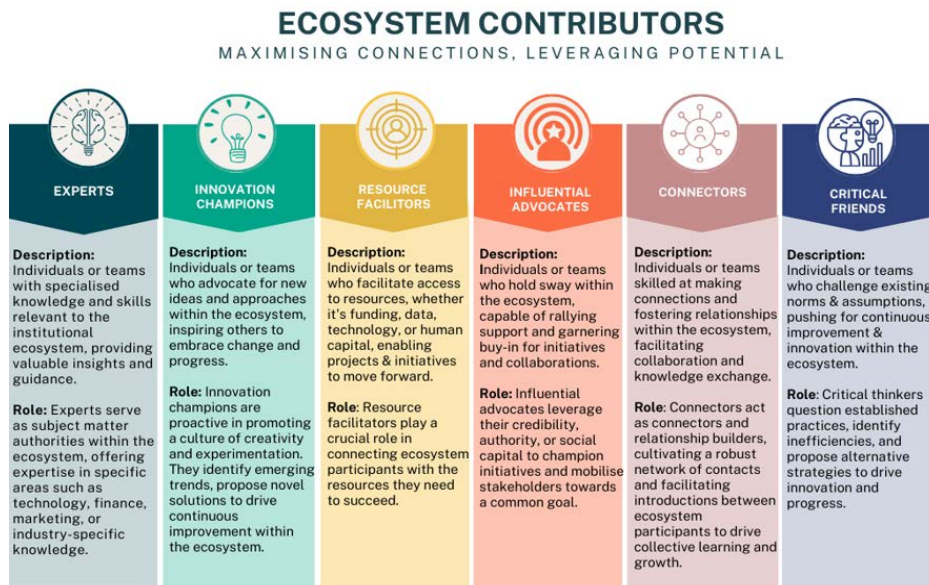
Figure 9.1: The Manchester Met institutional ecosystem framework.

Within the context of Career Registration, we have taken how we utilise the data on a journey, from niche internal careers dataset through to a core part of institutional decision-making and university-wide metrics. This has been achieved by, initially informally and latterly more consciously, leveraging the ecosystem approach.

Our Career Readiness Story: Evolution of Careers Registration at Manchester Met

At Manchester Met we first embedded Career Registration questions at online enrolment in 2016/17 Academic Year. Back then it was very much an internal careers service dataset. As a team, we used it to analyse trends within the categories and to target students based on their responses. For example, if a student indicated they had no prior work experience but would like to gain some, we would then target them with work experience opportunities.

In 2019/20 academic year we had three years of career readiness data to analyse as well as our first responses to the new sector survey to track graduate activity (the Graduate Outcomes Survey). This also felt particularly crucial as this new sector standard Graduate Outcomes Survey had replaced the previous DLHE survey, which included the change of survey period from 6 months to 15 months post-graduation. This meant that this new sector metric was actually a lagging indicator (whereby there is little we can do to alter the outcome as the graduates have already left). As this new survey and the data released from it was going to become the sector standard measurement of graduate activity which would feed into the UK League Tables, it quickly became one of our institutional key education Key Performance Indicators (KPIs).

We therefore felt it was an appropriate time to explore the relationship between these two surveys. In particular, we analysed the proportion of students going on to a positive graduate outcome and whether that varied by the career readiness categories they had chosen while studying with us. The results were staggering; **if a student was more career ready at entry to their final year, they were much more likely to go on to a positive graduate outcome.** Please see evidence of this in Figure 15.1 in our second case study. With this finding, as well as our new lagging education KPI, the results to our Career Readiness survey quickly became a lead indicator.

This finding also, crucially, gave us a story to tell far and wide across our institution. It was quickly shared across our service who went on to share it with a number of their stakeholders including senior leaders, academics, course leaders, employers etc.

As a result of our new lead indicator, as well as the story we were now telling, the Director of Careers and Employability requested that this survey be considered in our internal course annual quality review, our Educational Annual Reviews. Once this was agreed, we then had to build the CR responses into an interactive dashboard which could be considered in these review meetings and could also be explored by a number of stakeholders for a variety of reasons.

Over time this dataset and the insights derived from it became a key dataset across our institution. We now write reports on the latest findings, use it to measure the impact of our initiatives and have continued to update our dashboard to meet our many stakeholders and their needs of it.

Career Registration User Ecosystem

Now in 2023/24 academic year, we have come a long way from the initial exploration undertaken in 2019/20. Please see Figure 9.3 below which indicates who our current users are, how they use the data and insights and how they access it.
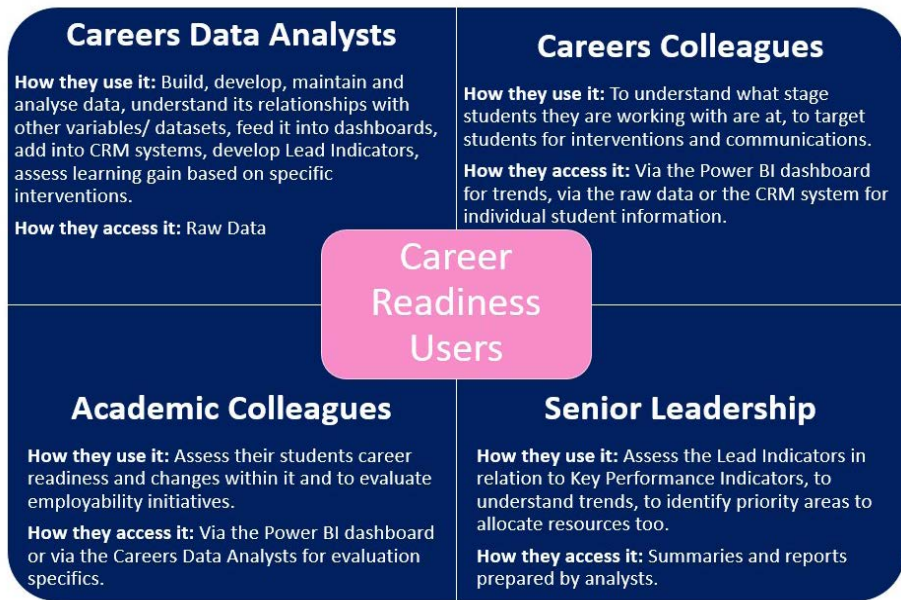
Figure 9.2: Career Registration Users, Manchester Met

Our approach to our users

It is worth noting that the schematic above represents where we feel we are now with our users. This has been a learning curve for all involved and we have constantly adapted our approach to ensure it works best for all stakeholders. The above approach has relied heavily on our data analysts; we have never found that dissemination of Careers Readiness data and the insights derived from it has been a one size fits all approach. We therefore spend a lot of time ensuring the data is available via many different sources to meet those varied needs such as interactive dashboards, raw data, building it into our CRM system, writing up summary reports and visuals indicating changes in lead indicators.

Once data is available there is the next, arguably more crucial, stage which is helping our end users 'use' it, understand it, draw insight from it and feel confident in all of the above. This is also time consuming and requires analysts who are also strong communicators with effective people skills. Some useful ways in which we have approach this is by:

- Recording videos of ourselves talking through our dashboard and indicating how users can derive insights from it.
- Providing data drop-in sessions for colleagues to come to the Data and Insights team with queries.
- Going to present dashboards and data in meetings to relevant stakeholders.
- Going and meeting with academics and filtering the data to their areas with them to help them pick out relevant insights.

Considerations of our story and our approach

Based on the story told in this case study there are a number of considerations we feel were crucial to the roll out of this dataset within our institution which should be considered for successful wide-spread awareness, knowledge of and effective use of this dataset and the insights derived from it.

- Senior leadership must value the data and the story it is telling and need confidence in using it to inform decisions.
- Resources are needed to analyse the data in house (data analysts) and strong communicators (data interpreters).
- Creating a dashboard is only part of the process, the data needs more in-depth interaction and analysis to draw out insight – only then can you showcase this more widely.
- Careers colleagues and academics need to have the skillset, ability and confidence to interpret the data and talk through the findings; analysts can develop this if they have availability to do so.
- Close professional relationship between the careers service and the academy is essential.
- The best way to get buy in and to develop partnerships outside of the service is to explore the relationship between Career Readiness and other key institutional datasets such as Progression, Attainment and Graduate Outcomes, without this it is really a Careers-only dataset.

- We would not have the partnerships we have, nor the wider Manchester Met interest, without having this dataset, and the dashboard it feeds, embedded as one of the key datasets within the organisation.

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10. The use of Career Registration data to develop and support employability initiatives

Leoni Russell, Luella C. Leon, Anna Branford and Julian Lee

Institutional Context

The Royal Melbourne Institute of Technology (RMIT) is an international university of technology, design and enterprise with more than 90,000 students globally. As a dual-sector university, the student cohort consists predominantly of undergraduate and postgraduate students, with approximately 20% of vocational education students. Along with the entire tertiary sector, RMIT is engaged with the complex task of securing strong employability outcomes for graduates.

Historically, the university's approach to employability initiatives has evolved through a range of strategies and interventions. In 2019, a process of program transformation entitled RMIT's *Ready for Life and Work Strategy* specified as priority that by 2020, RMIT graduates would be "widely recognised for their work-ready skills and sought after by recruiters and employers", able to "demonstrate and articulate their graduate attributes" and to "adapt to changing job markets" (RMIT, 2015, p. 11). The strategy specified an integrated approach to learning and work through every stage of the student journey, stating that "Work-integrated learning (WIL) is fundamental to the design, delivery and review of every program" and that "Enterprise opportunities are widely available and embedded in program design" (RMIT, 2015, p. 12).

At the time of writing, clear and specific Program and Course Policy requirements prescribe demonstrably scaffolded WIL and career development learning (CDL) across all RMIT curricula, ensuring their prominence across the student journey. A growing consensus in research supports the provision of this kind of learning in curricular (rather than co-curricular) settings to ensure equitable access and a contextualised learning experience (Bennett, 2018; Bridgstock et al, 2019; Bridgstock & Jackson, 2019; Dean et al., 2022). Career Registration (CR) data, now in use across RMIT, is used to support and inform the development and scaffolding of careers-focused learning in curricula. As this case study illustrates, CR data enables an iterative approach to strategically aligning career development learning experiences and employability initiatives with the evolving needs of RMIT's student cohorts.

Using data to inform employability initiatives

Through the process of integrating CR data into RMIT's approach to supporting students' career development and work readiness, complexities in the nature and use of the data have become clear. Careers practitioners have developed strategic and theory-informed approaches to support processes of interpretation, analysis and application. When used to inform and evaluate employability initiatives in a curriculum a nuanced approach is required, involving triangulation with a range of other data sets and insights, underpinned by scholarly research and theory. The development and nurturing of collaborative relationships between careers practitioners and educators is also key to RMIT's integration of CR data into its careers and employability-focus.

RMIT's careers practitioners support educators and learning designers to analyse CR data and to interpret it alongside other data sets such as Course Experience Surveys (CES), in which students provide feedback on the teaching quality and experience of their subjects. Educators are supported to develop and incorporate questions pertaining to career development learning. This enables access to qualitative data to complement the quantitative insights gained through CR. When strategically integrated in this way, complex data analysis offers rich, detailed and meaningful accounts of career readiness developing through

the student journey. Careers practitioners and educators are working together with these insights to scaffold Career Development Learning experiences into curriculum, drawing on key insights into student's self-perceptions of their career readiness and their accounts of related experiences through their studies.

Another significant data set analysed alongside CR data is the Graduate Outcome Survey (GOS) used to measure employability in Australian higher education institutions. Surveys are completed by students four months post-graduation, and again three years after graduation. The survey captures information such as employment status, type of employment, perceptions of qualifications, and further study pathways. Studies indicate an association between students' self-reported career readiness in CR data and actual graduate outcomes captured by data such as GOS, both in the UK (Cobb, 2019) and Australia (Lin-Stevens et al., forthcoming). Students identifying with higher career readiness stages are more likely to obtain employment. Although GOS data has significant limitations, most notably the incompleteness of the data set and the often very small sample size, connections between CR data and GOS data form part of RMIT's integrated approach to data analysis. Some of the limitations of GOS data highlight the value of CR data insights, such as the size and completeness of the data set, and the ability to gain insights into a time in which interventions can be developed and implemented – that is, while the student journey is still underway.

Careers practitioners and educators also work together to understand the labour markets and their influence on students' ideas and confidence regarding their career readiness, building these insights into data interpretations. Phenomena such as the Covid 19 pandemic, major developments in technologies such as AI and their impact on workforces, along with economic fluctuations all have capacity to impact on students' career confidence and sense of readiness. These insights also support appropriately complex and contextualised interpretations of CR data, supporting its role in understanding students' needs and concerns and shaping curricula accordingly.

