Reshaping Built Environment Education

The Impact of Degree Apprenticeships

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July 2018

CHOBE
Council of Heads of the Built Environment
Heads of Department of Construction, Property and Surveying

Northumbria University
NEWCASTLE

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High frequency word cloud of interviewees' responses

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CHOBE	Council of Heads of the Built Environment
CITB	Construction Industry Training Board
DA	Degree Apprenticeship
EMA	Electronic Management of Assessment
FEI	Further Education Institution
HA	Higher Apprenticeships
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
HESA	Higher Education Statistics Agency
HM	Her Majesty
IFA	Institute for Apprenticeships
KTP	Knowledge Transfer Partnership
PAYE	Pay-As-You-Earn
PSRB	Professional, Statutory, and Regulatory Body
QAA	Quality Assurance Agency
REF	Research Excellence Framework
RICS	Royal Institution of Chartered Surveyors
RoATP	Register of Apprenticeship Training Providers
SME	Small and Medium Sized Enterprise
TEL	Technology Enabled Learning
UK	United Kingdom
WBL	Work-Based Learning

3 SUMMARY

Apprenticeships have long been acknowledged as a practical vehicle to develop the vocational skills of the United Kingdom's (UK) workforce – thereupon improving industrial productivity and profitability. In 2012, following the Richard Review of Apprenticeships, which proposed a new model for the delivery of degree apprenticeships (DA) that would unite the vocational and academic learning and professional development of apprentices, the UK Government set a target of 3 million apprenticeship starts between 2015 and 2020.

For higher education institutions (HEI) to participate in the changing marketplace of apprenticeships, it is recognised they will be exposed to a range of distinct, inherent factors that generally do not surface during the design, development, and delivery of traditionally-taught under- and post-graduate degree programmes.

This report presents the findings of a study, sponsored by the Council of Heads of the Built Environment (CHOBE) and Northumbria University, to investigate the intrinsic factors HEIs delivering and planning DAs in the built environment, i.e., the professional disciplines of construction, property, and surveying, need to consider. The report is written from the perspective of three categories of HEI:

- those currently engaged in the delivery of DAs in the built environment seeking *recommendations*;
- those considering the design, development, and delivery of *new* DAs in the built environment; and
- those considering adopting a *best practice* approach to their existing portfolio of DAs in the built environment.

The report presents the findings of a national study carried out in England between June and October 2017. The study aimed to explore the impact DAs would have on the provision of education and training for professionals in the built environment in the existing higher education (HE) provision in England.

The report is founded on a combination of primary and secondary data. It includes a focused literature survey of Government publications, industry reports, and published materials about education and employment. Primary data were collected during in-depth qualitative interviews with representatives from six HEIs in England – all of which were either developing or delivering DAs in the construction, property, and surveying industrial sectors.

The report includes commentaries on the barriers connected to the design, development, and delivery of DAs; the benefits and opportunities for stakeholders engaged in DAs; and the implications concerning the governance, academic quality assurance, and pedagogy of DAs. The findings of the report, while specific to the experiences borne out of DAs in the built environment, present and discuss principles that are worthy of consideration by other industrial sectors considering engagement in the new apprenticeship model.

As expected, the results indicate there is still a lack of clarity and understanding from all stakeholders about what DAs are and how they operate. The results also indicate differing optimisms and attitudes towards DAs exist based on the Higher Education Funding Council for England (HEFCE) funding status of HEIs. The importance of the people driving and implementing DAs within HEIs was acknowledged as being paramount to their success. Unanimously, it was felt that overcoming the challenges to DAs was worthwhile and that they are the right HE pathway to support the future part-time education of professionals working in the built environment.

The most important stakeholder at the centre of the DA educational philosophy is the student or apprentice. Challenges around attracting the right number and quality of apprentices were seen as a responsibility for HEIs and employers. The ability to attain the Richard Review of Apprenticeships defined benefits without accruing the burdensome final debt that is commonplace among full-time traditionally-taught students while gaining meaningful workplace experience, was considered to be the central tenet of DAs.

4 DEGREE APPRENTICESHIPS

This section of the report outlines the background and context of degree apprenticeships (DA). It provides a summary of the Richard Review of Apprenticeships and its recommendations. It concludes with a definition of a DA and an explanation of how the educational pathway works.

4.1 CONTEXT

A review of industry reports and Government publications highlight the on-going skills gap in the built environment (CITB, 2017). These skills gaps appear to be exacerbated by the perceived knowledge and abilities of graduates leaving higher education (HE) and the expectations and demands of business and employers (Hernández-March, Martín del Peso , and Leguey, 2009). The National Centre for Universities and Business in 2014 called for *really big thinking* on how academia and industry could collaborate to develop a workforce fit-for-purpose (Time Higher Education, 2018). The United Kingdom (UK) Her Majesty's (HM) Government Industrial Strategy report states UK business needs are continuing to evolve as the Government recognises the importance of the built environment sector to the national economy (HM Government, 2017).

The Government's aspirations and ambitions for the built environment sector are to improve productivity and performance and to reduce overall project costs by 30% and project delivery time by 50% before 2025 (HM Government, 2017). An implication of the Government's ambitions is an increased demand for a staff resource that can drive the built environment sector to deliver the ambitious change that is required. Perhaps, this is only possible by encouraging the long-overdue integration of employers, training providers, professional institutions, and future industrial talent: the kind of collaboration that could be encouraged through a revision to the apprenticeship system.

