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Student experiences of research methods education in college-based higher education

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Abstract

Research methods education is a challenging area for lecturers and students to engage with; students regularly demonstrate negative dispositions to research methods and lecturers struggle with issues such as curriculum marginalisation. However, employers increasingly demand graduates equipped with skills as researchers. Consequently, in university-based higher education, there has been investment to support research and good practice in this area. In contrast, limited attention has been paid to research methods education in college-based higher education. We report the outcomes of a small-scale national study designed to capture contemporary insights in research methods provision in college-based higher education. Drawing on data from two national surveys we report student attitudes to, and experiences of, research methods and strategies employed by lecturers to teach and assess research methods. Students demonstrate positive attitudes to research methods, receptive to their research methods education and can see their applicability to ‘real life’ situations. However, the data demonstrate the breadth of their research methods education is limited, potentially having implications for the development of skills such as critical evaluation of research outcomes, and students longer-term development as researchers. We conclude by highlighting future research directions and curriculum

development to promote research methods education in college-based higher education.

Keywords: research and scholarly activity, research-based curricular, vocational education, foundation degrees, research training

Introduction

Universities have long been recognised as centres of research and knowledge creation, and that through their studies undergraduates develop the relevant knowledge, expertise and skills as researchers (Hussey and Smith, 2010). However, in recent years there has been renewed focus on the need to for higher education (HE) providers to equip students with the skills used by researchers (Brew, 2006). This expectation was attributed to any HE provider regardless whether they were teaching or research focused (Jenkins et al., 2007). These changing expectations are partly in response to the recognised value of research-based pedagogies in providing students with the knowledge, skills (e.g. evaluation, critical analysis and problem solving) and experiences employers require (Jenkins et al., 2007). They also reflect the increasingly contested nature of knowledge, whereby the long held traditions of disciplinary communities are been thrown into chaos resulting in the emergence of new perspectives and conceptions of knowledge (Brew, 2013; Kellart, 2010). Through their studies students need to be prepared to live with change, critically evaluate new information and situations as they arise and formulate appropriate responses (Earley, 2013; Goodyear and Zenios, 2007). These changes have also highlighted shortages in the labour market with respect to graduates possessing robust knowledge and experience of research skills (Chamberlain et al., 2015; MacInnes,

2012). Research skills have been identified as of high value to the marketplace and integral to maintain future global competitiveness (Murtonen and Lehtinen 2005).

This had led to the growth in research-based approaches to teaching and learning, as advocated by the work of Brew (2006), Jenkins et al. (2007) and Healey and Jenkins (2009). Increasingly undergraduate curricula have been redesigned to integrate pedagogic approaches such as inquiry-based learning and problem-based learning which encourage students to develop skills such as critical engagement with knowledge, evaluation and synthesis (Hu et al., 2008; Levy and Petrulis, 2012).

Funding has also been targeted towards initiatives such as the Q-Step programme, a £19.5 million partnership between the Nuffield Foundation, ESRC and HEFCE that have sought to enhance the research capacity of undergraduates (Nind et al., 2015).

However, despite these moves, the extent to which students are provided with opportunities to engage with research are variable, depending on their stage of study, educational context and institutional focus of their HE provider (Breen and Lindsay, 1999; Healey et al., 2014; Levy and Petrulis, 2012). This paper reports on the outcomes of a national study designed to capture the experiences, attitudes and engagement of college-based HE students with research methods. We draw on a data collected from college-based HE students and lecturers to identify current practice and highlight future directions of research in order to further support innovation in this area.

Developing students capabilities as researchers

Although research skills training and engagement with a breadth of research-based activities represent a longstanding feature of a *higher* education, students commonly