CR data has significant implications and applications for employability initiatives focused on WIL. At RMIT, WIL is supported by information management systems, capturing the number of students

undertaking WIL and the types of experiences they engage with. Analysed alongside CR data, this WIL-focused data set creates a range of further opportunities for triangulation and cross-referencing. Firstly, it offers insight into an aspect of the fidelity of CR data, which relies on self-reporting of information such as access to industry projects and professional experience. Discrepancies, for example where WIL data reveals higher numbers of students undertaking WIL than are reported in CR data, can be used to understand more about the accuracy of the latter. Perhaps more importantly, this process of cross referencing may enable insights into students' understanding of their WIL experiences by indicating that they are not interpreting them as industry projects and professional experience. In response, the language used in communicating WIL activities to can be adjusted to frame this professional experience in ways that support students to understand the career asset it represents for them as graduates. Secondly, exploring the relationship between career readiness as indicated by CR data and WIL activities captured in WIL data management systems could demonstrate the effectiveness of WIL initiatives via shifts in career readiness regardless of direction, a point to be discussed further on (Lin-Stevens et al., forthcoming).

Illustration of practice

RMIT's Bachelor of International Studies provides a useful example of the workings of the described approaches to CR data in its capacity to inform employability initiatives at RMIT. It also exemplifies the importance of a complex, nuanced and theory-informed approach to the use of CR data to inform and shape curricula. The degree specialises in equipping students with competencies in cross-cultural communication, global analysis, international politics and development (Bell et al., 2021). It is, however, a degree that does not overtly lead to specific career outcomes. CR data for 2020 showed final year students identifying with the less ready categories of Decide (67%) and Plan (23%), with modest numbers in the more ready Compete (7%) and Sorted (3%) categories. Triangulating these insights with other data sources, such as student feedback, created a strong basis for redesigning content and assessment to better meet their career development needs. In collaboration with

careers practitioners and drawing from resources strategically designed for educators and curriculum developers, a set of interventions was designed to be scaffolded across each year level through the degree. These were structured to support career development and readiness appropriate to different stages mapped across the student journey (see Branford et al., 2024). In students' very first semester, students now encountered assessments and class activities that incorporated career development learning activities and prompts within one of their very first pieces of assessment. These foundations in career development were strengthened in second year in a class called Global Careers, covering strategies and specific steps students can take to discover and pursue suitable careers. In their final year, students had always taken an internship. Assessment redesign now revisited career development learning and supported students to produce artefacts relevant to the start of their career trajectories, such as resumes and prepared job interview responses.

In 2024, CR data for the degree still indicated that the most common category for final year students was Decide, followed by Plan, then Compete and lastly Sorted. At first glance, it may have been possible to assume that the interventions had been ineffective. However, a closer examination reveals notable shifts. These include much smaller proportions of students in the categories of Decide (49%) and Plan (22%), and more in Compete (16%) and Sorted (13%). Examination of the intervening years of 2021, 2022 and 2023 reveals that the movement in the numbers of students in each category shifted gradually year by year away from the less confident categories and towards the more confident categories. These shifts correlate with the step-by-step implementation of career development learning into students' coursework and assessments described above. A holistic view of employability in the student journey builds into its considerations the impact of economic and geopolitical uncertainties and a rapidly evolving job market still settling in the aftermath of a global pandemic. With this context, and with qualitative CES data adding students' voices to quantitative CR data insights, ongoing iterations of scaffolded learning experiences continue to evolve in the Bachelor of International Studies.

Future focus for CR data at RMIT University to inform employability initiatives

Moving forward, RMIT's use of CR data to inform curriculum is likely to focus increasingly on significant shifts in data as indicative of valuable learning taking place. This approach aligns with the principle of quality WIL curriculum design outlined by Smith et al. as containing "embedded, accessible, and *transformative* learning and assessment" (2023, p.107). The focus is distinct from one in which the ideal trajectory is understood as a simple, linear increase in students' sense of their own career readiness, denoted by a steady progression from *Decide* through to *Compete* and *Sorted*. As illustrated by the example of the Bachelor of International Studies, even exemplary approaches to career development learning may not be reflected by data in this way. A focus on data shifts, rather than linear 'progress', acknowledges the value of learning that challenges and disrupts students' sense of their career readiness. Career development theories of planned happenstance and chaos have long acknowledged and affirmed career journeys as dynamic and non-linear (Lin-Stephens et al, forthcoming). Kolb's (1984) model of 'experiential learning' represents cyclical processes of learning through experience, reflection and action. The influential DOTS model of career development (Law & Watts, 1977) supports a strongly non-linear conception of the acquisition of self-awareness, opportunity awareness, skills in decision making and navigating transitions. Given this emphasis in relevant theory, an approach to data collection processes that assumes linear modes of progress seems unlikely to make best use of insights into the complex student journey of career development.

Research highlights WIL as a point in the student journey characterised by rapid growth, challenge, development, confrontation, evaluation, re-evaluation and affirmation (Billet et al, 2011; Lee & Branford, 2024; Smith et al, 2019; Zegwaard et al, 2023). For these reasons, WIL is likely to shift into focus as RMIT's approach to CR data evolves. For example, Zegwaard & McCurdy (2017) point to WIL as a significant catalyst for undergraduate science students' decisions to pursue postgraduate studies. Students interviewed for the study offer their accounts of realising, through experiences and conversations

encountered during WIL, that greater opportunities were available to more qualified graduates, and that there was a significant difference in the workplace status of a technician (bachelor qualification) versus a scientist (post graduate qualification). Students also reported new confidence in their ability to tackle postgraduate qualifications. Had CR data been collected for these students, it is reasonable to speculate significant shifts coinciding with WIL. Studies also point to WIL as an experience that can actively challenge students' sense of their career readiness. Trede & Jackson found that for their sample of students, the greatest inhibiting factors in 'becoming a deliberate professional' through WIL were deficits they discovered in their own experience and skills compared with the expectations of employers, a mismatch which "unsettled their confidence" (2019, p.179). Studying the impacts of this kind of unsettling in emerging CR data, associated both with changing study plans and new awareness of professional deficit, should enable valuable insights to be explored.

A range of opportunities emerge when CR data is approached in this way. One is encouragement and affirmation of tertiary curricula that successfully challenge ill-founded confidence. This includes confidence that can be attributed to the Dunning-Kruger effect, a lack of understanding of industry demands, job markets, career pathways or opportunities, or unexamined values and career goals. As Cobb observes of this kind of scenario, "They will appear to go 'downwards' on the scale but their career thinking has become more realistic" (Cobb, 2019, p.23). Greater insights into fluctuations in students' career confidence, and likely alignments with key learning experiences such as WIL, have the potential for significant impact in their capacity to inform the development of curricula, most notably interventions to support the careful navigation of these key points in the student journey of career development.

This future direction should also support management of risks associated with a neoliberal culture of audit which can cause anxiety for educators and detriment to their curricula (Branford & Leon, forthcoming; Loveday, 2018). Heath & Burdon describe "regimes of oversight, accountability and audit which ensure every academic knows that [they are] constantly being watched and judged" (2013, p. 385). This unease can intersect with more general concerns regarding an

'employability agenda' in tertiary education, motivated by corporate and economic interests. Introduced and applied clumsily or uncritically, CR data may be at risk of contributing to these concerns by creating an unrealistic and counterproductive ideal, seeming to equate quality career development learning with clear, steady, measurable growth in students' self-reported career confidence. Working closely with theories of the complex, non-linear nature of career development, and its likely reflection in complex and fluctuating data, will be important for evolving applications of CR data across employability initiatives at RMIT.

Conclusion and recommendations

Drawing on experience of using CR data to inform and develop employability initiatives at RMIT, this case study concludes with a series of recommendations, as follows:

- While CR data can be usefully applied to identify and address problems in curriculum, it also offers significant value as a strategy for identifying, acknowledging and celebrating strength. RMIT careers practitioners foster and strengthen relationships with educators by building it into celebrated exemplars of best practice and coaching them to use it in applications for promotions and awards.
- Across the tertiary sector, concerns with scalability can lead to one-size-fits-all approaches. In analysing and applying CR data, careers practitioners can play a key role in ensuring flexibility, strategic triangulation and careful tailoring to support the needs of different university cultures, disciplines, educators, and student cohorts.
- Champions among leaders, educators, curriculum designers and learning designers support meaningful adoption of CR data within the culture of the university, and a 'train the trainer' model enables scalable usage with widespread benefit.

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11. Meeting students where they are: Career Readiness in real-time, through the VLE

Abi Blower

The Background

The pilot programme consisted of three sessions which were delivered with a group of 25 Year 2 BA(Hons) Childhood Studies students at the University of Huddersfield. The programme consisted of three 45-minute delivery sessions and were spread out across an academic year around an embedded placement module. The placement module requires all students in Year 2 to undertake 120 hours of placement related to their course/ future career option; most placements are unpaid and students have to source these opportunities themselves. Each session utilised the Career Planning model (Stanbury & Aydogan, 2021) and involved interactive activities within the University's virtual learning environment (VLE). Each student was given a Career Readiness workbook at the start of the first session which included all the activities within the programme.

Figure 11.1: University of Huddersfield Career Planning Model

The Sessions

Session One: Exploring Career Readiness

This session introduced the Career Planning model and contextualised each stage. A key part of this, and a fundamental concept of the model, was to ensure that the students understood that the aim was to address their own individual career readiness, and that it wasn't a competition. Explaining the use of the backwards and forwards arrows around each stage really highlighted that, depending on where they are in their education, career or even life can influence which stage they may be at in the Career Planning model. This helped them to develop an understanding that they might cycle through the different stages several times throughout their life, this model is not just relevant for students or recent graduates, but it is also true for those in established careers and it truly represents the moveable feast that a vast majority of people will experience throughout their working life.

After this introduction, the students were asked to access the VLE and to answer the Career Readiness Stage Survey by selecting the option that best matched their current stage of the career journey.

Once they had answered the survey they were then presented with their stage, including an explanation of what this may mean for them and directing them to further resources that would support them in fully engaging with this stage.

Once they had identified their stage, the students were split up and asked to move to sit at a table with other students in the same group as them. Asking the students to physically move was a powerful visual tool, not only for those delivering and observing the session to see where the majority of students were, but also for the students to see that they were not alone in their stage.

Once in their groups, the students were asked to reflect on their stage, to write down any questions this raised for them, and to identify what their next steps might be to try and answer those questions. They were encouraged to discuss this within their groups to help develop their lists of next steps.

Utilising the VLE in this way had several benefits. Firstly, we were able to track the responses in real time during the session, so we could see how many students had responded and what stages they were in. The majority of students were in the Explore or Decide stages during this session, which was in line with our own predictions prior to the students undertaking the survey. Secondly, there was a 100% response rate with this activity in session which was an excellent result in terms of student engagement.

Session Two: Career Readiness and Goal Setting

This session took place two weeks after the first and focussed on the students' setting goals for their placements, based on their stage in the Career Planning model. The session began with a reflective element, recapping the model and stages and asking them to think about the questions and next steps they had identified in the previous session.

Keeping in mind their identified stage, they were asked to develop 3 key goals for their placement. In order develop these goals, an adapted version of the GROW model (Whitmore, 2017) was utilised to assist them in developing meaningful and realistic goals and plans for how

they would achieve them. Most importantly this model encouraged them to reflect on obstacles or barriers that might prevent them from reaching their goals. Students were asked to discuss their goals in groups, and this discussion allowed them to not only utilise the perspectives and insights of their peers to develop their own goals but also to support their peers and assist them in identifying ways to achieve their goals.

This session had a key focus on reflection and resilience which are the core concepts underpinning the Career Planning Model.

Session Three: Career Readiness and reflecting on placement
This session took place five months after the second and was designed to happen after the students had completed their placement hours. The first part of the session asked the students to look at the goals they had set for placement and to consider whether they had been achieved; if they had not been achieved, they were asked to identify why they thought this was the case.

After looking at their goals, the students were asked to go back to the Career Readiness Stage Survey within the VLE and select the option that best matched their stage of career journey after placement. Once again, they were asked to move and sit with students in the same stage as them. As a whole group, we discussed that placement was an opportunity to try something they might be interested in and to see if it was the right kind of fit for them. Some students were still in Explore, some who had been in Decide had moved to Explore, and some who had been in Explore had moved to Decide.

Students were then asked to complete three sentences:

1. One thing I learned about myself on placement is
2. The impact that placement has had on my Career Readiness is
3. One goal I want to achieve moving forward is

They were then asked to discuss these in their groups. For this session we had two student facilitators who led the discussion and encouraged the students to think about their goals moving forward and how they might support each other to achieve them.

The session finished with a poignant reminder that they can keep coming back to the techniques learned in the programme. Career Readiness is fluid, constantly changing and the same can be said for us as human beings. Our lives and circumstances change, and this often changes what we want/need in our careers. It is important to be constantly reflecting on our skills, experiences, values, and priorities and using this to set new goals for the long and short term. Sometimes we will hit a bump in the road, or things may not go to plan, being resilient and knowing what the plan B is will help to weather these situations in a productive and effective way.