The Conservative Party manifesto of 2015 pledged to create 3 million new apprenticeships in England by 2020 (Conservative Party, 2015). This pledge was based on the development of employer-led DA standards with the independent assessment that is supported by a new Apprenticeship Levy system. One of the benefits of the proposed apprenticeship scheme was that tuition fees for degree and higher apprenticeships would be taken from an Apprenticeship Levy pot – into which employers pay directly. The apprentices would be, under the terms and conditions of the DA, unable to contribute or make a payment towards their tuition fees; thus, opening up the opportunity for students to complete an undergraduate degree without incurring debt.

The Apprenticeship Levy was introduced in April 2017. It requires employers with a payroll of over £3-million to pay 0.5% of their payroll bill (offset by £15,000) via pay-as-you-earn (PAYE) to fund apprenticeships for all companies based in England (Universities UK, 2016). These collected levy funds are to be used to help develop and enhance the skills, training, and expertise employers need to enable them to respond to an increasingly, competitive, volatile yet ambitious growing economic climate. In 2012, a review of apprenticeships led by Doug Richard (Richard, 2012) set out to identify what a high-quality apprenticeship programme would look like to boost opportunities for young people and address industry skills gaps (Cable, 2018).

4.2 REVIEW OF APPRENTICESHIPS

The Richard Review of Apprenticeships in England was commissioned in June 2012 by the Secretaries of State for Education and Business, Innovation, and Skills. The task it set was to:

> … ensure that in the future the programme is meeting the needs of the changing economy, consistently delivers high-quality training and the professionally recognised qualifications and skills which employers and learners need and is maximising the impact of government investment. The review should take a critical look at apprenticeships and look to identify a set of principles and priorities for the optimal content of future apprenticeships, to ensure that every apprenticeship delivers new high-quality training and professionally recognised qualifications. *(Richard, 2012, p. 20)*

The review addressed the questions of what a modern apprenticeship system would look like in a future economy and how would it work. Richard recognised that apprenticeships do matter to society and the economy: they provide a meaningful opportunity to benefit not only the apprentice but also society by means of directing people into fulfilling work, in addition to helping employers develop a more loyal workforce and productive workplace. Commenting on the launch of his review, Richard said:

> No matter who I speak with, everyone agrees that apprenticeships are a good thing… With the myriad of learning experiences which are currently labelled as apprenticeships, we risk losing sight of the core features of what makes apprenticeships work… Apprenticeships need to be high-quality training with serious kudos and tangible value both to the apprentice and the employer. I want to hear about an 18-year-old who looked at their options and turned down a place at Oxbridge to take up an apprenticeship if that is the right path for them. *(Richard, 2012, pp. 1-15)*

The recommendations outlined in Richard's (2012, pp.15-9) report include:

- redefining apprenticeships: Richard suggested they should only be targeted at those who are new to a job or role that requires sustained and substantial training;
- focusing on the outcome of the apprenticeship: determining what the apprentice should be capable of doing when they complete their training and embedding trusted and independent assessment as a critical element;
- recognising that industry standards should form the basis of every apprenticeship;
- apprentices will have reached a good level in English and maths before they can complete their apprenticeship;
- Government funding must create the right incentives for apprenticeship training: the purchasing power for investing in apprenticeship training should lie with the employer; and
- greater diversity and innovation in training: with employers and government safeguarding quality.

In 2015, the Government launched nine new industry-designed degree apprenticeships (DA) that would become the new and innovative model of apprenticeships that bring together the best of higher and vocational education to allow students to combine academic study with practical experience (HM Government, 2018). The launch was in direct response to the Richard Review of Apprenticeships (2012) and the Government's intention to deliver quality apprenticeships that put employers firmly in the driving seat. The first DAs included the occupational standards for the Chartered Surveyor, Aerospace Engineer, and Nuclear Scientist and Nuclear Engineer. In support of DAs, Business Secretary Vince Cable (2018) said:

> Degree apprenticeships will bring together the very best of higher and vocational education, and allow apprentices to achieve a full bachelor's or master's degree, whilst training on the job

4.3 WHAT IS A DEGREE APPRENTICESHIP?

Degree apprenticeships (DA) are a new educational route, launched by the Government in England, following the publication of the Richard Review in November 2012 which typically provide opportunities for apprentices to progress to membership of a professional, statutory, and regulatory body (PSRB). DAs are similar to higher apprenticeships (HA) but differ in that they provide an opportunity to gain a bachelor's degree, i.e., level 6, or master's degree, i.e., level 7 (UCAS, 2018).

DAs also combine higher education (HE), i.e., university-level study, and on-the-job, i.e., vocational, training to be constructively aligned in a way that has previously been difficult to achieve. The apprentice is employed and trained to develop the requisite competencies and skills to undertake a defined occupational role. By the completion of a DA, an apprentice is equipped with a transferable set of critical skills and competencies to foster a level of personal and professional confidence that extends beyond their defined professional role. The occupational role defined by the DA is outlined in a document called an Apprenticeship Standard.

There is a set of criteria which classifies an apprentice under this approach; this states the apprentice must:

- have a contract of employment;
- be paid at least the appropriate minimum wage;
- have an apprenticeship agreement with their employer;
- be allowed 20% structured off-the-job training before the end-point assessment; and
- must complete an end-point assessment

(Instituteforapprenticeships.org, 2018)

Employers are now placed at the centre of the process for designing, developing, and delivering apprenticeships. Their centralised position ensures the apprenticeship output is aligned to industry expectations that will meet their skill needs, those of the broader sector, and the national economy. Groups of like-minded small, medium, and large employers, known as *trailblazers*, come together to design and develop an Apprenticeship Standard for a functional role that is focused and relevant to their business needs and practice.

The remit of the trailblazer is to liaise and engage with appropriate trade organisations and PSRBs to align the requisite skills and competencies requirements of the occupational role with the demands of professional membership (where appropriate). Trailblazers also interact with potential training providers, usually further education institutions (FEI) and higher education institutions (HEI), to design and develop appropriate, robust learning, teaching, and assessment strategies.