perceive themselves as consumers rather than producers of research (Brew, 2006). This partly reflects the fixed conception of knowledge students enter their higher education with (Baxter Magolda, 2004; Hofer, 2004). Meaningful opportunities to engage with research are increasingly integrated throughout undergraduate degree programmes, and have been identified as playing a significant role in changing students' perceptions from consumers to producers of research, though there are clear disciplinary differences through which this may occur (Jenkins et al., 2007; Levy and Petrulis, 2012). Levy and Petrulis (2012) identified that early exposure to research, and active engagement with research-related practices, has a positive impact on student motivation, academic development and their sense of identity towards research. However, they did heed caution as this early exposure needed to be appropriately framed, drawing on pedagogies that promote the development of the skills, knowledge and experience essential to being effective researchers (Levy and Petrulis, 2012). Negative experiences of research-related activities can have significant impact, as the widely documented negative attitudes to research methods training demonstrate (e.g. Chamberlain et al., 2015; Hasse-Biber, 2015; Sizemore and Lewandowski, 2009). The outcomes of Levy and Petrulis's (2012) work echo many related studies examining the role of research, and value of research-based teaching to both undergraduates' development and future employability that have taken place in the university sector (e.g. Davies et al., 2006; Jenkins et al., 2007). This has resulted in a diverse evidence base on which practitioners and researchers can draw on to support their development of research-based curricular.

But the same is not true for college-based HE. Though the need for further innovation around research-based pedagogies has been realised, these ideas are been

implemented in a very different environment to universities (Creasy, 2013; Lea and Simmons, 2012). Whereas universities have a tradition of developing students' skills as researchers throughout their studies, which is essential to maximising the impact of research-based pedagogies, the role of research methods teaching in college-based HE has yet to be fully realised (Gray et al., 2015).

Little is known regarding the experiences of college-based HE students developing as researchers and their engagement with research methods training. This is a stark contrast to the attention paid to the experiences of university-based HE students in learning about research methods, which internationally has been a subject that has attracted considerable attention. In this paper we will discuss students' attitudes towards, and experiences of learning research methods. This will be supported by consideration of the pedagogical approaches used to support students learning about research methods in college-based HE. We will conclude by recommending the direction future pedagogic innovation and research may take to ensure college-based HE providers are preparing students for demands of the workplace or further study following completion of their foundation degree.

Methodology

This paper reports on data collected as part of a Higher Education Academy's Social Sciences strategic project to examine the teaching of research methods in college-based HE. The overall aims of this project were to:

1. Map current research methods provision and topics within a range of social science programmes

2. Identify areas of commonality for generic research methods provision against the requirements for embedded research methods delivery
3. Identify potential skills gaps and developmental needs for CBHE staff continual professional development.
4. Ascertain student confidence in qualitative and quantitative methods and analysis.

Data collected to address the first three aims have previously been reported in a related paper (Gray et al., 2015) which reported the content, focus and staff experiences of teaching research methods in college-based HE. Here we focus on data collected from college-based HE students to examine their confidence and attitudes towards research methods. We further draw on the lecturer data to examine the pedagogic approaches used to teach research methods and student engagement responses to these teaching strategies.

Following an in-depth review of literature relating to research methods and pedagogies of research methods teaching two questionnaires were designed, one for completion by students and a second to be completed by lecturers working in college-based HE involved in teaching research methods and programme leads. The questionnaires were based on a previous survey used by Williams et al. (2008) in their research to examine the role of quantitative methods within substantive sociology modules. This questionnaire used by Williams et al. (2008) used over 100 items to explore second year sociology students' competencies and attitudes to research methods. Given this had successfully been used and validated, the research team used it as a foundation for data collection in this study. The student survey captured

demographic information (e.g. gender) and contextual information (e.g. college name, programme studying, level / mode of study, background qualifications). In section two a four-point Likert scale (strongly agree to strongly disagree, with an additional opt out category) captured students reactions to a number of statements regarding different research methods potentially encountered during their studies. Section three used a series of yes / no response questions to gauge students' awareness of methodological concepts. Next we explored preferred methods of learning about research methods and the resources (e.g. library / software) available to support their learning. Finally we captured their confidence in undertaking both qualitative and quantitative research using a 10 point scale. As reported in Gray et al. (2015) the lecturer survey captured contextual information (e.g. role, disciplinary area), the pedagogic approaches that may be used to support research methods teaching (e.g. problem-based learning), methods of delivery (e.g. lectures, seminars) and assessment. Data were also captured around institutional support, available resources and training available to support their research methods teaching. In this paper we will focus on the lecturer data relating to the teaching and assessment of research methods.