The Results

Due to utilising the VLE to undertake the Career Readiness Stage Survey it was possible to analyse the data and to track the students' responses from the first to the last session. The result of this was being able to see what had changed for the students in that time:

- 19 students remained in the same stage
- 3 students moved forward a stage
- 3 students moved backwards a stage

Being able to see these results was helpful in facilitating discussions with the students about their stages and about any changes they had experienced. The discussions taking place were incredibly positive, even for those students moving backwards a stage. They found placement to be an informative experience and felt that the Career Readiness programme had encouraged them to think more reflectively about what they wanted from their career. Enabling students to explore other opportunities and undertake more experiences to find the right fit for them is the ideal result of this programme.

The Feedback

After the completion of the pilot programme the students were asked to provide feedback anonymously through Microsoft Forms. Three

questions were asked and a total of 8 responses were received.

Figure 11.2: Student feedback results – Q1: Did you find the Careers Readiness session useful?

This was a really positive result, with all respondents saying they felt the majority of sessions were useful.

Figure 11.3: Student feedback results – Q2: Please select any sessions you found useful

Another really positive result here, with the respondents seeing the sessions as increasingly useful. The two sessions that primarily focused on that core concept of reflection being voted as the most useful sessions really highlights how beneficial embedding this into career development learning can be.

> ### Please let us know any positive or negative feedback you have on the sessions so that we can improve them for future students
>
> Really enjoyed it however would have been nice to speak to some people in different profession but then again that's why we have the fairs so not sure it's a negative !
>
> Having more than one member of staff in the session made the session more useful for me.
>
> They are helpful as it gives me some time to think about my future away from uni work and life itself.
>
> Maybe some course options that would be relevant to childhood studies students. Job titles that may be worth researching relevant to the course.
>
> Discussion on career paths

Table 11.1: Student feedback quotes in response to Q3: Please let us know any positive or negative feedback you have on the sessions so that we can improve them for future students

There were some great suggestions here in how the programme could be developed further and it highlighted the positives of having facilitators there in the final session to ensure that the discussion was effective and remained on track. It also shows the potential to include further sessions with a focus on employer engagement and postgraduate study options which could be tailored to the interests of the students based on their goals.

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12. PG Career Pathways: applying Career Readiness to postgraduate researchers

Sally Crosland and Gabriella Holt

Introduction

PG Career Pathways is an innovative, self-guided and tailored careers tool for postgraduate researchers (PGRs), comprising a diagnostic survey and tailored self-help guides, created at the University of Huddersfield. The PG Career Pathways project was developed in response to feedback from PGRs regarding the availability of careers and employability support specifically aimed towards a PGR cohort. The project is an ongoing exploration of an intervention based around Career Readiness in a cohort of PGRs at The University of Huddersfield, alongside highlighting the benefits of an ecosystem approach to the development of tools targeted towards specific populations.

Justification

Although the current landscape in HE shows a reduction in the number of academic posts (Smith McGloin & Wynne, 2022), institutions are remaining focused on increasing recruitment targets for postgraduate researchers. However, institutions are facing a number of challenges in PGR recruitment. The increasing cost of living is affecting the ability for PGRs to begin or continue their studies (Munro, 2022). Uncertainties

around international visa pathways means that PGRs are looking to other countries such as Germany and Canada as an alternative to UK study (Westphal & Ilieva, 2022). Alongside this, legacies from the COVID-19 pandemic include reduction in ability to deliver development opportunities for PGRs, and few institutions are self-reporting high levels of involvement in delivering specific PGR careers support (Smith McGloin & Wynne, 2022, p. 48). Despite challenges, as institutions target increased PGR recruitment, a wide range of career advice must be developed for PGRs focusing not only on career paths within academia, but also on academic-adjacent and non-academic options.

Tailored options and individualised self-development opportunities are therefore necessary, especially as the likelihood of PGRs staying in academia after completing their doctorate differs between specialisms (Rasmussen & Andreasen, 2023). Traditionally, there has been a reduced focus on PGR career aspirations outside of academia (Taylor & Vaughan, 2015), with training essentially viewed as a means of preparing for an academic career (Galimberti, 2023). However, in this rapidly changing landscape, allowing PGRs to explore tailored opportunities provides numerous benefits to both HE institutions and researchers themselves.

The disparity between expectations of a further career within academia and the reality of opportunities within the academic job market is shown to influence mental health and wellbeing of PGRs. Despite this, PGR employment remains a relatively under researched area (Hancock, 2020).

Studies conducted with postgraduate taught students suggest limited engagement with careers services, in part due to pressure from other commitments amongst a limited study period (Waite et al., 2021). PGRs may feel pressure to have decided on a specific career path before engaging with careers services, which is a potential barrier for engagement. Careers services rarely have dedicated PGR practitioners, although increasing engagement of researchers with careers support is a high priority across institutions (AGCAS, 2020). Post-pandemic, and in the current economic climate affecting higher education institutions, it is imperative to ensure that PGRs do not lose out on careers provision and that institutions retain a focus on provision of careers support.

Development of innovative careers provision addressing these challenges is therefore paramount.

It is especially important that this provision is tailored to the needs of PGRs, encompassing development opportunities that can be engaged in throughout the PGR lifecycle. Additionally, direction to resources and opportunities both within and outside of academia, and the involvement of the supervisory team as a means of guidance and support are also important factors. It is important to recognise that supervisors are not expected to act as careers professionals, but instead be aware of signposting opportunities for development (Henderson, 2024). Recommendations from UK Research and Innovation's (UKRI) 2022 Research Supervision Report include increased training for supervisors on PGR job placements. The Economic and Social Research Council's (ESRC) review of the PhD in the Social Sciences (Tazzyman et al., 2021) recommends increased supervisor knowledge surrounding job destinations and career possibilities.

With uncertainty around career prospects amongst the top three concerns of PGRs (Cornell, 2020), a solution to the highly individualised requirements of PGRs is needed. Postgraduates favour "sustained, tailored career support", but also recognise the benefit of self-analysis of their own training needs (UKGCE, 2022, p. 10). An intervention that bridges the need for both guided and self-directed development material is therefore applicable. A self-directed, accessible career tool allows PGRs to identify areas for relevant development. Discussion between the PGR and their supervisory team is of high importance, both in fostering a supportive environment and identifying further opportunities. As HE institutions tighten budgets, the existence of self-directed careers provision provides a solution both for PGRs and careers professionals as a low-cost intervention with high potential for impact.

Background

The UK HE sector is currently facing increased financial pressure, with tuition fees capped against a background of rising inflationary costs. Pricewaterhouse Cooper's UK HE financial sustainability report (Kett et al., 2024) highlights the need for institutional flexibility and innovation

in driving changes in workflow and increasing cost effectiveness across their operations. Amongst this uncertainty, careers services must be aware of potential reduction in resources. Therefore, it is imperative that the HE careers sector looks to develop innovative tools that allow sustainable careers and employability guidance.

The lack of resources has significance, as a majority of HE careers services are asked to serve a PGR/Early Career Researcher (ECR) audience without dedicated resourcing. AGCAS (2018) reported that allocation for postdoctoral fellows comprised only 2.5% of careers service delivery, with almost half of surveyed careers services reporting 0% allocation of support for postdoctoral fellows. (AGCAS, 2020, p. 4). Whilst this research focuses on postdoctoral researchers, it reflects the general postgraduate provision within the sector. Similarly, general financial challenges and regulatory pressure to focus on home undergraduates exacerbate this issue. More specifically, work around identifying Career Readiness has also been Undergraduate-centric, a trend reproduced by regulatory pressure in the sector. Without dedicated funding, the diverse PGR community can easily fall below the radar, tailored PGR career advice is lacking, and this specific guidance is vital for those who are soon to enter the workforce after postgraduate study.

Focusing on how PGRs experience an innovative self-guided learning tool for careers advice is therefore a key point of cost-effective development for the HE careers sector. By creating autonomous resources this project has shown the ability to reduce the amount of hands-on, career specialist time necessary to provide a cohort of postgraduate researchers with personal guidance. McCash (2006) explains the importance of encouraging innovation, where students can become their own career researchers, advocating for students (including PGRs) to take an active role in their learning, as a critical and intellectual activity. By placing ownership with students, careers services are saving valuable time and money whilst building students' confidence, career readiness and intellectual responsibility; arguably cornerstone concepts of HE.

In a similar way, placing careers services in new online formats saves the service time and money. The use of technology approaches in HE careers services is supported by the 2021 issue of AGCAS journal 'Phoenix' which advocates for and discusses the benefits of new technologies:

"Online delivery has enabled creativity and innovation, sparked smarter ways of delivering interventions (…) increased the scale and reach of careers and employability in the curriculum, provided advances in services' operational efficiency, enhanced the student experience, improved stakeholder engagement locally, nationally and globally, and helped careers teams to feel better connected" (AGCAS, 2021. p. 1).

This is a compelling list of advantages for using new technologies in the HE careers provision. This also evidences the advantages of online services to interconnect an institution and foster a functioning ecosystem. Through combining the online learning environment with bespoke learning packages, the tool also supports students to increase their employability adaptability and creates space for personal development planning (Teychenne et al., 2019).

Development & Piloting

Following feedback collated by PGR representatives, an initial survey of PGRs indicated that there was a need to create equal access to tailored careers advice across the university specifically directed at PGRs. Feedback was collected from PGRs in all Schools, with participants, aged between 18 and 64, studying a variety of postgraduate courses. The questions covered four categories: affective, cognitive, behavioural and supervisory, to explore PGRs' confidence in finding relevant careers advice, ability to use appropriate tools and relate their career plans to their supervisors. Results indicated that scores on each category differed between Schools, suggesting an inequality of provision for PGRs.

PGRs were also asked for their thoughts and suggestions regarding current support, training and development provision at the university. Feedback highlighted that PGRs would benefit from advice regarding careers outside research, for example in industry. Additionally, students would value input from their supervisory team in relation to their career development, echoing the findings of the ESRC review (Tazzyman et al., 2021) recommending increased supervisor knowledge surrounding job destinations and career possibilities.

An ecosystem approach was imperative for collaborative development of the PG Career Pathways tool. Stakeholders included the university

Graduate School, Careers and Employability, postgraduate researchers, academics and other members of professional services. With a basis born from PGR feedback, the PG Career Pathways tool was co-developed with the aforementioned ecosystem over a 17-month period. The initial concept of the tool was to use the Huddersfield Career Planning Model (2024, as cited in Gilworth & Stanbury, 2024) to underpin a diagnostic questionnaire. The Huddersfield Career Planning Model was elaborated from the existing Career Registration categorisations (Gilworth & Stanbury, 2024). The model includes five elements which span the planning cycle: explore, decide, prepare, apply, develop; reflection and resilience are also important elements which are relevant at every stage. These five stages encompass the vast range of career experiences PGRs come into postgraduate study with, some having come straight from education and others having had years of experience in the workforce.

Several questions were developed reflecting each of the individual elements of the Huddersfield Career Planning Model, and these questions evaluated by postgraduates for comprehension. Following feedback, a second diagnostic stage was added to ascertain whether students wanted to work in academia or continue into other roles including self-employment, academic-adjacent careers, or careers removed from academia. Alongside the diagnostic questionnaire, several self-help tools were developed to match each diagnostic category, based on the COM-B model of behavioural change, providing the student with a tailored selection of development tools based on their questionnaire answers. COM-B proposes a model of personal change dependent on three interrelated factors: capability, opportunity and motivation (Pilat & Krastev, 2023). The tools were then edited for clarity and referencing, and accessible pdfs were designed and formatted.

Once finalised, the PG Career Pathways tool was initially piloted in a small cohort of PGRs at the University, who were asked for their feedback regarding the accessibility, ease of use, style of questions, and usefulness and relevance of the individualised self-help tools.

In consultation with the Graduate School, the tool was embedded into the second-year assessment point. PGRs must complete a form to prove engagement with the PG Career Pathways tool which is embedded in their assessment documents. PGRs are required to discuss the

outcome of the diagnostic tool with their supervisor and indicate that the discussion has taken place. This engagement is then validated by the assessor. The full process surrounding PG Career Pathways was again piloted in a cohort of PGRs taking their second-year assessment, with a voluntary option available to complete the diagnostic tool and discuss the result with their supervisors. As of August 2024, PG Career Pathways became a mandatory part of the second assessment point for PGRs at the University of Huddersfield.

Integrating Careers Readiness

The current project builds on the widespread use of the Careers Registration Model (Gilworth & Thambar, 2013) as a successful method of careers readiness data collection. A pilot project completed in 2018, evaluating Careers Registration as a measure of career readiness learning gain (HEFCE, 2018), highlighted not only the importance of careers readiness in the evaluation of employability strategies and undergraduate engagement metrics, but additionally the importance of careers readiness data as a driver of HE strategy. Longer term, the implementation of large-scale data collection allows careers and employability services to develop targeted solutions for student cohorts (Cobb et al., 2019). The further development of the Careers Readiness Questionnaire (CRQ) at the University of Huddersfield has expanded elements of the original questionnaire whilst retaining clarity and relevance to a PGR cohort (Gilworth & Stanbury, 2024).