The tripartite collaborative working relationship between employers, PSRBs, and HEIs has the potential to release the aspired *added value* of a DA by delivering programmes that are constructively aligned with academic curricula, underpin theoretical knowledge with the opportunity to apply learning in the workplace, and engage in the PSRB membership process (Instituteforapprenticeships.org, 2018). This association results in proactive relationships across all stakeholders being established that create a platform for unique working practice.

In summary, the main features of DAs are to:

- align university study at bachelor's or master's degree level with occupational-based workplace learning;
- provide the apprentice with full-time occupational-based employment and receive at least an apprentice's minimum wage;
- foster collaboration between groups of like-minded employers to ensure apprentices are equipped with the requisite skills and competencies demanded by the occupation role;
- provide tuition-free education for the apprentice but without access to student loans; and
- require employers contribute to the Apprenticeship Levy. For 2017–18, 100% of the cost of the DA is contributed by the Apprenticeship Levy for *apprenticeship levy paying* employers and 90% for 'non-apprenticeship levy paying' employers.

5 RESEARCH METHOD

This section of the report outlines the theoretical framework supporting the choice of the research design and strategy and the technique used to structure, organise, and analyse the data collected during the study. At the time of the study, a relatively small number of higher education institutions (HEIs) possessed experience of delivering degree apprenticeships (DAs) in the built environment.

A qualitative research methodology was selected to facilitate the collection of vibrant and meaningful data from a sample of experienced staff employed by the majority of HEIs delivering DAs in the built environment. The rich qualitative data thematically structured, organised, and analysed using industry-standard computer-assisted qualitative data analysis software.

5.1 RESEARCH DESIGN AND STRATEGY

Miles and Huberman (1994) have explained that qualitative research involves the collection of in-depth, rich data from a small sample of people that are located within the unique context to be studied. Taking into account the aims of the study, while acknowledging the small number of HEIs currently DAs in the built environment, it was decided to employ the focused, qualitative approach to research design advocated by Miles and Huberman. By doing so, the key themes affecting the design, development, and delivery of DAs from the perspective of the HEI would be recognised.

The study adopted an interpretivistic philosophical stance to acquire an in-depth insight into the views and perceptions of the chosen participants, i.e., respondents were not considered to be *actors* reacting to external social forces, but considered to have a unique ability to construct meaning about the same object reality, i.e., DAs in the built environment, in diverse ways and hold singular reasons for interacting with others in their own *social world*, i.e., the word of higher education in England (Bryman, 2015).

5.2 QUALITATIVE RESEARCH SAMPLE

It has been discussed above that groups of employers, i.e., *trailblazers*, have worked together to design apprenticeship standards that respond to the needs of their industries. In June 2016, the Institute for Apprenticeships (IFA) reported that more than 1,200 large and small employers in England from a wide variety of industrial sectors had been involved in the development of apprenticeship standards. At the beginning of 2018, across 15 sectors, 510 apprenticeship standards were either published, in development, or approved for delivery, i.e., both the standard and assessment plan had been approved. This figure included eight degree-standards in the construction sector that encompassed the occupations of the Architectural Assistant, the Building Services Engineering Site Manager, the Chartered Surveyor, and the Construction Site Manager.

The Register of Apprenticeship Training Providers (RoATP) is a list of education and training organisations that are approved by the Skills Funding Agency (SFA) to deliver apprenticeship training on behalf of employers using the apprenticeship service. The list includes three types of provider: main, employer, and supporting. When considering the research aim, this project was limited to studying RoATP approved main providers that were classified by the Higher Education Statistics Agency (HESA) as higher education (HE) providers. HESA has explained this term includes, "all publicly funded universities and other HE institutions [HEIs] in the UK." It should be noted that a publicly funded university is one that receives public funding directly from the Higher Education Funding Council for England (HEFCE).

Six HEIs were selected to take part in the study because of their experience and well-established portfolio of DAs in the built environment. (It should be noted that the population of HEIs in England offering DAs in the built environment at the time of the study was small.) They were geographically spread across England and considered to be genuinely representative of the population of HEIs delivering DAs in the built environment. Furthermore, the sample of HEIs included *HEFCE* and *non-HEFCE*, i.e., independently, funded HE providers offering educational qualifications at level 6 and above in subjects relevant to the built environment. The distinction between HEFCE and non-HEFCE funded institutions was considered to be an essential dimension of the project that would ascertain any perceived differences in the economic and commercial behaviour of HEIs during DA design, development, and delivery.

From the sample of six HEIs, nine employees were hand-selected using a non-probabilistic sampling method. Although the respondents formed a convenience sample, they were representative of the target population regarding their demographic characteristics. Simply put, the informants looked no different to those not invited to participate in the study; this is because all relevant categories of people that would typically be involved in the development, delivery, and support of DAs were included in the sample to ensure, as far as possible, all groups were fairly represented.

The demographic characteristics of the interview respondents are illustrated in Figure 1 and Figure 2 below. These charts show that five males and four females were interviewed: they included five that were younger than 40 years of age, two that were aged between 40 and 49 years of age, and two that were aged over 60. Four of the respondents were classified as being *academic*, one *management*, and four *professional support*, i.e., administrative and technical support staff.