The questionnaire was piloted with further refinements made as a result of feedback. The questionnaires were administered using Survey Monkey and available for completion between the 8th March and 14th April 2013. In order to gain insights into research methods teaching across college-based HE in England, we distributed the surveys extensively through partnership email lists in the South and North West and via groupings such as the Association for Collaborative Provision of Higher Education in England, the Staff and Educational Development Association,

Universities Council for the Education of Teachers HE in FE group and the college-based HE mailing lists of the HEA. As the organisation and role of college-based HE varies across the four nations of the UK (Gallacher et al., 2006), we took the decision to focus specifically on provision in England. Although this may be seen as geographically limiting the scope of the study, it provides congruence with the organisational parameters of education policy in England.

A total of 162 responses were yielded from the lecturer survey and 98 from the student survey. Whilst we acknowledge this is a small response rate for the student survey, the method of administration used in this study does have implications on the participant engagement, as differing response rates and sample populations have been recorded for surveys administered online compared to paper-based (e.g. Watt et al., 2002). However, for this study online administration had clear advantages in terms of reaching diverse sample populations, promoting broad geographic coverage and accommodating the short timeframe over which data collection could occur. Self-selection bias could have resulted from 'systematic differences between respondents and non-respondents' (Nulty, 2008: 308) in that those choose to respond to the survey can differ in terms of age, gender and social class to those who do not respond (Richardson, 2005). Studies of course evaluations have also demonstrated that there are differences in academic attainment and behaviours of those who respond to those who do not too course evaluations (Goyder, 1987). These limitations to the sampling strategy used need to be considered in the framing of the survey data. However, as the overall goal of this study was to undertake exploratory work into an under researched, the data do provide a basis on which future work can build.

The disciplinary groupings designated by the HEA were used to identify respondents from the social sciences, which they define as representing the following areas: Anthropology, Business and Management, Economics, Education, Finance and Accounting, Hospitality, Leisure, Sport and Tourism, Islamic Studies, Law, Marketing, Politics, Sociology (HEA, undated). Survey data were then analysed using SPSS to first produce descriptive statistics for both the lecturer and students data sets, with a more detailed analysis undertaken on the student data set to identify trends and associations in modes and preferences of study.

Findings

Respondent profile

The majority of respondents were studying social sciences at either level four (34.7%) or five (49.0%), though a minority were studying at level 6 (10.2%) and 7 (5.1%) representing recent trends toward colleges extending the remit of their HE provision (BIS, 2011). Following on from this, 36.7% of respondents were male and 63.7% female. Female students have a tendency to underreport their abilities / demonstrate lower confidence in research methods than their male counterparts (Shaw et al., 2013) therefore this respondent profile may have implications on the overall findings we report. In terms of the respondents profile it is worth considering the level at which respondents were studying and the implications this may have on their reported knowledge of, and confidence in, research methods. Lea and Simmons (2012) considered the role of scholarly activity and research in college-based HE, framing this in terms of the highly contested nature of knowledge and the extent to which this

is not fully realised in college-based HE. Most students studying at this level are beginning to comprehend the fluid nature of knowledge and their critical voice is still emerging, which may have implications for the development of the scholarly practice of students (Lea and Simmons, 2012). Given that cumulatively, over 80% of respondents were studying at these levels, we may need to question the extent to which level four and five students in a college realise the relevance of research methods to their future academic development. This position may be particularly acute for those studying foundation degrees or have a clear focus on the ‘application’ of their degree – a clear drive behind recent expansion (RCU, 2016). We feel this is a point worth making with reference to the respondent profile, as it is useful framing of the themes we will go on to examine.

Analysis of data provides valuable evidence of students’ experience of research methods teaching in college-based HE which will be explored through discussion of the following themes:

- 1) Student entry profile and previous educational experiences;
- 2) Student attitudes towards research methods;
- 3) Pedagogies employed to teach and assess research methods;
- 4) Student engagement with research methods teaching and assessment.

Student entry profiles and prior educational experiences

Respondents were asked to report their most recent qualifications; though 27.6% of respondents had A-levels, 35.8% entered with vocational qualifications and 14.3% had entered HE following completion of an access or foundation course (Table 1).

The high number of students entering with vocational qualifications reflects the

profile of college-based HE, in that it is designed to attract those with non-traditional entry profiles and also provide HE that is more vocationally focused (Parry et al., 2012; RCU, 2016). Equally it is seen as offering a student-centred learning environment suited to the needs of students who may need more support to develop academically than a peer entering HE from A-levels (Fenge, 2011).