The value to institutions of a targeted approach to undergraduate career development needs has implications in graduate outcome and employability metrics – however, data is lacking on similar interventions for postgraduate (PGR) cohorts. The unique requirements of diverse PGR communities present HE institutions with a specific challenge – the provision of targeted training and development opportunities with relevance to a wide-ranging researcher population, of differing specialisms and levels of experience. As institutions focus on student engagement with careers and employability services, the Careers Readiness model ensures that a level of engagement with every student is created (Gilworth, 2023) – allowing students to identify their current

situation and from there, plan in training and development needs. This approach has obvious applicability to PGRs. Allowing PGRs to take control of their own development journey ensures that they experience a more individualised form of careers and employability support, matching their specific needs and creating a personal engagement with targeted development materials. Henceforth, the application of a careers-readiness based approach to PGR careers and employability explores the applicability of this model to the unique needs of diverse postgraduate populations.

Future Opportunities

Further evaluation of PG Career Pathways will allow for exploration of the student/supervisor nexus and how best to situate the supervisory relationship within a PGRs career journey, with potential relevance for ECRs and postdocs. Moreover, PG Career Pathways goes some way towards breaking down barriers for engagement with careers, where a lack of confidence has previously existed.

The PG Career Pathways Tool enables an institution to collect broad data sets which track efficiency of interventions across cohorts and can be implement at institution-specific assessment points. The need to further understand PGR career culture is highlighted by ever changing institutional trends. The PG Career Pathways Tool can be implemented at key points throughout the postgraduate journey to illustrate the impact of these changes. PGR outcome data can highlight routes into a variety of employment opportunities, both within and outside of academia, with links to evaluative data adding a depth of understanding as to why PGRs choose certain routes. Understanding job market relevance has potential to inform development of targeted policies for PGRs, postdocs and ECRs.

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SECTION 4: CAREEER READINESS AND INSTITUTIONAL STRATEGY

13. Enabling our Student Opportunities and Futures Strategy: developing and embedding new performance indicators and aligning to corporate KPIs

Karen Burland and Jane Campbell

Introduction

One of the historic challenges facing those working to support student employability relates to responsibility: Who is responsible for developing the strategic direction? Who is responsible for directing enabling activities? Who is responsible for providing direct support to the students? Often the answer to each of these questions has been 'Careers Service Teams'. Consequently, student employability has been associated primarily with extra-curricular activities, supported beyond the curriculum. This chapter shares the strategic approach we have taken at the University of Leeds to work in partnership to share responsibility for supporting student futures. Our approach speaks to the research-led agenda prevalent with the Russell Group of universities, is closely framed by a new University Strategy (Universal Values, Global Change 2020-2030) and a major cross-institution curriculum change programme (Curriculum Redefined): working in partnership within this context has influenced changes to our strategic vision and the development of new institutional Key Performance Indicators and has led to new initiatives

designed to empower all educators to support student futures – within and without the curriculum.

A *partnership approach*

The University's new strategy and the launch of our curriculum change programme 'Curriculum Redefined' provided an opportunity to revisit our approach to supporting student employability. The 'Surfacing Skills' initiative, led by members of the Student Careers Team, had been instigated shortly before these new strategies/projects were introduced and the team took this opportunity to appoint an Academic Lead for Surfacing Skills. The lead had a background in researching employability within her discipline area (Music) and her research-led approach meant that she became an important bridge between the professional services team and the academic community. In particular, she provided insights into the concerns and priorities of academic educators when developing new courses, emphasising the focus on discipline knowledge and workload implications of innovation and creativity; the team worked to develop a series of resources and 'How To' guides that would make the process as straightforward as possible and as a result they gained a strong reputation for being supportive, pragmatic and collaborative, enabling discussions of skills that were framed by the discipline and therefore relevant to both developing subject knowledge and employability skills.

The Academic Lead joined the then University Employability Group spearheading a renewed vision for student employability. Collaborating with the Head of Student Careers they demonstrated that leadership transcended any specific part of the university. Through workshops involving stakeholders (staff, students, external partners) a refreshed vision for student employability emerged. This vision was then shared for consultation more widely; here, the position of the Employability Group within the deliberative structures was important; it reported 'up' into the Taught Student Education Board, which meant that it was discussed at the highest strategic level in relation to the other strategic priorities, whilst also feeding 'down' to academic and professional services colleagues within Faculties and Schools who were closer to the 'on the ground' activities.

This wide consultation was purposeful and necessary if we were going to succeed in changing the institutional approach to support student employability. The language of the strategy shifted to a focus on 'Student Opportunities and Futures' with a clear mission of "Empowering a meaningful and healthy attitude to their futures for all our students". We established four Enabling Themes:

1. *A Professional Literacy Approach to Curriculum Design and Delivery*
   Being professionally literate involves an individual's ability to understand, define and reflect upon what success means to them and to then take personal responsibility for identifying the attributes, skills and behaviours they wish to develop. We will support them to understand the relevance and connection of their curriculum experience to that of the working world and make appropriate decisions to enable them to embark on a successful career.
2. *Support, Expertise and Collaboration*
   We will provide a diverse range of expert information, advice and guidance to all students and graduates through a range of events, support meetings and resources. We will work in partnership with colleagues across the university, as well as with alumni, employers and other Higher Education institutions. We will ensure that colleagues have the right training and support to deliver the strategy.
3. *Local, National and Global Opportunities*
   We will provide opportunities for students to build awareness of the ways in which they can make a difference and develop as global citizens. We will provide opportunities for students to gain an international perspective overseas, at Leeds and through online activities, and work with external employers/partners to enhance mutually beneficial opportunities such as internships, volunteering and graduate jobs. We will support students to develop their social capital through building professional relationships and networks.

4. *Enterprise*

   Students can access enterprise and entrepreneurial opportunities across the university, and we will provide an ecosystem for enterprise learning both within and beyond the curriculum. All students and graduates (up to 7 years post-graduation) will be able to access entrepreneurial support through SPARK in order to establish their own start-up opportunities

The ambition of the Student Opportunities and Futures strategy, its co-creation, and the way in which it shapes our enabling activities are informed by research and a recognition that successful outcomes for students will rely on a sense of shared responsibility which makes the most of the expertise and knowledge of different stakeholders:

> "...all stakeholders play their part in creating an ethical, sustainable and culturally enriching ecosystem, but with more equitable cultural capital, particularly for those emerging as novice professionals from higher education. Here we arrive at an expanded employability narrative: an employability ecosystem...with students at the centre. Paradoxically, we envision this centre to be more decentered to allow for greater diversity of experience, greater differentiation of identities, and greater awareness of the power of excluding dominant narratives (Burland et al., 2022).

The shift in tone and focus of the strategy creates interesting challenges, since it demands a move away from a metric-driven approach to measuring student outcomes towards a more student-centred focus, which responds to their personal lived experiences and desired futures. Being flexible about the times, spaces and places for students to reflect is therefore critical, and cannot only happen in a silo, dependent upon a student signing up for an extra-curricular career intervention, for example.

Understanding what this shift might mean for students was also vital. Key insights into student motivations and needs were provided by a team of student interns who developed a student-facing version of our strategy. We worked in partnership with them to understand how they wish to receive information and what prompts them to engage with information.

Their insights confirmed that a student-centred approach was the right one; they wanted to feel that available support and opportunities were targeted/personalised, meaningful, relevant and inspired action. We have shared their insights (alongside the student-version of the strategy and the supporting film) with colleagues with the aim to ensure that all messages to students follow their guidelines.

As a summary of where we are now in the development and delivery of our strategy, we co-lead the new Student Opportunities and Futures Strategy Implementation Group, ensuring that different perspectives, approaches, opportunities and audiences are heard and represented, within and beyond the curriculum. The group's wide-ranging membership, including academic, professional services, and student representation from across the university emphasises the shared responsibility of supporting Student Futures. Establishing how to realise our ambition more fully across the university ecosystem was more challenging and relied on the development of key data sets to stimulate conversation and support local decision-making.

Using Career Readiness data to support decision-making

As the University was in the process of developing the Key Performance Indicators (KPIs) for the 2020-2030 Strategy, a mapping exercise was undertaken to examine the extent to which the metrics used previously (specifically those which focused on the level of graduate employment and numbers of students in Further Study) aligned with principles the institution had established for setting the new KPIs (which included how we helped students to 'make a difference in the world' and 'develop the knowledge and skills they need to succeed and make a positive impact in the world' (University Strategy, 2020-2030)). The previous metrics did not meet the required threshold and alternatives were explored. At this point, the Graduate Voice questions were considered and deemed to meet the required principles in full. Therefore, the KPI changed to the three Graduate Voice questions, 'Graduates feel their work is meaningful, important, uses what they have learned and fits with future plans', and was adopted in 2022.

This approach aligned strongly with the mission of our strategy and brought into focus the need to more directly help students to reflect on their future plans, the kinds of work that would be meaningful for them, and to recognise the skills and knowledge being developed through their programmes. Equally importantly, the new KPI provided a mandate and institutional support for our approach and the work already in progress (particularly the Surfacing Skills project). However, Graduate Outcomes data, gathered 15 months after graduation, proved relatively unhelpful for monitoring and planning strategic efforts during a student's university journey. To address this, we sought additional real-time data, accessible to various stakeholders, reinforcing our distributed model of responsibility.

Using strategy to develop Performance Indicators

A sub-group of the Student Opportunities and Futures Strategy Implementation Group was established to identify which of our available indicators would provide an overall view of our performance in implementing the strategy. The group led by the Student Careers Student Opportunity Insights and Engagement Manager consisted of individuals representing different elements of the Student Futures Ecosystem – those working within the curriculum (including academic and professional service educators) and in co-/extra-curricular spaces; careers, mentoring, and global opportunities staff; professional services staff responsible for the development of academic and digital skills; and employer and student representation.

Using our four enabling themes as the strategic focus, we identified the range of possible indicators that we could access using university-supported systems (i.e. Career Readiness data, our careers platform MyCareer (and linked third-party systems), the Global Mobility Tool etc.) and gradually whittled the list down to a comprehensive yet manageable list. Work on how to analyse and present the data meaningfully was then undertaken and resulted in a dashboard which provides insights into individual student journeys at scale, measured in a positive or negative state for each of the different data points.

While the dashboard includes indicators relating to numbers of students who access particular kinds of opportunities (e.g. volunteering,

using digital tools or accessing careers counselling, placements/study abroad, accessing mentoring), Career Readiness data is vital for understanding the impact on students. By mapping a student's Career Readiness statement with engagement in support we are now better equipped to identify the impact of the interventions we develop and offer students more of the tailored support they crave – by making suggestions of activities they could try or resources they might access. Activities which embed the use of the Career Readiness statements throughout the year (rather than only at the point of registration) provide additional layers of insight too (see chapter 7).

The dashboard has been deliberately designed (and tested) with a range of stakeholders in mind. Rather than sit within Student Careers teams, it can be used by all educators; it forms part of datasets provided to Schools in their Annual Reviews, and academic and Careers employability leads use the data as they develop their annual action plans. This is central to our distributed approach to supporting Student Futures, which also provides us with opportunities to receive feedback on which other sources of data could be included. Regular review of the dashboard is vital, and it has just been revised, following the same process as when it was developed, to include new sources of data (for example, National Student Survey Question 9). Equally important to the way this work is received by academic colleagues is the fact that the institutional corporate KPI was also reviewed after we received the sector data in 2023; it was clear that the benchmark for the 'skills' question was unachievable within the context of the sector, and so it was refined to a more achievable, yet stretching, goal. This was reassuring for colleagues, and more motivating than what was seen previously to be an unobtainable target.

While supporting students is our priority, this work is also vital for measuring educational gain – enabling us more easily to understand the extent to which students are achieving their, and our, intended learning goals and recognising their developing skills and knowledge (Westerlund & Gaunt, 2022). With the largest data set of Career Readiness data, we are uniquely situated to understand the long-term impact of student experiences and using the insights to target interventions at those who have 'not started thinking' is its enabling superpower.

The ongoing puzzle of curriculum

As we were refining the Performance Indicators at the same time as our curriculum change programme was being launched, it was important to consider the impact of curriculum on Career Readiness; after all, the curriculum is the only place we can be sure we are reaching all students and encouraging them to think about their desired futures. This was, and still is, a sticky problem. It pointed to the need to capture information that could indicate that students were acquiring particular skills or knowledge, or being exposed to learning opportunities or assessments that could help them work towards their future working lives. However, there was no clear way to do this. Therefore, we lobbied for new modules and programmes (being developed as part of Curriculum Redefined) to include distinct articulation of Skills Learning Outcomes; this provided an indicator of the types of skills being developed that could, over time, be incorporated into the dashboard (though this work is still in progress). This could be extended to include types of learning activity (for example, activities that might be considered as experiential learning) or authentic assessment types (e.g. podcasts, project pitches, evaluation reports). Working with the limits of clunky corporate systems is an ongoing challenge, but one we will continue to tackle.

What has worked in our context?

