

Submissions Abstract Book - All Papers (All Submissions)

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Chaired by Fiona Cobb

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There's no going back;: The transformation of Higher Education Careers Services using big data

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Research Domain: Employability, enterprise and graduate careers (EE)

Abstract: There is no going back for careers and employability services in terms of big data and analytics. The capacity for UK Higher Education (HE) careers and employability services to collect and analyse career thinking and employability enhancing experience data - Careers Registration data - has provided unprecedented insight into levels of student career planning, (work) experience gained, and sectors of interest (Cobb, 2019). This paper reflects on the findings from the national careers registration learning gain project, to identify the ways in which careers and employability delivery has fundamentally changed since the introduction of Careers Registration. Drawing from the final research report, this session will unpack the key trends and findings from the learning gain pilot and consider ways in which careers registration enables HE institutions to support graduate employability.

Cobb, F. "There's No Going Back': The Transformation of HE Careers Services Using Big Data." *Journal of the National Institute for Career Education and Counselling* 42.1 (2019): 18-25.

Paper: HE institutions are in the midst of a 'data explosion' (Long & Siemens, 2011, p. 32). Data is no longer a by-product of HE activities, instead data has a central role in HE decision making. The use of technology to capture, process, and analyse information to enable informed decision-making provides value and meaning to big data (Daniel, 2017). Data and analytics help to reform HE activities, to assist educators to improve teaching and learning, and to motivate and encourage students by providing them with information relating to their own performance in relation to their peers, or progress towards personal goals (Long & Siemens, 2011).

Many UK HE careers services are taking a data informed approach to decision making and improving careers and employability delivery by utilising relevant datasets (Shah & Welch, 2018; Riding &

Crowe, 2018). The Careers Registration methodology consists of asking students to self-report their subjective state of career readiness and to record objective actions in the form of a range of employability-enhancing activities such as undertaking an internship, completing an employability award, or undertaking part time work related to career plans. This includes both cognitive and behavioural development and is based on concepts such as vocational maturity (Super & Kidd, 1979), career success (Ng et al, 2005), and career adaptability (Savickas, 1997; Bimrose & Brown, 2015). The questions are embedded in the enrolment questionnaire completed by every student at the start of each year of study. This method of collecting data captures a small amount of cognitive and behavioural information on virtually every student within an institution. Collecting data on all students as opposed to surveying only the engaged students enables a better and more representative understanding of student needs. Careers Registration can therefore be useful in identifying the differential career development of various student groups.

The uptake of Careers Registration across the UK HE sector is widespread, with 62 UK HEIs implementing the methodology at November 2017, according to a survey of 186 UK HE careers professionals. Careers Registration is an example of how big data (a large scale, linkable, and longitudinally trackable data set) can inform decision-making and support evidence-based practice in a higher education careers and employability setting.

The Careers Registration learning gain pilot project concluded in October 2018. The primary aim of this research was to assess whether Careers Registration can allow us to:

- Track learning gain (distance travelled) in relation to career readiness and employability of students during their time in higher education
- Predict employment outcomes for graduates
- Investigate the extent to which students are engaged in activities that enhance their employability
- Evaluate the effectiveness of employability strategies and interventions
- Investigate practical issues related to the implementation of Careers Registration within institutions
- Understand the extent to which the data it provides could inform institutional strategies for careers and employability support.

Fifteen partner institutions implemented Careers Registration at different points over the three-year project. Institutions utilised the two core Careers Registration questions (career readiness, and employability enhancing experience) along with additional questions on sectors of interest, future plans, and enterprise..

The research captured the career readiness of 308,000 unique students cross-sectionally (one response to the survey during any of the three years of the project), and 118,378 students longitudinally (responding to the survey year on year). To develop a connected picture of students' career thinking and experience in their own personal context, Careers Registration data was linked with other types of student data. These data included student characteristics, DLHE data, graduation surveys, careers service engagement data, and the EHC at one institution

Multinomial modelling of careers readiness statement selection (n=89,000 for academic year 2016/17) enabled understanding of the relationship between career thinking (the nominal dependent variable) and a variety of socio-demographic characteristics (independent variables) (Field, 2009). The model held *Decide* phase career thinking as the baseline, and controlled for the year of study. The initial model included nine variables: POLAR3^[1] quintile, age (mature/under 21), ethnicity, disability, fee status, gender, subject of study and career thinking phase (*Decide, Plan, Compete, Sorted*). Three project partners also completed multinomial modelling of career readiness and outcomes (DLHE) at an institutional level on data for a full three-year undergraduate student cycle.

Institutional level modelling at three partner institutions found a significant correlation between career readiness and graduate outcomes. Final year students who are further along in their career planning (i.e. in the *Compete* phase) are somewhat more likely to be in employment after graduation and significantly more likely to be in a graduate role. A change in career readiness between the penultimate and final year of study has less impact on outcomes than the phase of career readiness reported at the start of the final year. The overall probability of finding any type of employment increases with the career readiness stages, and is slightly higher for undergraduates compared to postgraduates.

The ability of careers and employability services to visualise, contextualise and communicate the data with staff and students in a timely manner is key to supporting decision making in real time, and gives value to the data (Daniel, 2017), to help students engage with, and develop their own career readiness.

The research findings support and build upon the findings of previous research into graduate outcomes (Shury et al, 2017). The findings demonstrate that being further along in your career thinking, and undertaking employability enhancing experience such as internships or holding a position in a student club or society are associated with graduate level outcomes. The knowledge that just under half of all students are still in the *Decide* phase of career thinking at the start of their final year of study enables HE providers to plan timely interventions and streamline resource allocation to support students at pivotal points in their student journey. This can help students to progress their career planning, gain helpful experience and review their own progress.

[1] The participation of local areas (POLAR) classification groups areas across the UK based on the proportion of the young population that participates in Higher Education. POLAR classifies local areas into five quintiles based on the proportion of 18 year olds who enter higher education aged 18 or 19 years old. Quintile shows lowest rate of participation. Quintile five shows the highest rate of participation. <https://www.officeforstudents.org.uk/data-and-analysis/polar-participation-of-local-areas/polar3/>

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