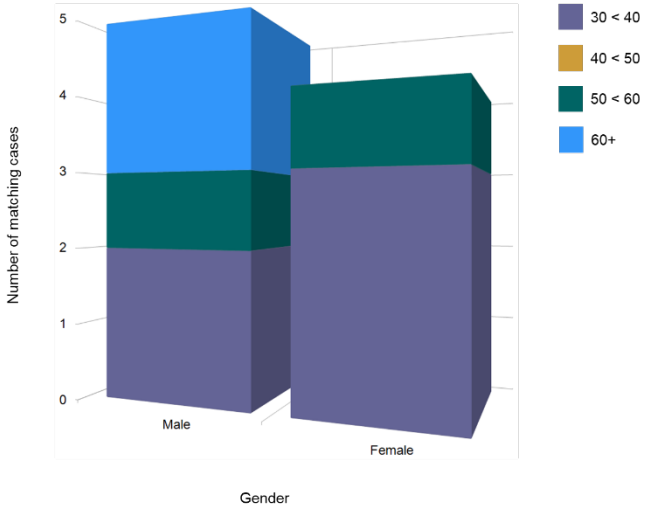

Figure 1 Participant gender and age group

Before analysing the qualitative data that originated from the semi-structured interviews, each HEI and respondent was assigned a unique alphanumeric coding reference to establish and maintain anonymity. HEIs were labelled *HEI01* through to *HEI05* and respondents *RESP01* through to *RESP09*.

The qualitative data from the semi-structured interview transcripts were initially structured and analysed using an open coding approach, i.e., "the process of breaking down, examining, comparing, conceptualizing, and categorizing data" (Strauss and Corbin, 1990, p. 61) into concepts using NVivo 11 Pro. The data were then grouped and classified into thematic categories (Strauss and Corbin, 2015; Bryman, 2015; Denscombe, 2014). An axial coding approach then followed to organise the data into new structures by forming logical connections to understand the inter-relationships between emergent themes (Denscombe, 2014). Bryman (2015) has explained this process must involve, "linking codes to contexts, to consequences, to patterns of interaction, and to causes." Insights and associations in the data became apparent that would not otherwise have been

possible if a manual approach to qualitative data handling and analysis had been adopted. This approach enabled quality, rich data to be extracted that were aligned with the aim of the study.

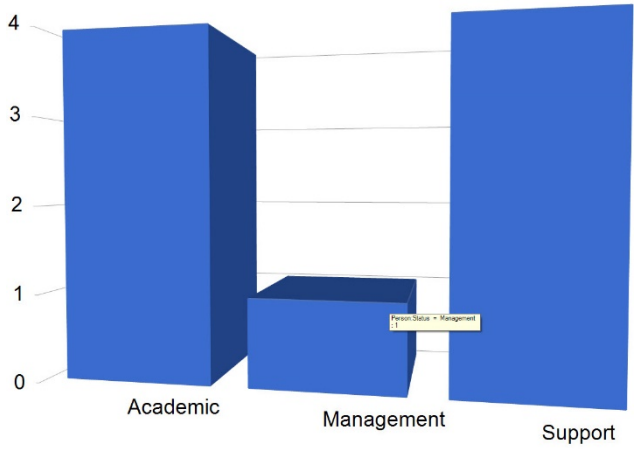

Figure 2 Participant role

5.3 QUALITATIVE INTERVIEW THEMES

The interview respondents were asked a battery of open questions during an in-depth semi-structured interview that was designed to elicit their experience, knowledge, and understanding of DAs in the built environment from the perspective of their employing HEI. The questions were categorised according to the following two themes and 11 sub-themes:

5.3.1 BARRIERS, BENEFITS, AND OPPORTUNITIES

- benefits for HEIs and employers arising from DAs
- barriers for HEIs and employers preventing engagement with DAs
- relationship between HEIs and employers and how this influences the development and delivery of DAs
- opportunities for collaboration between HEIs and employers because of DAs
- benefits for students because of DAs

5.3.2 QUALITY ASSURANCE, GOVERNANCE, AND PEDAGOGY

- alignment of DA learning outcomes to the apprenticeship standard
- teaching and learning approaches regarding DAs
- assessment approaches relevant to DAs
- inclusion of the apprenticeship workplace as a learning environment
- factors affecting the design of the end-point assessment
- HEI programme approval and legal policies and procedures in support of DAs

5.4 CONFIRMABILITY

Unlike quantitative research, writers such as Bryman (2015) and Silverman (2018) have acknowledged the irrelevance of *reliability* and *validity* as noteworthy criteria for determining the quality of qualitative research. Even when the view is taken that these criteria are moderately relevant to qualitative studies, the possibility has been raised that the definition of these terms needs to be redefined. To resolve this predicament, Bryman has suggested *confirmability* could be considered an alternative and more appropriate construct. He has explained that confirmability is:

> […] concerned with ensuring that, while recognizing that complete objectivity is impossible in social research, the researcher can be shown to have acted in good faith; in other words, it should be apparent that he or she has not overtly allowed personal values or theoretical inclinations manifestly to sway the conduct of the research and the findings derived from it. (Bryman, 2015, p. 392-3)

Bryman's viewpoint has been confirmed by Lincoln and Guba (1985) who have proposed *authenticity* as an additional criterion to the four trustworthiness criteria of *credibility*, which parallels internal validity; *transferability*, which parallels external validity; *dependability*, which parallels reliability; and, finally, *confirmability*, which parallels objectivity (Bryman, 2015, p. 390). This study attempted to alleviate the concerns highlighted by Bryman and Lincoln and Guba regarding measures of objectivity in qualitative research by determining the *confirmability* of the data through the use of qualitative content analysis.