Any strategic development depends on the local context (Elbanna et al., 2020), and our approach's traction has benefited from alignment with the new University Strategy and Curriculum Redefined which shape the activities of all staff. Empowering the Student Futures Ecosystem has been vital for ensuring our activities are meaningful and developing the strategy for Career Readiness Data has been a key vehicle for empowering all educators to engage in this important area of work. Our top tips for working in partnership to enable strategy are:

- Develop a shared, co-created, mission and vision, supported and amplified by student engagement

- Align your vision with key university strategies and embedding activities within core curriculum work (e.g. Quality Assurance processes)
- Ensure systemic commitment to working in partnership – model the positive impact of academic-professional services collaboration and complementary knowledge and expertise.
- Actively seek and respond to feedback via meaningful and widespread consultation
- Ensure strategic alignment of data to enabling themes
- Achieve advocacy and reach via formal structures
- Ensure you work with compassion and understanding of the challenges faced by the different educators that work on campus

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14. Career Readiness and KPIs: establishing the link and delivering benefit to students

Andy Blunt

Linking Career Readiness and Outcomes

Like many institutions, the University of Leeds endeavoured to find a lead indicator for graduate destinations. In 2019, the Careers team undertook some analysis on numerous years of data from the Destinations of Leavers of Higher Education survey to try to understand if there were on-course factors that could help future efforts to overcome the challenges posed by the delay in survey timelines. This led to Career Readiness being unearthed as a major influencer in 'Graduate Prospects' and developing a new approach to monitoring individual student progress, aggregated at scale to understand on-course performance.

It was the summer of '19

In 2019, the Higher Education Statistics Agency (HESA) changed how we measure graduate destinations with a move from Destination of Leavers from Higher Education Survey (DLHE) to the Graduate Outcomes Survey (HESA, n.d.). This decision had a significant impact on the reporting landscape, because it now meant that data would be collected 15 months after graduation (whereas DLHE was conducted six months after graduation); the happy consequence of the transition

between the two surveys was an unexpected period of time in which the Data Analytics team could turn their attention to other much-needed strategic work.

This meant that we had a brief hiatus in the standard academic cycle which enabled us to focus on things that we did not usually have capacity for. It was during this period that the University of Leeds completed embedding its new conceptual model (see case study in Chapter 5) and we now found ourselves with the headspace needed to unpick a problem that we had been wanting to tackle for quite some time.

The problem related to the fact that graduate destinations data are end-result lag data - which means that by the time we have an understanding of whether our efforts to support students have been positive, it is too late to do anything about it for that cohort and for the next cohort too (who would be graduating at the same time as we received the results). The reality of the change to the Graduate Outcomes Survey was a two-year delay in receiving the data about a particular cohort – far from ideal when you consider the importance of the data for regulatory influence (Office for Students, n.d.) and, most importantly, for helping us to ensure that our graduates go on to have happy and meaningful futures.

With our new-found time, we planned a major project…on graduate destinations!! Our project endeavoured to find an indicator (or indicators) that relates to students while they still studying at the university that would give us insight into their likely chances of arriving at their happy, meaningful future.

The spaghetti principle

First, we merged the last five years of the old graduate destinations survey (DLHE). Then we added every dataset we could which related to activities students undertake while they are studying with us. We included information about engagement with services provided by the Student Careers Service, uptake of modules on which Careers Service taught, and every other factor that we could identify about the individuals to account for nuance (e.g. key demographic information, entry tariffs, attainment, studying a work placement year or study abroad).

Once we had collated and merged these data into a single (very large) table format, we weren't fully sure what to do with it. Back then we had been given the keys to a trial run of Microsoft's Power BI platform and we noticed there was a 'key influencers' visualisation. Our key aim was to find out whether a graduate was in graduate-level employment or further study (known as Graduate Prospects); with this parameter set, we then looked at the influence of the factors we had identified. Power BI struggled to cope with the sheer volume of data, and so we grouped attributes to assess their influence looking at three to four characteristics at a time until we had narrowed down the list to a handful of characteristics that seemed to have the most influence. We found that final year Career Readiness statement was always an influencing factor, as were factors relating to level of study, fee status, attainment, subject area, region of residence, POLAR4 quintile (Office for Students, n.d.) and ethnic group.

After substantial modelling, we found that health profession programmes (such as medicine or dentistry courses) were performing differently to other subject areas. Their Graduate Prospects were extremely high (e.g. 95-99%), and no other factors were a reliable indicator of Graduate Prospects for these graduates – graduating from those programmes was enough for predicting their likely outcome. The same could not be said for our non-health profession programmes. When we looked at this group, we found that Postgraduate Research and Postgraduate Taught programmes differed from Undergraduate programmes; the fee status of undergraduate students influenced the relationship too. We concluded that there was likely to be a relationship between Career Readiness data and their likelihood of achieving a positive Graduate Prospect (figure 14.1).
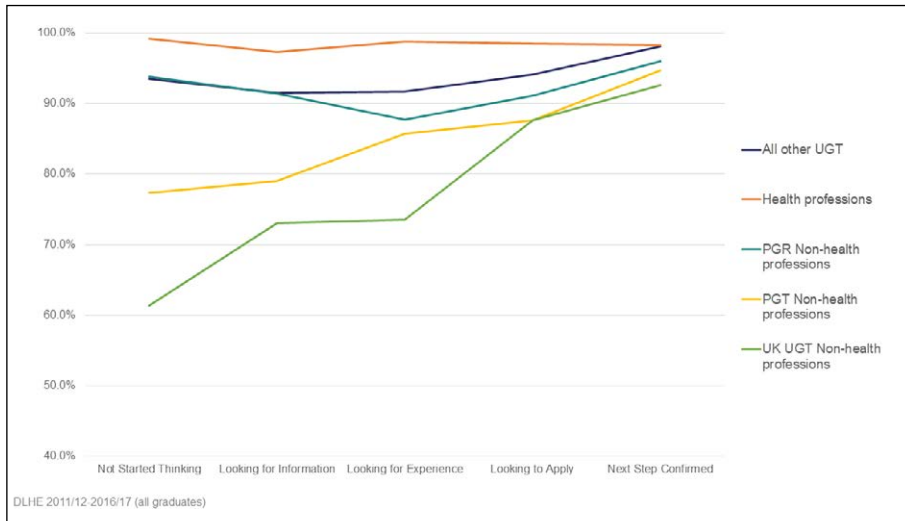
Figure 14.1: Relationship between Graduate Prospects (% of graduates in graduate-level employment or further study) and final year Career Readiness category, by student group, DLHE 2011/12-2016/17 (all graduates)

Establishing an observational association

Having identified the relationship, we then focused on creating visual representations of the data and on some additional analysis. We focused on our UK undergraduate non-health profession cohort as the relationship was strongest with this cohort and the sample size was by far the largest, with some 15,000 graduates. The relationships articulated below were also observed in our Postgraduate Taught non-health profession programmes, but the relationship was not as strong, and the sample sizes are smaller.

It is important to note that no-one in the team is by any means a statistician by profession, but data analysts. As such, we understand the principles of explorative analysis and we conducted exhaustive analysis of the available data to understand observable relationships. That led to a series of charts that highlighted an observational association between final year Career Readiness category and Graduate Prospects. Figures 2-6 highlight the most prominent findings which relate to Graduate Prospects and the factors of attainment (figure 14.2), subject area

(figure 14.3), region of residence (figure 14.4), POLAR4 quintile (figure 14.5) and ethnic group (figure 14.6). In each of these charts, we made the decision to suppress data points that were less than one hundred graduates to increase our confidence in the data.
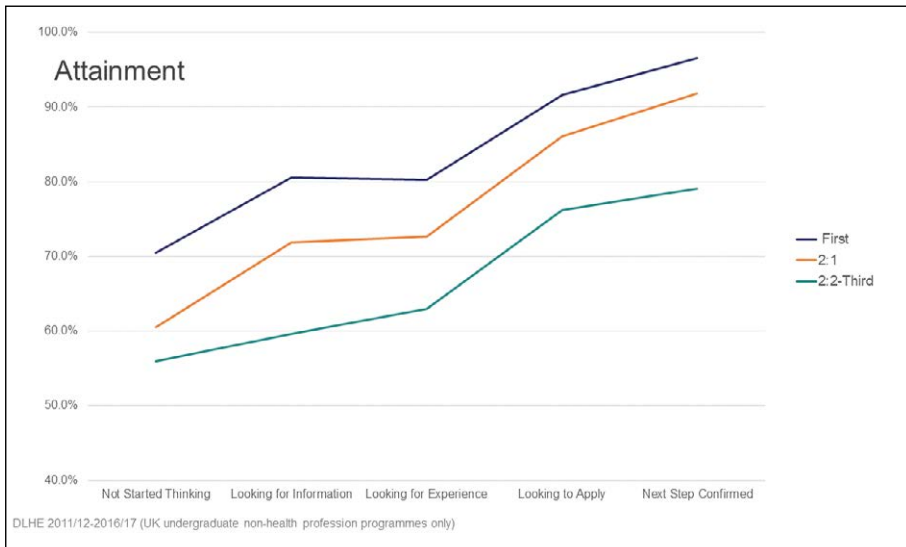

Figure 14.2: Relationship between Graduate Prospects (% of graduates in graduate-level employment or further study) and final year Career Readiness category, by student attainment (degree classification), DLHE 2011/12-2016/17 (UK undergraduates, non-health profession programmes)
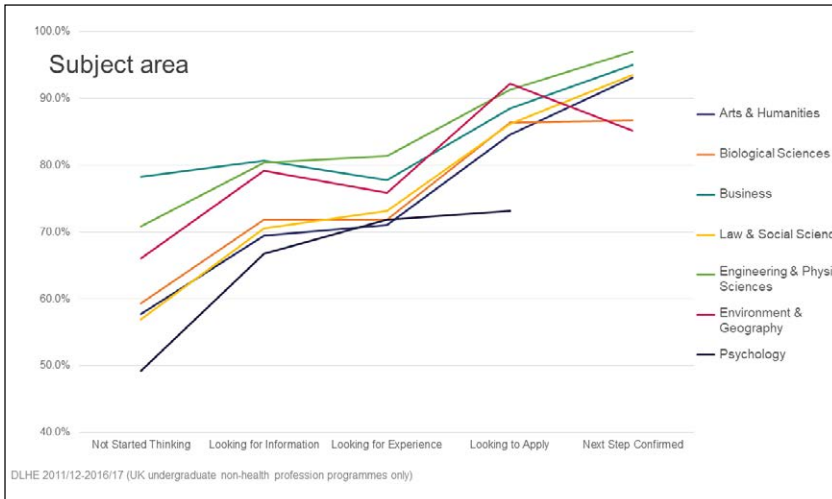
Figure 14.3: Relationship between Graduate Prospects (% of graduates in graduate-level employment or further study) and final year Career Readiness category, by student subject area, DLHE 2011/12-2016/17 (UK undergraduates, non-health profession programmes)
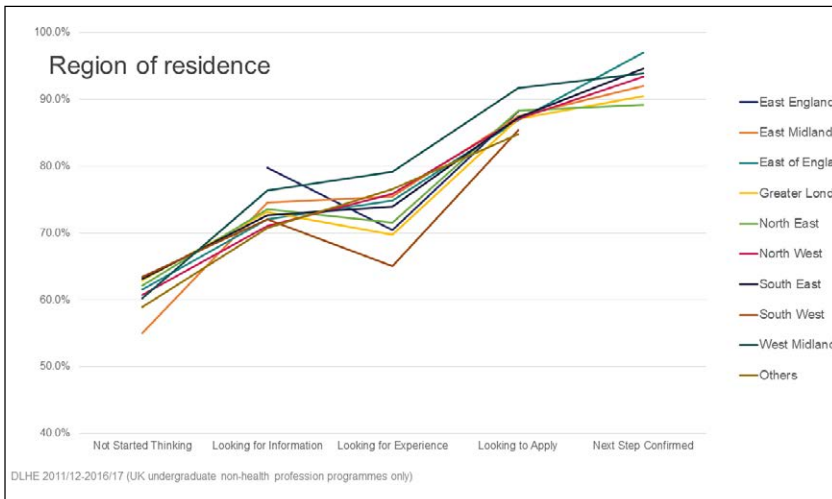