Table 1: Respondents most recent qualification prior to entering HE

The vocational progression of students into HE is recognised as complex (e.g. Dismore, 2014; Hoelscher et al., 2008); their prior educational experiences are likely to have been in FE and vocational students who progress into HE are documented as less well-prepared for the rigours of HE study (Hayward et al., 2008). They are cited as experiencing the transition from privileging practical knowledge over academic knowledge as challenging, and consequently have poor levels of preparation for participating in the theoretical arguments on which HE is based (Hayward et al., 2008). This resonates with the analysis of Bathmaker (2013) who discussed the underdeveloped role of knowledge and theory in FE, partly due to an overriding discourse of skills, and secondly due to the number of stakeholders exerting an impact on FE. Therefore we need to be mindful of the extent to which students entering HE from vocational or access courses are prepared for, or expecting to engage with, research methods, and are equipped to recognise the value of such provision to their future academic / professional development. It has been observed that students engaged with university-based vocational courses can express disinterest or fail to see value in gaining a grounding in research methods (e.g. Deem and Lucas, 2006; Murtonen and Lentinen, 2005). Indeed, this may be an issue that is particularly acute

with level four students, as they adjust to HE and are first exposed to research, though this may be mediated as they progress and are become familiar to the practice and process of research - a trend by researchers such as Levy and Petriulus (2012), Earley (2013) and Wagner et al. (2011). The extent to which this will be realised will depend on the nature of their early exposure and how they are supported to engage with research.

Students' knowledge and attitudes towards research methods

Over half (53.1%) of the respondents had some experience of completing research methods at the time of the survey. This is reassuring given the concerns highlighted above through framing of the respondent profile with respect to wider literature. But it may also reflect the timing of the survey, in that it was administered towards the end of the academic year when level four students would have been introduced to research methods, and level five students are nearing the end of their studies. Indeed 79.6% of respondents had, or were, studying research methods and 68.8% had a module named 'research methods' in their courses. However, examination of their knowledge of research methods demonstrated that their level of practical experience of some essential aspects of research methods training was limited (Tables 2a to 2c).

Respondents were asked to identify whether they had 'heard of' and then 'studied' core aspects of many undergraduate research methods courses (e.g. research methods concepts, methods of analysis). Though they reported high levels of familiarity in, and experience of studying, qualitative and quantitative research approaches (Tables 2a to 2c), these levels decreased as they were asked to report on their experience and

knowledge of more specialist or challenging aspects of research methods curriculum. They showed awareness of concepts such as validity and reliability but many respondents had not yet studied these (Table 2a). More significantly, only 14% of respondents reported studying the epistemological framing of research.

Table 2a: Aspects of research methods respondents had ‘heard of’ and / or ‘studied’

This pattern is not wholly unexpected, as these are recognised as problematic areas of research methods education (e.g. Murtonen, 2015; Meyer et al. 2005). Indeed, whilst this may not be a concern for level four students as they still have time to learn about these founding principles. For those nearing the end of level five, who could potentially progress on to level six study (within their college or at their validating university), they could be placed at a disadvantage for undertaking further research associated with their honours year, as they do not have an appreciation of essential methodological principles integral to the framing and critical analysis of research.

This trend was repeated as we began to explore their experience in qualitative and quantitative methods of data analysis (Tables 2b and 2c). Whilst they had experience in basic descriptive analysis and presentation of data (e.g. 80.4% of respondents had experience of producing bar and 80.0% pie charts (Table 2b)) again, their experience of studying more sophisticated forms of analysis was limited (e.g. only 7.32% had studied cross-tabulations and 15.5% studied thematic analysis (Table 2c)). It is also worth noting that response rates across these questions declined as the nature of a term / activity presented became more sophisticated and specialist (Tables 2b and 2c). This is a trend that has been observed in studies examining ‘statistical anxiety’

amongst undergraduate students, and it taken as an indication of the lack of familiarity with the language of research methods, not just a lack of experience amongst respondents (Chamberlain et al., 2015).