5.5 QUALITATIVE DATA ANALYSIS

Qualitative data analysis involves working intensively and becoming immersed in rich data. The tools provided by NVivo support this requirement by enabling multiple strategies to be undertaken concurrently. The functionality includes the ability to learn from the data sources by reading, reflecting, coding, linking, and visualising. Bazeley and Jackson (2013) have said that "coding is one of several methods of working with and building knowledge about data" (p. 70). A code, according to Corbin and Strauss (2015), is an abstract representation of a construct, object, or phenomenon the researcher has observed in the data. From a pragmatic perspective, Bernard and Ryan (2010) have said that the process of creating codes, i.e., coding, is a way of identifying and linking themes in textual data (although it is also possible to code pictures and videos in this manner).

Bernard and Ryan go on to explain there are two approaches to coding: *splitting* and *lumping*. Splitters tend to look for fine-grained themes to maximise the differences between sections of highlighted text, while lumpers search for broad, overarching themes and, therefore, minimise the differences. Coffrey and Atkinson (1996) advocate an affiliated, combined approach and recommend starting the coding process with a few general categories and, as the process develops, switch to coding in more detail. Arguably, Bernard and Ryan's approach is merely the separation of the pre-dated two-staged coding process suggested by Coffrey and Atkinson.

The qualitative data analysis procedure for this study adopted Coffrey and Atkinson's approach to coding. The process considered the results of coding to be changeable and, therefore, not fixed. Sections of text were initially coded to broad topic areas, i.e., parent nodes, to identify and group similar passages in a much quicker fashion. The research aims outlined in Section 3 above and the themes identified following a review of the limited extant literature on DAs helped to determine the parent nodes. This process replicated the lumping method advocated by Bernard and Ryan. Clusters of text coded to the parent nodes were then re-coded in greater detail using a hierarchical or tree-structured system designed to gather smaller, related concepts into a standard subordinate set, i.e., child node, or perhaps to merge themes into one. The final stage of the data analysis followed the second of Bernard and Ryan's method.

Figure 3 below illustrates an example of one of the hierarchical structures that were formed during the first stage of the data analysis for the study. The example includes the parent node *pedagogy* and three child notes: *pedagogy (barriers)*, *pedagogy (benefits)*, and *pedagogy (opportunities)*. In total, there were parent nodes representing themes for *trailblazer*, *student*, *HEI*, *DA programme*, *pedagogy*, *assessment*, *barriers*, *benefits*, and *opportunities*. The second and detailed stage of the analysis resulted in 49 child nodes being created to capture the finer detail of the textual data. Bazeley and Jackson (2013) have clarified that the aim of this stage is, "to capture the finer nuances of meaning lying within the text, coding a long enough passage in each instance to

provide sufficient context without clouding the integrity of the coded passage by the inclusion of text with a different meaning […]" (p. 72).

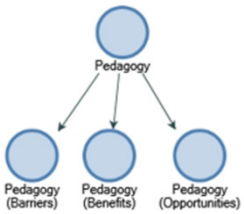

Figure 3 Pedagogy parent and child nodes hierarchical coding structures

6 RESULTS

The primary data, analysis, and findings presented in this report are the result of an original exploratory study that involved the in-depth qualitative interviewing of nine participants from six higher education institutions (HEIs) delivering degree apprenticeships (DA) in England. The participants were chosen and agreed to take part in the study because of their experience of developing, supporting, and delivering DAs in subjects allied to the built environment.

Each in-depth exploratory interview was audio-recorded and subsequently transcribed by a professional audio-typist. The names of the participants and their employing HEI were redacted from the resulting transcripts to establish and maintain their anonymity. During the first stage of the data analysis process, the dominant themes contained within the participants' responses to the semi-structured qualitative interview protocol were identified using NVivo. These key themes were then analysed once again and subsequently broken down into smaller, more focused sub-themes, with emphasis placed on the identification of potential associations between them.

Results from the content analysis of the transcripts are presented according to the qualitative interview themes that were discussed in Section 5.3 above of the report. These themes are categorised according to the barriers and potential benefits and opportunities available to key stakeholders engaged in DAs and the pedagogy and governance of DAs.

6.1 BARRIERS

Quantitative analysis of the number of references coded to two of the *stakeholder barriers* child nodes for *employer* and *HEI* yielded some intriguing results. When these were filtered by HEFCE funding status, as shown in Figure 4 below, the number of coded references discussed by respondents about the barriers affecting HEIs was more than double those affecting employers. Furthermore, the number of coded references discussed by respondents employed by HEFCE funded HEIs was almost the same as the number discussed by respondents employed by non-HEFCE funded HEIs.

When focused on the barriers affecting employers alone, respondents employed by HEFCE funded HEIs provided more than double the number of coded responses when compared with the number reported by their counterparts. It could be contended that non-HEFCE funded HEIs, which arguably have well-developed commercial relationships with employers, do not consider employers to be overly susceptible to barriers preventing their engagement with DAs.