Figure 14.4: Relationship between Graduate Prospects (% of graduates in graduate-level employment or further study) and final year Career Readiness category, by student region of residence, DLHE 2011/12-2016/17 (UK undergraduates, non-health profession programmes)
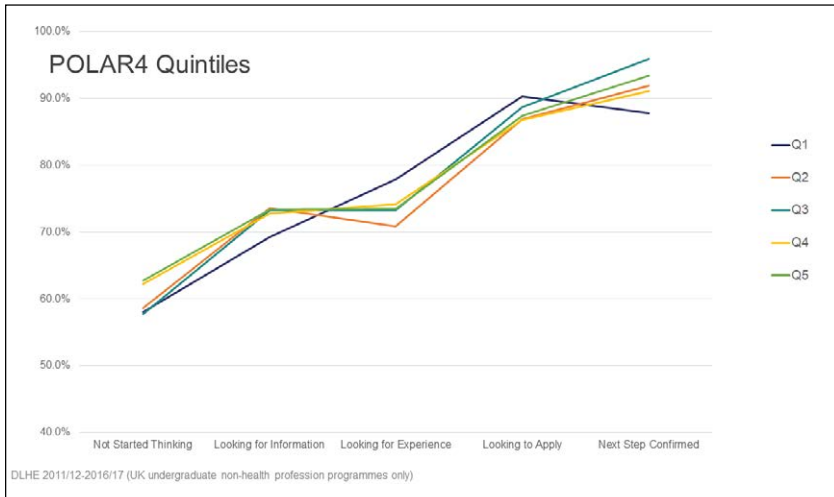
Figure 14.5: Relationship between Graduate Prospects (% of graduates in graduate-level employment or further study) and final year Career Readiness category, by POLAR4 quintile (where 1 represents students from local areas with the lowest level of 18-19yr old participation in higher education, and 5 represents the students from local areas with the highest level), DLHE 2011/12-2016/17 (UK undergraduates, non-health profession programmes)
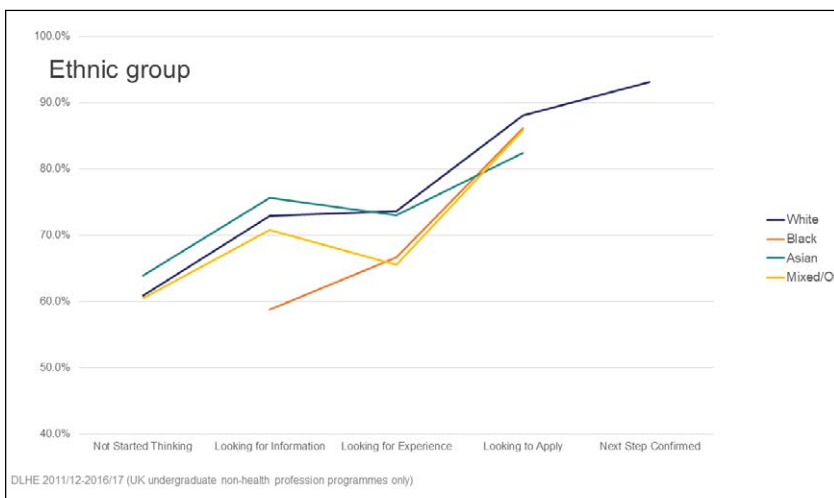

Figure 14.6: Relationship between Graduate Prospects (% of graduates in graduate-level employment or further study) and final year Career Readiness category, by student ethnic group, DLHE 2011/12-2016/17 (UK undergraduates, non-health profession programmes)

These charts were ultimately enough to begin conversations about how we use Career Readiness data at the University of Leeds and its potential value as a dataset. The difference between entering final year in the lowest category ("Not started thinking") and the highest category ("Next step confirmed") was a 30.7 percentage point difference in positive Graduate Prospects. This is a highly compelling insight and, unlike a number of the other influencing factors, actively planning for their future while entering their final year is an element which students can impact and change, during their time at university, whatever their starting point.

Searching for significance

A number of years later, working with colleagues in partnership with our central Business Intelligence and Data Analytics team and an analyst in our Lifelong Learning Centre, we applied some inferential statistics to understand the veracity of this relationship. The goal was to understand whether this observational association had statistical validity. We ran a chi-squared analysis, and the relationship between Career Readiness and Graduate Prospect was highly significant ($X2(1, N=14,904)$, 588.66, p=0.00000 (with Bonferroni correction)).

It was at this point that whilst we wanted to progress the work into logistic regression analysis, we were very mindful that the data was increasingly dated and, with the emergence of the new Graduate Outcomes Survey, somewhat redundant. As a result, we made the decision that this analysis was enough to support our business case for using the data as a strategic dataset and to wait for our sample sizes to increase with the new survey to continue the analysis with more modern data.

Making the data work for the business

Whilst this relationship between final year Career Readiness and Graduate Prospects is clearly important, the goal of the work was to identify an on-course indicator for progress. What the work identified was a clear predictive analytic, but not a measure for progress. We concluded that we needed to understand students' individual journeys if we were to fully understand progress.

We commenced a mapping exercise where we assigned scores to each statement and looked at year-on-year change. Initially this work began by taking a student's first statement into one column and their last statement into another to assess change. We did this work with a nine-year dataset between 2014/15 and 2022/23. For this work we continued our focus on the UK undergraduate non-health profession cohort, leaving us with around 43,500 records to analyse. The analysis was chaotic and confirmed what any career practitioner would tell you: that career journeys are non-linear (figure 14.7). There is no clear route that all students can follow.
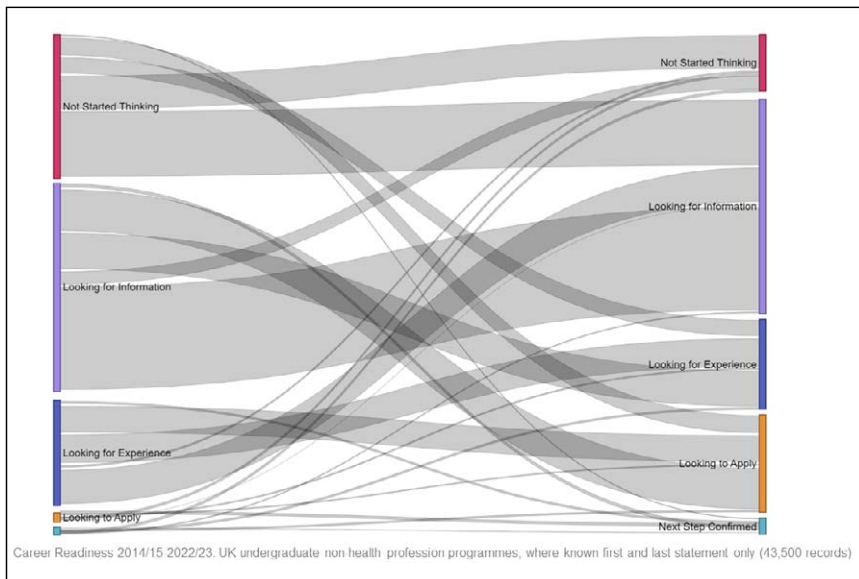

Figure 14.7: Student Career Readiness evolution from first to last statement

It was at this point where we started using the term 'backwards development' to capture the notion that sometimes activities can make us reevaluate our decisions. For instance, if a student undertakes an internship and realises that it is not a good fit for them, they may take a step back in their CR journey, while we could still perceive it as a positive step forward in working towards a preferred career.

Turning chaos into performance

Based on our insights gained through the different analyses, we decided to consider Career Readiness performance on the basis of individual gain. After all, one statement at the start of a programme isn't enough to understand a student's journey, it's enough to understand a students' starting point. From this we created a key performance indicator that acts as an institutional 'lead indicator' for graduate destinations performance. One that focuses on student's journeys:

"The proportion of students who are either thinking or developing in Career Readiness"

This is often abbreviated to '% Developing Career Thinking', but ultimately gives a view of student progress over time. Looking at the data in this way leads to a logic map for each student's statements on a student-by-student basis, which can then be summarised at the macro level to understand performance. It requires the statement they choose this year as well as their previous statement. This can allow for where only one statement exists, but without the variance of time the analysis is less meaningful. Following the logic map (table 14.1) gives analysts a categorisation process for an individual's longitudinal performance.

Statement journey outcome	Performance assessment
Is the current statement in the 'Not started thinking' category?	This is negative performance as they are not thinking.
Is the current statement in the 'Next step confirmed' category?	This is positive performance as they are in the top category.
Is the current statement neither of the above but the same statement as previous statement?	This is negative performance as they are not developing.
All other outcomes	This is positive performance as they are developing

Table 14.1: Mapping of CR statements to performance assessment

This allows for analysis of the proportion of students in a positive state and provides more in-depth understanding of the opposing negative

state. Not only can we outline the proportion who are 'not developing' (selecting the same statement) and the proportion in the 'Not started thinking' category, but we can also explain their journey since last year. Journey analysis shows the proportion of those negative states who 'became negative' and those that 'remained negative' against their state in the previous academic year. It also allows us to identify those that 'became positive' or 'remained positive', showing us where our growth is coming from.

These breakdowns are soon to be reported on the same page as our graduate destinations results – placing the data at the forefront of conversations about what we can do right now to support current students in obtaining their happy, meaningful future.

Considerations for your own institution

While we are sharing this case study on the relationship between Graduate Prospects and final year Career Readiness and how we developed a key performance indicator, we are by no means the only institution who has gone through this journey and undertaken this analysis. When analysis like this is shared, the temptation is to check that the relationship holds in our own institution. Our recommendation is to not fall into this trap: every institution who has talked to us about doing this analysis has found the same result. These institutions are from different mission groups, and some have vastly different student profiles to the University of Leeds.

Whilst demonstrating impact is always invaluable, our advice is that the work has already been done in this space by the careers community and efforts are best spent on better utilising the data we collect. Spend your institutional energy on developing a longitudinal view of individual progress that you can summarise at scale. Agree targets for growth, supported by targeted interventions which aim to help key cohorts of your students to develop their career thinking. Spend your institutional energy on delivering impact to your students.

That's where the real gold is in this work.

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15. The use of Career Readiness data in strategy, planning and monitoring

Stephen Boyd and Bea Carter

Building on our first case study (Chapter 9) which explored the importance of the institutional ecosystem in introducing and embedding Careers Registration throughout Manchester Met., the case study below offers further detail about the establishment and use of Careers Readiness data as a corporate lead indicator and in multiple management processes.

Collecting our data

We collect our Career Readiness data at online enrolment each academic year. This is embedded in our online enrolment process along with some other statutory questions. All students must respond in order to complete online enrolment. In January each academic year, we are contacted to indicate whether we would like any changes applied to the questions currently in the system. In June each academic year we are asked to user test our questions where we go into the online enrolment interface and ensure we are content with how the questions are presented.

The Careers Data and Insights team have direct access to the responses as soon as they come in and they go into the system and extract them. In order to align with other data pulls from this system we choose a census date each year where we extract the first set of responses available, this is around one month after our first semester starts to ensure we allow time for as many students as possible to enrol. In February each academic year we undertake another pull of the data to ensure we capture any

later enrolments such as out post-graduate taught January provisions. We do one final pull at the end of each academic year to capture any additional enrolments that have taken place since the January pull.

Once our data is available, we then make it available to our users via a number of formats. Please see more information on this in our first case study within this book (Chapter 9).

Understanding the relationship between Career Readiness and Graduate Outcomes

At Manchester Met, our Career Registration data is a Lead Indicator for our Graduate Outcomes Key Performance Indicator, and this is predominantly why this dataset is embedded into the wider institution. As explored in our previous case study, prior to CR being a leading indicator this dataset was very much an internal careers dataset; it was great at indicating to careers colleagues how students were feeling or what work experience they would like to gain. But when we connected the data with other key institutional datasets, such as our Graduate Outcomes data, it told a bigger story that colleagues in the wider institution wanted to hear. We explored the relationship between career readiness and many other datasets but the first relationship we analysed was with the Graduate Outcomes survey, due to the nature of the survey being an important Key Performance Indicator for our institution (Manchester Metropolitan University, 2022) and its close alignment with our Careers Service. The results were staggering and instantly indicated a strong correlation.