Attitudes to research methods

Despite respondents demonstrating varying levels of awareness and experience of key aspects of research methods, overall they report positive attitudes to research methods. They recognised the value of research methods to their programme (with 91.6% (n=76) of respondents either strongly agreeing or agreeing with the statement 'I understand the value of research methods skills to my programme/subject area') and over three quarters (77.8%, n=63) strongly agreeing/agreeing to the statement 'I enjoy applying research methods to real world problems'. This was not anticipated given the concerns raised with respect to the respondent profile and relatively low status of research in college-based HE. However, this may reflect the limited depth to which they are engaging with research methods, as previous studies (e.g. Deem and Lucas, 2006; Murtonen, 2015) have observed that as students engage with the more challenging or complex aspects of research methods training their levels of perceived relevance and positive dispositions to research methods decline.

Similar to undergraduates engaging in research methods education in universities, college-based HE students appear to perceive qualitative methods as easier than quantitative methods (e.g. Chamberlain et al., 2015; Williams et al., 2016). This is interesting given the relatively limited experience of qualitative methods of analysis respondents demonstrated. Therefore this outcome may reflect a lack of experience or limited appreciation of the rigors of qualitative analysis rather than differences in

perceived difficulty (Table 2c). Over a 10-point scale, with 1 representing not difficult and 10 very difficult, the mean perceived difficulty of qualitative methods was recorded as 3.95 compared to 4.2 for quantitative methods. Usually there is a stronger tendency for students to favor qualitative methods of analysis over quantitative methods due to the challenges student experience, and confidence issues they report, in relation to quantitative methods of analysis (e.g. Chamberlain et al. (2015). This potentially contradictory outcome was unanticipated. We propose the similarity in levels of perceived difficulty is likely to be a function of the limited depth of methods of quantitative analysis students engage with and limited experience of qualitative analysis. This is clearly an area which further research is needed to substantiate this finding.

Positive attitudes to research methods were further supported through analysis of statements used to examine respondents' confidence in research methods. A relationship was identified between those respondents who disagreed with the statement in the survey 'I found school maths easy' and negative perceptions of quantitative methods. Likewise, those who agreed with the statement 'I prefer writing an essay than using statistics,' recorded a higher level of difficulty with quantitative methods. In terms of qualitative analysis, respondents who agreed with the statements 'I find qualitative methods easy to understand,' 'I feel confident analysing qualitative / textual data' and 'I enjoy asking people questions about real life situations' expressed less difficulty with qualitative methods than those who disagreed with these statements. These relationships do demonstrate consistency in respondents' attitudinal statements. However, these trends need to be framed against

the relatively limited experience respondents reported of methods of qualitative and quantitative forms of data analysis (Tables 2a to 2c).

Pedagogies employed to teach and assess research methods

The pedagogical framing of research methods teaching is a contentious area in university-based HE (MacInnes 2012; Rice et al. 2001). Research methods are often taught as standalone modules to large cohorts of students removed or divorced from the disciplinary content of degree programmes (Williams et al., 2008). This mode of delivery can lead to passive engagement with research methods and students not developing sophisticated appreciation of the complexity of research methods (Earley, 2014; Murtonen, 2015). The impact of this on the perceived relevance of research methods to students and the marginalisation of research methods has been identified as a major challenge for research methods educators (MacInnes, 2012; Williams, Collett and Rice 2004). As reported by Gray et al. (2015) research methods were commonly taught through programme specific lectures, in small groups or tutorials, with the delivery of research methods supported through the use of independent study, practical exercises and problem or project based learning. Smaller student groups in college-based HE potentially create greater flexibility in the design and delivery of research methods provision, therefore some of the challenges associated with university-based research methods cohorts taught to large cohorts, divorced from substantive course content may not be an issue.

Given the vocational orientation of college-based HE 77.8% of respondents strongly agreed/agreed with the statement ‘I enjoy applying research methods to real world problems’ may not be unexpected. Indeed, it may be taken to imply a positive

disposition to pedagogies such as problem or project-based learning where students are working on real life problems, issues or scenarios. However, this position was not supported by the pedagogic approaches students highlighted as preferring to engage with to learn about research methods (Table 3). Respondents demonstrated a strong preference for lectures, which counters the position of students in university-based HE (e.g. Allen and Baughman, 2016), though this has to be mediated by the small class sizes associated with CBHE (Fenge, 2011). It does resonate with the lecturer data, where lectures are commonly employed to teach students about research methods (Gray et al., 2015). In terms of actively engaging with research methods students appeared to prefer undertaking practical exercises (46.9%) or opportunities to discuss research methods through tutorials or workshops (33.7% and 32.7%) (Table 3). These approaches would create a forum through which students could gain feedback and experiment with the skills and knowledge they are developing in a supportive or safe environment, rather than working more independently as is often associated with problem or project-based learning. This may reflect partly the level at which respondents are working (i.e. level four and five) and also the familiarity of these approaches in terms of how else they are taught across their foundation degrees.