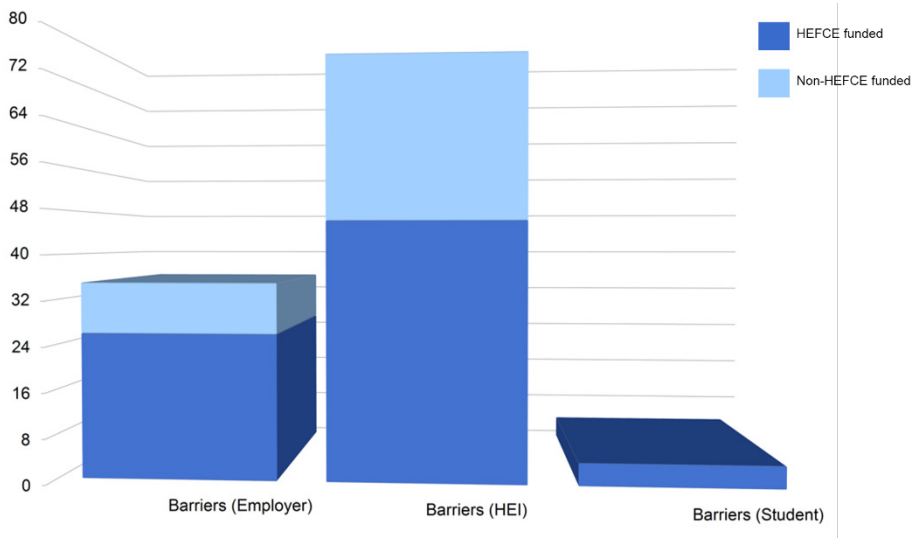

Figure 4 Number of coded references for stakeholder barriers by HEI funding

When a closer examination is undertaken, it can be seen from Figure 5 below that the respondents employed by HEI01 and HEI03 discussed a similar number of points regarding potential barriers for HEIs and employers. Respondents employed by the remaining HEIs talked more about the potential barriers affecting HEIs, i.e., their employer, when compared with the potential barriers affecting employers. Such an outcome could be attributed to the lack of commercial experience of the respondents employed by HEFCE funded HEIs. In other words, they potentially hold a limited, introspective view about the possible barriers to DA engagement.

The contribution of each respondent's views to the quantification of the potential barriers affecting HEIs and employers is displayed in Figure 6 below. The observance seems to show the extent to which respondents employed by HEI04—a non-HEFCE funded HEI—felt their strong historical position in the commercial marketplace of higher education gives them a distinct advantage over their peers employed by HEFCE funded HEIs. This reflection was quantified by the extent to which they discussed the potential barriers HEFCE funded HEIs would experience when attempting to engage with the development, design, and delivery of DAs, which is highlighted by the following statement from HEI04-RESP04.

> Starting off from our side, I think we face fewer barriers than other institutions. I went to a UVAC [University Vocational Awards Council] event in the autumn, which was focused on degree apprenticeships, and some of the strategic questions that universities were asking themselves about: is this right for us; what do we need to put in place to deliver this? I felt like we didn't need to answer that because it's so well aligned to our mission and our ways of working that we've already decided that this is for us, so there's no question of it not being for us.

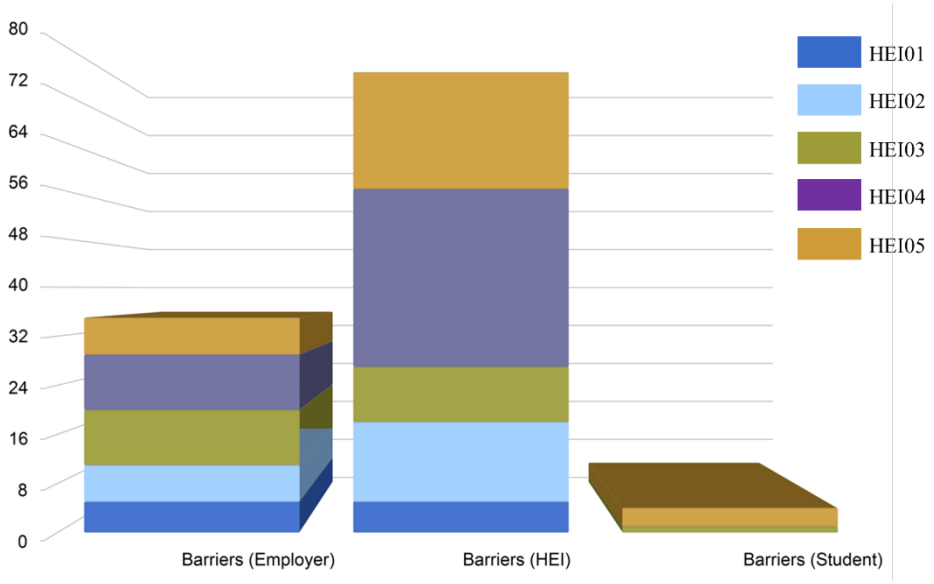

Figure 5 Number of coded references for stakeholder barriers by HEI

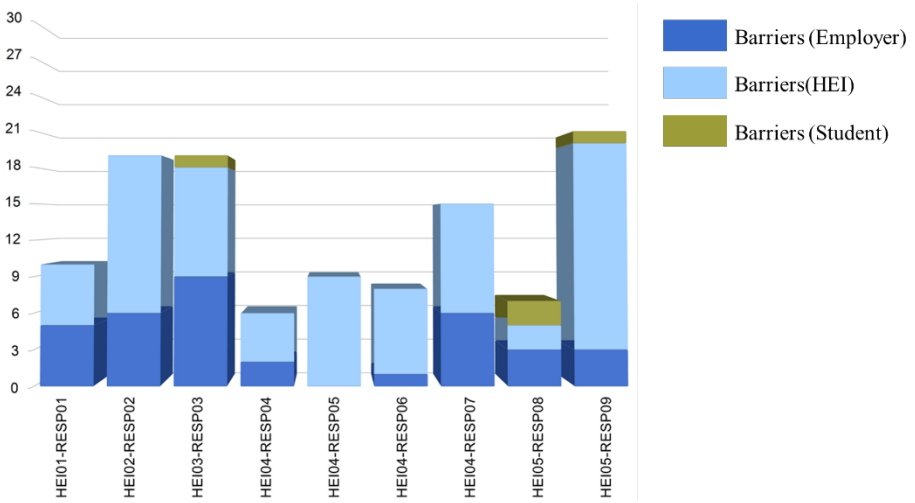

Figure 6 Number of coded references for stakeholder barriers by respondent

A few respondents employed by different HEFCE funded HEIs shared similar, independent points-of-view regarding the potential barriers encountered by HEIs regarding DAs. When asked to share their understanding of DAs, HEI02-RESP02 replied:

> […] I don't think anyone knows. I've always had this vision in my head that there are employers, there are universities, there is the IFA or SFA or whatever they are going to be called. All of those groups think they have an idea of what it is and assume that the other two fill in the gaps. I don't think that is the case. I think there are still huge gaps in understanding.