Career Readiness Category	GO Prospect Score
Not Started	Circa 55%
Some Ideas	Circa 65%
Want Experience	Circa 75%
Ready to apply	Circa 80%
Succeed	Circa 90%

Table 15.1: Relationship between Manchester Met Career Readiness Categories

and the Graduate Outcomes Prospect Score- Percentage going on to a positive graduate destination 15 months post-graduation (using the Guardian League Table methodology), UKFTFD only, 2019/20-2021/22

Embedding Career Readiness as a Lead Indicator, and embedding this in our new Education Strategy

Once we understood the above relationship and had shared the story across the institution, and crucially got the strategic buy in from senior leaders in our institution, we then formalised it as the official Lead Indicator for the Graduate Outcomes Key Performance Indicator.
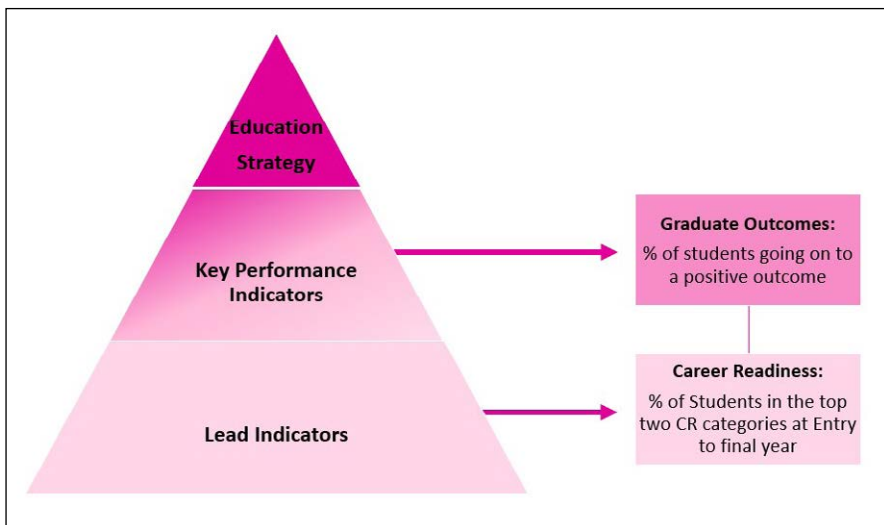

Figure 15.1: Embedding Career Readiness as a Lead Indicator for our Education Strategy

As mentioned in our other case study, out Graduate Outcomes Key Performance Indicator is a lagging one, as indicated in figure 15.2 our Career Readiness is a leading indicator for this. To explain, we found that if our Lead Indicator (% of students in the top two career readiness categories at Entry to final year) goes up, this is a positive indicator for our KPI (% of these students going on to a positive outcome), please see figure 3 below to further explain and please note this does not take

into account other factors which can impact our KPI such as the labour market the graduates are going into or whether they had any work experience prior to graduation.
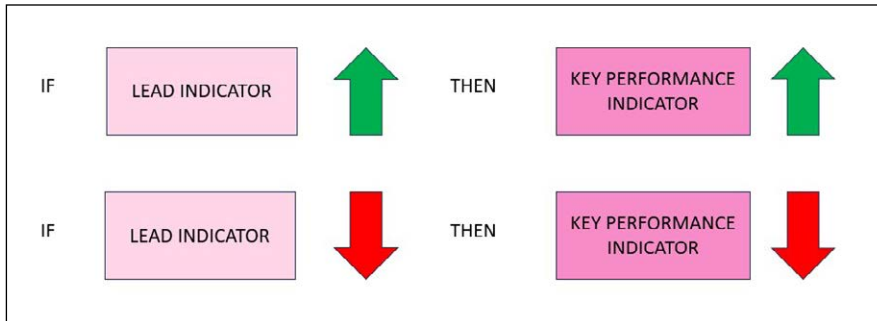

Figure 15.2: Lead Indicator and Key Performance Indicator Relationship

Getting buy-in from Senior Leadership

Having a senior leadership who are well-versed in the language of careers registration, and genuinely understand its potential and limitations, has been a strategic objective for the careers team at Manchester Met for the last few years. In our experience, this makes the difference in terms of top-level buy-in and places the Careers Service directly in the heart of university-wide decision-making – which, at Manchester Met, is the University Executive Group (UEG). This has enabled us to present findings to the senior leadership at scheduled points in the academic year, and to ensure that it is now included in the core data pack used at every programme-level Educational Annual Review (EAR).

Using Career Readiness for Planning

Once we have collected the data out of the online enrolment system, there are a number of steps we take with this data to inform planning for the upcoming year. Please see listed examples below.

- Refer lists of students who said they want certain types of work experience to the relevant teams:

- Provide the Sandwich Placement team with a list of Level 5 (penultimate year) students who indicated they want to undertake a sandwich placement.
  - Provide the Jobs4Students team with a list of all students who would like on campus work experience.
  - Provide the Enterprise team with a list of students who are interested in Entreprenurial activity.
- Identify Level 6 (final year) students with No prior Work Experience and ask if they would like to book a one-to-one session with one of our qualified careers advisers.
- Identify Level 6 students with No prior Work Experience and promote the Jobs4Students (J4S) internship scheme to them.
- Provide each Faculty with a list of all Personal Tutors, which students they are personal tutor to and what the students' career readiness category is so that the students career readiness category can be discussed within personal tutor conversations.
- Identify areas (this could be certain groups of students or students from certain subject areas) where the lead indicator has gone down year on year and target with specific interventions.

Using Career Readiness to address Equality, Diversity, and Inclusion

With Career Readiness now well-known and understood across our institution, as well as our Lead Indicator being well established, in 2024/25 academic year we plan to use this data to inform our Equality, Diversity and Inclusion (EDI) practice. As part of our recent Access and Participation Plan submission to the Office for Students, the Careers Differential Outcomes workstream has committed to reducing attainment gaps that exist amongst certain groups of our students. We are analysing how our lead indicator, the percent of students in the top two career readiness categories, varies for different groups of students such as those who are of White ethnic origin or Black ethnic origin or Asian ethnic origin or whether they are a first-generation student or a non first-generation student. Once we have understood these gaps, we then wish to target specific students who are at risk, due to a lower proportion being in the top two career readiness categories and aim

specific initiatives that our group is running this academic year at them. Some examples of these personalised initiatives include:

- Diversifying the population engaging with our Mentoring scheme as well as our two annual internship schemes.
- Identify which students want particular types work experience and aim these specific interventions at them.
- Develop a bursary scheme to support students who are facing financial barriers.
- Run a student campaign aimed at increasing awareness of our offer with personalised communications to different types of students.

Using Career Readiness to evaluate effectiveness of interventions across the institution

As our lead indicator is now well established as part of our institutional education strategy, we are able to use it as an evaluation method of interventions. Below are three separate examples of the kind of statistics we produce when evaluating interventions in this way. This is based on a theory of change model (Weiss, 1995) where we look at students who took part in an intervention, compare them to those who did not take part, we analyse their career readiness prior to the intervention and compare it to their career readiness post that intervention and finally we analyse the direction of travel also termed at the 'change year on year' in career readiness.

Example intervention evaluations using Career Readiness as a Lead Indicator

Jobs 4 Students Evaluation
- J4S Level 6 UKFTFD (UK, full time, first degree) students in 2022/23 have 30.0% in the top two career readiness categories; this is 5.9 percentage points higher than the institutional average.
- Prior to the intervention, 4.3% were in these categories; this is an increase of 25.7 percentage points.

- 36.4% of these students saw an increase in their career readiness between 2022/23 and 2023/24, 5.4 percentage points higher than the institutional average.

Mentoring Evaluation
- Mentored Level 6 UKFTFD students in 2022/23 have 45.5% in the top two career readiness categories; this is 21.3 percentage points higher than the institutional average.
- Prior to the intervention, 0.0% were in these categories; this is an increase of 45.5 percentage points.
- 51.0% of these students saw an increase in their career readiness between 2022/23 and 2023/24, 20.0 percentage points higher than the institutional average.

Digital Services Evaluation- Asked a Question in Career Hub
- Level 6 UKFTFD students who asked questions in 2022/23 have 28.6% in the top two career readiness categories; this is 4.5 percentage points higher than the institutional average.
- Prior to the intervention, 4.9% were in these categories; this is an increase of 23.6 percentage points.
- 38.0% of these students saw an increase in their career readiness between 2022/23 and 2023/24, 7.0 percentage points higher than the institutional average.

We are now in a position where a number of colleagues across our institution provide us with a list of students who have undertaken a certain initiative, and we can complete the above statistics for them.

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16. The developing role of Career Readiness data in university and service strategy

Jay Hardman

The University of Leicester is a socially inclusive, research-intensive institution located in Leicester, a city of 370,000 residents in the East Midlands of the England.

The University was Top 30 ranked in Research Excellence Framework (REF) 2021 (Grove, 2022) and Gold rated in the Teaching Excellence Framework (TEF) 2023 (Office for Students, 2024). Research strengths include health and medicine, space, heritage and culture, and our education portfolio is organised across three Colleges: Life Sciences; Science and Engineering; and Social Sciences, Arts and Humanities.

Statutory, policy and market forces, coupled with an increasingly diverse student body and changing student behaviours, have initiated a broader purpose to our educational offer, including a push to enhance the development of employability through the curriculum, whilst remaining true to our research inspired traditions.

Seeing into the future

In common with many institutions across the sector, the University of Leicester has a KPI relating to the onward progression outcomes of our students.

Our chosen KPI is the metric used by the regulator, the Office for Students (OfS), to assess the *quality* of students' labour market and other destinations 15 months after graduation. This metric compares the rate of positive outcomes amongst the University's graduates to the Higher Education Statistics Agency (HESA) calculated benchmark rate (HESA, 2018). The benchmark rate represents the performance of similar students taking similar courses across the entirety of the English HE sector. A positive progression outcomes rate that is materially above benchmark is classed as outstanding.

From a strategic planning perspective, the big problem with this KPI is the long lag time between interventions and results. This means that any insight that the latest results provide into how interventions may have impacted on the effectiveness of the offer to students is always at least two years out of date. And a lot can happen in in two years!

Overcoming this problem requires a reliable leading indicator - a measure that provides an early signal about where our KPI is heading and whether or not current interventions are helping to shift the dial.

Enter Careers Registration data.

Early adopters of Careers Registration have reported a strong correlation between the career readiness of final year undergraduates and positive progression outcomes at 15 months. In other words, and perhaps not entirely surprisingly, students who report that they feel ready to progress as they come towards the end of their course, are more likely to be in professional employment or further study 15 months after graduation (and vice versa). While not entirely fool proof, the predictive power of Careers Registration data provides strategic planners with a means of "seeing into the future" and, in particular, anticipating how the positive graduate outcomes rate is likely to trend up to two years before the result is confirmed.

At Leicester, where we run the Careers Registration survey at the point of graduation as well as at earlier points in the student lifecycle, we have found that this correlation holds true and this is opening up opportunities to expand the reach and impact of the careers and employability service.

Lessons learned in getting to this point:

- A Careers Registration survey at the point of graduation provides the basis for a reliable leading indicator of positive outcomes at 15 months after graduation and a measure to help assess the impact of interventions to enhance the employability development offer to students. It also generates data that can be used to segment new graduates and differentiate communications and marketing messages
- The biggest cost involved in setting up a Careers Registration survey is securing the buy-in of key professional services stakeholders to deliver a process that generates data for a large, representative sample of students (if not all) across all subject areas. In our case, this meant working with colleagues in Student Records and Digital Services to introduce the survey questions into existing institution-wide processes of online registration and graduation
- It is important to find ways to socialise Careers Registration data with education leaders. The predictive power of the data provides the executive team and education leaders with an early warning system that affords the opportunity to course correct much sooner than they otherwise might. In a context where prospective students place such a high premium on employment prospects when choosing where to study, this is valuable insight. At Leicester we have used measures of career readiness to inform the evaluation of key strategic initiatives, such as the introduction of reflective, skills-focused assessments into UG programmes, and reported these through the education committee structure. We have encouraged education leaders to draw on this evidence to inform the University's TEF submission and to consider the value of Careers Registration data to the articulation and evaluation of educational gains. More recently, we have made the data more widely available across the institution by surfacing it in an online dashboard.

Future-proofing the offer

The employability development offer is the sum total of those learning and support activities that enable students to develop the knowledge, skills, behaviours and experiences they need for future success, which,

for the vast majority, includes managing the transition into fulfilling graduate employment.

In recognition of the pivotal role played by the curriculum and local learning environment, the Director of Careers & Employability at Leicester has:

- Advised the University's Education Committee to hold academic departments accountable for the quality of the onward progression outcomes of their students and to commit to sustaining outstanding progression outcomes in their subject areas, or else to work towards these.
- Consulted with academic departments to ensure that they each have a designated careers and employability lead with responsibility for leading data-informed continuous improvement.
- Reshaped how the careers and employability service works with academic departments by creating a new post of College Business Partner and introducing College Aligned Groups (CAGs) to enable agile deployment of design and delivery expertise.

This is paving the way for Careers Registration data to be used at *subject area level* to inform assessment, planning, implementation and evaluation of the employability development offer, and to target careers and employability service expertise where it is most needed.

Central to this approach are the College Business Partners who have been recruited for their ability to develop and manage relationships, influence and negotiate, and support the use of data to inform problem-solving.

Business Partners work with all academic departments in their designated College to:

- Assist each department's careers and employability lead to navigate the continuous improvement cycle and available data products
- Curate resources for course teams to inform the design, delivery and evaluation of employability development activities and support in a curriculum context

- Negotiate an annual employability partnership agreement (EPA) that documents the careers and employability service contribution to implementation and evaluation of the department's skills and employability action plan

While Careers Registration data is available via dashboard, at Leicester we are seeking to create an environment where data is used effectively. For that reason, College Business Partners are contributing to the design and delivery of training for departmental careers and employability leads in how to make effective use of key data products in performing their role. In other words, the emphasis is on supporting colleagues in academic departments to *apply* the data to the process of continuous improvement, and ensuring that this is being done with a reasonable degree of consistency, rather than assuming that the dashboard will somehow be enough.

If we take the strategic planning aspect of the continuous improvement process, for example, careers and employability leads are being trained in how to use Careers Registration data to:

- Forecast the trajectory of their progression KPI
- Identify equality gaps in career readiness
- Understand their students' career aspirations (e.g. intended next steps, sector preferences) and compare these to onward progression outcomes
- Get a handle on how their students' rates of significant experience compare to those of their peers

In this way, and in combination with other sources of data and insight, it seems much more likely that actions to improve employability development experiences and progression outcomes will be responsive to the needs, aspirations and preferences of current and future students.