Table 3: Students preferred pedagogic approaches to engaging with research methods

Though the principles of active learning are inherent to practical activities and workshops, mastery of skills through this format is achieved through students rehearsing or repeating activities until success is realised. Given that a skills

discourse has been realised as undermining or limiting students developing sense of the complexity or theoretical foundations of research methods (Murtonen, 2015), greater attention should perhaps be paid to problem or project-based learning. As Winn (1995: 205) states: ‘practical experience is essential to the learning of research methods [...] and this experience should be as real as possible’. The college-based HE students responding to this survey demonstrated an appetite towards applying research methods to real world problems, though the extent to which this has been realised in practice is apparently limited. Whilst it could be challenging for level four college-based HE students to engage with research methods through approaches such as problem or project-based learning, it could support the integration of the more abstract or sophisticated aspects of research methods (e.g. epistemological framing, concepts such as validity and reliability) that are currently not a feature of their learning. These approaches could also support the development of essential skills such as critical engagement with knowledge and evaluation of literature, relevant to their wider academic development as well as promote positive attitudes towards wider applicability of research methods to their future employability. Indeed, as previously highlighted, Levy and Petrius (2012) strongly advocate for the use of such pedagogies to promote both the academic development and social integration of level four students.

Reviewing the methods lecturers use to assess students’ knowledge, skills and experience in research methods demonstrates a further disconnect from vocational orientation of college-based HE. Employer input into student assessment is limited (Table 4); instead lecturers are tending to use what some may consider the more ‘traditional’ forms of assessment e.g. research proposals, reports and essays (Table 4).

Whilst developing skills to write coherent research proposals are important, the prevalence of written forms of assessment is surprising and may detract from the potential wider applicability of knowledge about research methods beyond their higher education studies.

Table 4: Assessment methods commonly used to assess research methods in college-based HE

Based on these data relating to the pedagogic approaches to promote and assess student learning of research methods, innovation and development is needed in these areas. Work by Healey et al. (2014) to raise the profile of research-based curricular in college-based HE resonates with this finding. Healey et al. (2014) identify the need for strategies to develop research-based curricular to be inclusive of a whole colleges' HE provision, rather than be centred on innovation taken forward by individual lecturers or programme teams. Refocusing CBHE provision around research-based curricular creates the potential for programmes teams to explicitly integrate research methods education into student learning, from level four and beyond. There are numerous examples across university-based HE where such approaches have been successful (e.g. Benson & Blackmore, 2003; Edwards & Thatcher, 2004; Winn, 1995). Indeed, given the close links colleges are perceived as having with employers and the local community, such developments should be achievable. Collaborative working with employers could allow the use of assessment practices that are less traditional and more responsive to the context in which the research is being framed (i.e. to meet the requirements of an employer) and foster active learning.

Conclusions

In this paper we present the outcomes of study that sought to capture contemporary data relating to the attitudes and experiences of college-based HE students to research methods. Though this is a small-scale study it is the first time the research methods education of college-based HE students has been examined. Therefore these data provide valuable evidence on which future studies can build. In terms of curriculum innovation attention needs to be paid to the breadth and depth of research methods education, as currently provision tends to be limited, centred on what some may consider the easier or more palatable aspects of research methods, e.g. data analysis concentrating on descriptive statistics, rather than more complex forms of quantitative analysis that are widely reported to be challenging or off-putting for students (Chamberlain et al., 2015; Williams et al., 2016). Likewise the extent to which students are developing robust understandings of the theoretical and critical aspects of research methods through engaging with concepts such as the philosophical underpinnings of research and concepts such as reliability and validity is limited. Studies (e.g. Greenbank, 2007; Pike and Harrison, 2011) have previously recorded the challenges students whom progress from level five in a college to completing level six at a university experience, particularly in terms of successfully completing a dissertation. Based on the data presented here we have to question the extent to which college-based HE students are prepared to undertake the analyses and evaluation of their research associated with a capstone dissertation study.