The uncertainty surrounding the definition of DAs was not limited to HEI01-RESP02 but was confirmed by HEI03-RESP03 who explained:

> I think some of the difficulties that we've had, as maybe you will recognise, is universities actually getting to grips with "what is this beast?" and not quite understanding how much learning is required to operationalise it.

When asked why this was the case, HEI05-RESP09 replied:

> Well, there are the ever-changing rules. It's like trying to collect fog […] the goalposts keep moving, that's the difficulty. And the support, when they move the goalposts on the field to try and understand it and get the support to understand it has been very difficult unless it's from another university. And there, again, it's just our interpretation of the rules. So, I think that's been difficult, for me anyway, from my experience. The goalposts aren't even on the same field; they're in another stadium, covered in glass, and they've cut me off at the knees, and I'm trying to run across the field.

At the same time, an alternative and potentially controversial perspective about DAs and the challenges encountered by HEIs was expressed by HEI04-RESP05. It should be noted that this respondent was employed by a non-HEFCE funded HEI and held a robust commercial view of DAs.

> And like I say, I can only see the limitations being of their own making really; if they want to put barriers in place, people will always find a way. But likewise, if you have got the right people with the right drive, they will find a way to either push through those, or round them, or whatever. […] trying to find ways to convince people that I suppose what we are doing isn't wrong, it's just a different way of doing it, and it's not traditional. And I think that is the challenge.

Another respondent from a non-HEFCE funded HEI and, coincidentally, a work colleague of HEI04-RESP06, suggested HEIs should rise to the challenge and overcome the barriers they encounter while engaged in the development and delivery of DAs. HEI04-RESP05 answered:

> I think that is one area where the HEIs have got to be brave […] remove potential layers of snobbery that might exist in some HEIs of the Further Education [FE] system and actually recognise the really good practice that's there for apprenticeships. So instead of trying to reinvent the wheel around degree apprenticeships, look at the good practice that is in their local FE college

Additional barriers to engagement encountered by HEIs that were reported by respondents were associated with the financial and governance aspects of DAs. Three respondents from HEFCE funded HEIs talked about the uncertainties they encounter concerning student tuition fees and the steps they have taken to resolve this problem. HEI05-RESP09 remarked:

> And the other area that's been a huge area for development is finance, because of the new funding, etc. There's been a lot of work around that as an area. I meet weekly with Finance in terms of how we're going to invoice employers, how we're going to pay them, incentive payments, how we're going to collect employer contributions, how we're going to manage the digital accounts, how we're going to manage it when they don't have a digital account. And everything that goes with that. We have many, many spreadsheets.

In addition to the complexities associated with the financial management of DAs and student tuition fee payment by sponsoring employers, the different timescale of the mandatory reporting process to the government funding department was raised by HEI02-RESP02 as a factor that exacerbates the financial challenges encountered by HEIs.

> Now, there is this uncertainty about how you get paid, and when you get paid, what reporting has to be done. The SFA requirements have got these sort of reporting cycles of 12-weeks, as a minimum. Well, we work on 15-week semesters. It's just outside. It has all been lifted up from the lower level apprenticeships and the old apprenticeship frameworks.

Semesterised academic years, which most HEFCE funded HEIs have adopted, seem to have been inadvertently overlooked by the SFA when it formalised the necessary DA reporting procedures; this issue is an example of

how the SFA's administrative reporting procedures do not appear to align with the modus operandi of HEIs and, therefore, place additional resource burdens upon them.

Further resource-related challenges that HEIs appear to have encountered are concerned with legal and procurement frameworks. Several respondents reported the public sector's requirement to adopt the best value approach to service delivery was creating significant legal and procurement challenges for HEIs. For example, HEI04-RESP04 commented:

> I think one of the barriers that we're seeing at the moment is just the procurement barrier that's arisen particularly for the public-sector business.

While HEI04-RESP07 declared the same concern:

> They're [public sector organisations] asking for ridiculous things. You're already on the register of apprenticeship training providers and then suddenly, [Local Authority A] want[s] you to go into a tendering process and then suddenly they want to charge you a management fee. It's ridiculous!

It was also reported that employers, both large and small, are equally encountering barriers that are restricting their engagement with DAs. This circumstance would seem to be counterproductive to the government's commissioning of the Richard Review of Apprenticeships and the subsequent recommendations outlined in the report. From the perspective of employers' general awareness and understanding of DAs, HEI04-RESP04 explained:

> I think the main barrier until now has been trying to understand how it works, because what we find is with each new employer that we engage, we have to talk them through the whole process end-to-end in terms of what they have to do, what we do, how the funding works, whether it's 90% or whether there are incentives for having a 16 to 18-year-old, how the sign-up works as opposed to just enrolling on the degree. All of those things are quite new to the employer, and we have to go through what their responsibilities are, like providing the 20%, time for off-the-job training, having the kind of in-house supervisor arrangements and a RICS counsellor if necessary.

HEI02-RESP02 also discussed these employer-based barriers to engagement with DAs by employers. They principally talked about the problems encountered by small construction-related companies and the steps taken by their HEI to try and address the problems.

> We have run a couple of forums for employers, so this is smaller companies now: SMEs and downwards. They haven't got a clue. We tell them very, very simple stuff, and they are gobsmacked. Really grateful, and then say, "Well, what do we do next?" We say, "Well, you get your students to apply for this course code instead of that course code, and we'll sort everything else out for you". "But, what about? What about?" Small companies don't understand what the new apprenticeships are.