Changing with the times

An inevitable consequence of a more data-informed approach across a careers and employability ecosystem that takes in the curriculum as well

as the more traditional territory of careers services is that change will come.

At Leicester, the reshaping of the service and the introduction of College Aligned Groups (CAGs) are resulting in resource and expertise being pulled into areas of activity that go way beyond the repackaging of central workshops for a local audience.

At this point in time, it is conceivable that alongside a more personalised central offer, Leicester's careers and employability service could be routinely deploying staff across academic departments to support:

- The organisation of timetabled opportunities for students to engage with, and be inspired by, employers, alumni and others
- The design and delivery of assessments to enable students to reflect upon their own learning and articulate the technical and transferable skills they are using and developing
- The widening of student access to opportunities for work-related experience including departmental internships and the development of co-curricular and curricular experiences
- The incorporation into academic programmes of assessment methods and learning activities that enable development of the skills, experiences and behaviours needed for future success
- The strengthening of employer and alumni engagement in programme design or delivery
- The channelling of student voice into the continuous improvement process

The logic behind this approach is sound. The curriculum and local learning environment are where impact on employability can be delivered at scale. Where the balance is eventually struck between a centrally delivered careers service and departmentally delivered employability support remains to be seen. For the time being at least, there remains in many institutions a strong business case for providing academic departments with the support they need to make their courses as appealing as possible, and graduates from their courses as employable as possible.

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SECTION 5: LOOKING AHEAD

17. Looking ahead: emerging developments

The Careers Registration process gathers a small amount of information about many people: essentially a whole student population. This comprehensive coverage is a strength. However, the relative simplicity required to ensure that the process works within enrolment naturally limits depth and nuance. Combinations with other data sets and the addition of qualitative data have been picked up in several of the case studies in this guide and will undoubtedly feature in future work in this area.

The Careers Registration process relies on student self-report and therefore has the risks and limitations common to this form of data gathering (Branford & Leon 2023; Cobb 2019). Set against this, is the remarkable consistency of student responses across institutions, over time and between countries, as illustrated by Kathy Ryan and Jane Black in the University of Melbourne case study and the enduring strength of the relationship between Career Readiness and Graduate Outcomes in the UK, as described by Andy Blunt. A recent collaborative project across nine universities in the Yorkshire region of England, (Tapley & Gilworth, 2024) showed that the proportion of year one students in the earlier (Decide/Explore) stages of career thinking was identical to that reported through the UK Learning Gain project seven years earlier, with no overlap in participating institutions.

Regardless of the macro-level consistency, it will continue to be important to check the language used with students, as it has been from the beginning and as illustrated in many of the case studies.

Embedding Careers Registration in the annual enrolment cycle provides time series data on a consistent basis, which can be analysed

at various unit levels within a university and can be usefully combined/ compared with other data which is gathered on a similar basis, such as other aspects of student records and Graduate Outcomes. However, as suggested by Kathy Ryan and Jane Black in the University of Melbourne case study (Chapter 4), the once-a-year nature of the enrolment data capture can be seen as a weakness in using the Career Readiness approach "live" with students. In their case study (Chapter 12), Sal Crosland and Gabriella Holt describe an alternative method of engaging with PhD students who are not required to re-enrol every year.

Several of the case studies, reflect on ways of engaging students "in the moment" with the career thinking stage principles of CR1. It seems both desirable and inevitable that these approaches continue to develop. These examples are all complementary to, rather than substitutes for, data collection through the enrolment process. Even if aggregated in some way, (through a Virtual Learning Environment for example) they cannot reproduce the scale and coverage benefits of embedding data capture in enrolment. However, these approaches could possibly provide a proof-of-concept model for colleagues currently facing challenges in getting agreement to embedding in enrolment.

The connections between the data gathered through Careers Registration and student demographic data, which is facilitated by embedding in enrolment, have great potential for improving understanding of and responding to challenges and opportunities in, ensuring inclusion and facilitating social mobility through a university's careers and employability offer. This will surely be a key feature of the developing application of the Careers Registration approach in all the countries represented in the CR+ group.

Whilst several case studies refer to placements, internships and WIL, most of the data work on Careers Registration so far, has been on CR1. This is understandable given the leading indicator link to outcomes and, indeed, the way in which CR1 can be used to evaluate the impact of some of the activities which would be captured in CR2. However, it is likely that the understanding derived from CR2 will be important in supporting equity, inclusion and social mobility. If data derived from CR1 can be seen as providing insight into career development from a "journey" perspective, the data from CR2 could

be seen as informing understanding of "employability assets/capitals" acquisition. Combining CR2 data with student demographic data could provide some important insights into the distribution of access to, and participation in, employability capital enhancing opportunities. Whilst acknowledging the limitations of the snapshot data and the need for more nuanced qualitative work, the scale and timeliness of CR2-based insights could be very valuable. This aspect of the work seems very likely to be developed further and several members of the CR+ group have indicated that more work on CR2 is in the pipeline.

In addition to combining with other data sets, there are numerous examples of ways in which the Careers Registration data set itself is being developed so that it adds more to the overall picture. The fundamental purpose of these developments remains the same as that which initially drove the inception of the approach. The idea is to improve understanding of the career development journeys of current students to meet them where they are and to provide appropriate support.

This concluding section will look at some of the developments in the Careers Registration dataset and their potential going forward.

An interesting development is the inclusion of what we might call "forward-facing" elements to the process; introducing additional questions or statements which ask students to articulate requirements or preferences for careers and employability support. Though not specifically outlined in the case studies, discussion through the CR+ group has indicated that at least two of the universities involved have taken steps in this direction. Manchester Met asks students to identify work experience that they would like to gain alongside asking about experience that they have gained to date in Chapter 15. The University of Huddersfield asks students to indicate areas in which they would like support based on a topic list: "What can I do with my degree?", "Finding work experience/part time work" and so on. In the staff dashboard, these support areas are usefully cross-referenced to the CR1 career thinking stages.

In the Leeds Conceptual Model case study (Chapter 5), Andy Blunt describes the way in which the categorisation of existing CR1 statements was reframed, resulting in three categories which indicate student support needs and therefore a basis for engagement: "Looking for Information",

"Looking for Experience", "Looking to Apply." This re-framing was also applied to the collective, regional data in the Yorkshire regional project.

Whilst understanding self-reported status "where are you now?" continues to be very useful, especially in strategic reporting and longitudinal analysis, the above examples are indicative of the potential for students to directly indicate careers and employability support needs in addition to reporting their current career thinking and experience gained to date, or for these to be more clearly implied by reframing existing response categories for engagement purposes. As this develops, we should see more examples of this forward-facing orientation directly informing engagement and provision. In relation to equity and inclusion, it is crucial that this information comes from the whole student body, rather than just an already engaged minority.

The additions of occupational and location preferences (CR3 and CR4) were mentioned in the introduction. Again, they are future-orientated- "In which sectors would you like to work? "Where do you expect/would you like to work when you graduate?" Information gathered from the community of practice suggests that Occupational sector preferences have been quite widely adopted, though they are not universal, whilst the inclusion of a Place question is gathering pace from a lower base. For example, of the nine universities involved in the Yorkshire regional project mentioned earlier, four included occupational sectors (CR3) with a fifth about to implement this, whilst three had introduced location preferences (CR4) with a fourth about to implement.

Of the two, the inclusion of occupational sector preferences has the longer history. Direct use of this data to support employer engagement activity at King's College London was included in a University of London Careers Registration Forum in 2017 (The Careers Group, n.d.)

We may see further development of this application. There is a strong case to be made that demonstrable levels of declared interest from current students could be a powerful tool in bringing employers in the relevant sectors into engagement with a university from a graduate talent perspective. In graduate labour markets with substantial levels of "any discipline" recruiting, such as those in the countries represented in the CR+ group, indication of interest through Careers Registration may be a

stronger predictor of graduate talent supply than data on subject of study at undergraduate level, particularly in subject areas where there are few obvious connections between degree title and occupational sectors.

Students' declared occupational preferences, particularly the ways in which these might change or consolidate over time could prove to be useful indicators of the development of occupational awareness - the O in the DOTS model (Law & Watts 1997, 2003).

For example, the data could indicate instances of a potentially self-limiting focus on careers perceived to be "in" the degree subject area, (where there is a face value link between the degree title and potential occupations and/or sectors) at the expense of broader possibilities which use skills and attributes developed through the degree but could be seen to be "around and beyond" the degree subject itself (Daubney, 2021). Using occupational sector data in this way, could inform interventions relating to broadening of occupational horizons and understanding of graduate labour markets. Rimmer (2024) found the issue of perceived (lack of) face value connection to degree title to be a significant factor in inhibiting student take up of the placement year option.

Whilst delivering valuable Work Integrated Learning (WIL) assets, experience in a sector may result in a shift of career intention away from that sector rather than further into it. Shifts in declared occupational sector preferences may be useful additions to the mix in relation to understanding the non-linear nature of the career development journey for many students, which has been a recurring feature of the narrative in several of the case studies .

So far, an understandably pragmatic approach to incorporating occupational preferences has been to use established, externally generated categories, which may be linked to available information resources (as in the case of the Prospects job sectors in the UK). If, as seems likely, the adoption of occupational sector preferences grows, it may be valuable to carry out research with students to understand the user-friendliness of categories from their perspective. The potential limitations of reliance on self-report will always be a factor in Careers Registration data (Branford & Leon, 2023). This could be particularly true for occupational sectors if the categories involved are not clear to the student audience.

The introduction of a place-based element (along the lines of "where do you expect to work when you graduate?") has been driven by two factors in seeking to understand students' career development journeys. One is an attempt to gain some understanding of the aspirations of international students to work in their home country, the country of study (perhaps with regional preferences) or a third country. The other is to better understand home students' regional preferences (which may include working abroad).

International students feature strongly in the student populations of the institutions and national systems represented in this guide and the CR+ group generally. This may drive further adoption of this aspect of geographical preferences into the Careers Registration process.

The introduction of regional preferences for home students has been gathering pace in the UK. The desire to better understand this aspect of the career development journey at scale, is naturally connected to informing the ways in which the institution seeks to support students in understanding and connecting with, opportunities in geographical contexts -local, regional, national, international. As with occupational sectors, there is obvious potential in relation to data-informed approaches to employer engagement.

Understanding the importance of place is potentially significant in this context (Alexander, 2024). In the policy and strategic environment of "getting in and getting on" for all students regardless of background, place-based aspirations or constraints must play a part in "getting on" to fulfilling futures. This may apply to opportunities to acquire employability assets (or capitals) through work experience or other activities, during a university course, as well as to opportunities beyond graduation.

Incorporating place into Careers Registration can provide a basic indication of the location aspect of "horizons for action" (Alexander, 2022; Hodkinson & Sparkes, 1997) which impact upon pragmatically rational career decision-making. Whilst consideration of work and place must be tempered to some extent by the rise of remote and hybrid working, location seems likely to be a strong factor in students' evaluation of opportunities. Geographical mobility is an element of social capital or

career agency, which is not evenly distributed across society. It cannot necessarily be assumed in the context of graduate labour markets.

Charlie Ball (2021) showed that in the UK, "it is a minority of graduates who go to work in labour markets to which they do not already have an existing connection." Using Graduate Outcomes data, Ball showed that the "Incomers" group of graduates, who are domiciled in one region, move to another to study and then move on to a third place (often London) for employment made up just over 22% of the sample, whereas "Loyals" who studied in the region in which they were originally domiciled and then remained in that region to work were the largest single group at just over 42%.

The Office for Students specifically acknowledged the importance of the location of graduate opportunities in enabling successful outcomes in England, in its 2019 Challenge Competition (Careers Research and Advisory Centre, 2023; Office for students, 2019).

The quantitative data gathered on location preferences through Careers Registration has benefits of scale and coverage and has the advantage of being a leading indicator, but it cannot differentiate between a location preference as an aspiration or the same preference which may be a result of a set of constraints. Greater understanding could be derived from additional qualitative research and/or service/classroom interaction as described by Abi Blowers and Cerian Eastwood and Matthew Howard in their respective contributions.

Where they are adopted, occupational sectors and place preferences could provide universities with large scale, leading indicators which could further inform their careers and employability efforts, including employer engagement and the application of labour market information. This aspect of the Careers Registration approach is at an early stage now. It will be interesting to see how this develops in the future.

We have seen some reference in the case studies to the fact that numerous institutions have now cracked the problem of capturing Careers Registration-style data at the point of graduation. It seems likely that future work will tell us more about what has been learned from the development of close equivalents to Careers Registration at this later point.

Having instigated the CR+ project, the University of Huddersfield will continue to facilitate international practice exchange, research

and innovation relating to Career Readiness. The establishment of the International Centre for Career Development (ICCD), within the School of Business, Education and Law, will build on the CR+ project by establishing and facilitating an ongoing and expanded knowledge exchange community in this space. This publication is a reflection of work across a relatively small group of universities at this point in time. Beyond this, there will be much innovative work going on across the broader community of practice. As the international community develops, we can look forward to further sharing of good practice in support of the shared aim of meeting students where they are and supporting them on their career journeys.

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