There are a number of reasons the curriculum for research methods education may be limited in its scope and depth. Gray et al. (2015) previously concluded that issues such as resourcing, staff expertise, pressures on curriculum space, the student profile and dual exit points for students (foundation degree or progression on to honours-level study), as impacting on the content and focus of research methods provision in colleges. These are issues that can individually or collectively have a significant impact on the breadth and quality of the research methods education college-based HE students receive. But these are not new challenges; they align with the wider discourse relating to the barriers faced by college-based HE lecturers becoming research active, and in a sense, issues relating to opportunities for lecturers and students to engage with scholarly activity and research may have become conflated. If college-based HE is going to respond to the demands of policymakers to support the on-going expansion and upskilling of undergraduates (BIS, 2011), practice around research methods education needs to change. Colleges are perceived as ideally placed to meet the demands of employers and equip graduates with the necessary skills, knowledge and experience they demand (HEFCE, 2009). Traditionally this has centred on practical skills, but the on-going development of college-based HE demonstrates the need for greater engagement in theoretical, conceptual and critical skills essential for the contemporary labour market (Bathmaker, 2013). Research-based curricula, which are centred on student engagement in research, creates distinct opportunities to foreground research methods education in college-based HE and can support the comprehensive engagement with research methods.

Refocusing research methods education in this way may result in students developing a more realistic understanding of research methods, their applicability to their

academic and professional development and a sense of their expertise in this area.

The data we reported here did not align with related work in university-based HE; for example respondents reported greater levels of confidence in activities such as data analysis, and a preference for more passive forms of engagement with research methods. Related work centred on university-based research methods education documents issues such as statistical anxiety and a preference for active engagement with research methods – aspects educators in this sector are struggling to resolve (e.g. Allen and Baughman, 2016; Chamberlain et al., 2015; Earley, 2013). Dialogue clearly needs to take place around the role of research methods in college-based higher education; though Healey et al. (2014) have begun this, and innovation is currently being supported by initiatives such as the Associations of Colleges Scholarship Project (a three-year Higher Education Funding Council for England Catalyst project intended to explore scholarly activity in college-based HE from the student, community and employer perspectives), further work is needed. Discussion around research methods education is firmly embedded into the discourse of university-based higher education, this needs to be extended to be inclusive of college-based HE.

Though this study does contribute to contemporary knowledge relating to the role of research methods in social science disciplines in college-based HE the limitations of this work need to be acknowledged. This is a relatively-small scale study; the short period over which data were collected may have impacted response rates, equally, the use of an online survey may have introduced respondent bias (Watt et al., 2002). The overall response rate resulted in amalgamation of the level four and five responses; there clearly will have been differences in the level of learning, experience and

knowledge reported by level four and five respondents which we need to be mindful of. Also over 60% of responses were drawn from woman, which though not unanticipated given the educational context, based on previously reported differences in the research methods education experience of male and female students (as reported in Shaw et al., 2013), this gender profile may have implications for the reporting of their experiences of research. However, the outcomes of this study have informed further work which aims to take forward the agenda for research methods in college-based HE. The survey tool used to capture the knowledge, skills and experiences of college-based HE students in research methods has formed the basis of further work to capture the learning gain students make in their research methods education as they progress through their HE studies. Currently the research team are working with students from a range of colleges and a university-based provider to explore their academic development in research and pedagogic engagement with research methods across a range of disciplines. This study is part of a national agenda to develop and evaluate methods of capturing learning gain (HEFCE, 2015) and represents a novel innovation in research methods education.

Initiatives such as the AoC Scholarship Project, and the renewed focus on college-based HE by policy makers (BIS, 2011), had created a momentum surrounding the role of research-based curricular, and this is likely to have impacted on the research methods education implemented in support of resulting curriculum innovations. Therefore it is recommended further work is undertaken to systematically explore the emergence of research-based curricular in college-based HE. Such which should be inclusive of all disciplines, and also levels of provision, and pay particularly attention to the synergies emerging between employers and the application of research-based

practices. Underpinning this consideration should be made of the wider framing of the research-based curriculum, specifically how both students and staff are prepared (in terms of research methods training) and resourced (specialist computer packages) to engage with research at a level that is expected by employers and universities.

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