Small construction-related companies do not seem to possess the requisite knowledge to understand degree apprenticeships and the processes they need to follow to recruit apprentices, i.e., students, and how to engage with HEIs. Two explanations may be their lack of a formalised human resource management department and their inability to attract and recruit appropriately qualified apprentices. The latter point was highlighted by HEI04-RESP06 who said, "we've got agreements with a certain number of employers that they will send us somebody, but they can't find anyone to send" and HEI04-RESP07, who explained, "until there's a way of literally lining up a whole line of people that might want to do an apprentice[ship], it's going to be very challenging."

The human resource challenges faced by employers is not limited to the recruitment of apprentices. Several respondents said that employers are encountering similar concerns regarding the quality of the work-related

experience and mentoring support that DAs demand when an apprentice is appointed. For example, HEI04-RESP07 explained:

> Some employers take on apprentices into roles that aren't suitable for the apprenticeship programme and then they don't get the [sic] sufficient experience and exposure within their normal working roles to be able to support the broader programme.

Concern about the employer's requirement to provide appropriate and effective mentoring support for the student, including professional, statutory, and regulatory body (PSRB) counselling, and the additional time and cost burdens this will bring, was highlighted by HEI03-RESP03, who said:

> I think it's resources for them as well, because, again, talking to our closed clients, you know, they are very worried about the amount of time that they're going to have to invest with that individual in terms of the mentoring. Also, they realise that it has got to be proper mentoring. It has got to be done properly, and they've got to have their mentors properly trained.

In addition to the hidden costs associated with providing mentoring support, the transparent financial requirements and related barriers confronted by large employers regarding DAs were also discussed by respondents. HEI04-RESP04 remarked:

> Where you have large employers, one of the barriers is simply the capacity to take on enough apprentices to use their levy funds fully. So, you do get some employers who say, "We're paying so much into the levy […] Big employers may be paying £100m a year or more, and they may find that to take on the number of apprentices that would use up those funds fully, they would have to increase their salary bill significantly, because they can't cover the salary through the apprenticeship levy. And they would also have to put in place more supervisory arrangements, which would be a management burden for them.

Construction is an industrial sector that is populated by many small and medium sized enterprises (SME). Workload capacity in the sector is also prone to wide fluctuations that is dependent upon the state of the national economy. Together, these factors can prevent SMEs from investing in their corporate infrastructure, i.e., human resources and mentors, and retain the capacity to manage the DA process. Potential barriers, therefore, exist for SMEs with regards to their engagement with DAs that originate from their lack of a formalised in-house human resource department and time to understand the legal, mentoring, and academic processes and procedures associated with DAs.

Additional analysis of the number of references coded to five of the *HEI* child nodes for *finance*, *legal*, *marketing*, *regulations*, and *structure and resources* produced anticipated findings concerning governance. It was noticed that there were almost three times as many coded references from respondents employed by HEFCE funded HEIs when compared with their non-HEFCE funded HEI peers. Of the references coded to the *structure and resources* child node, the distribution, once again, was in favour of respondents employed by HEFCE funded HEIs: with almost double the number arising from interviews with the non-HEFCE funded participants. A summary of these data is presented in Figure 7 below.

As anticipated, the governance and professional support structures of HEIs that are required to administer DAs were discussed by respondents from all HEIs. A respondent, HEI04-RESP07, who was categorised as a professional support team member and employed by a non-HEFCE funded HEI with only one faculty, explained:

> I can imagine in a more traditional HEI, that [governance] is a massive issue to get across and to get threaded through faculty structures, departmental structures and make sure that there's some sort of consistent approach to the apprenticeship programme […]

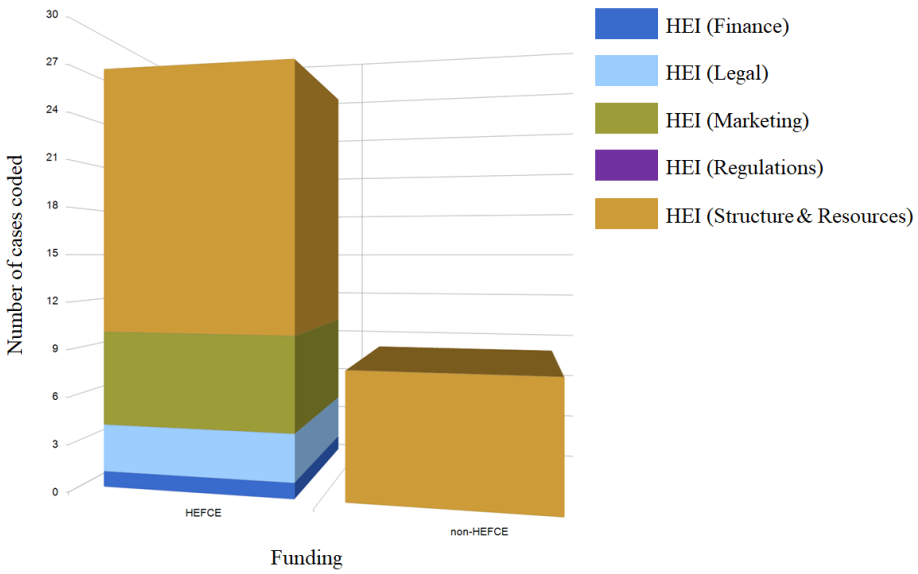

Figure 7 Number of references coded at HEI child node by HEI funding

Their comment suggests a standardised approach to the administration of DAs by HEIs is required, irrespective of the apprenticeship standards and industrial sectors in which they are located. HEI04-RESP07 went on to explain how in larger HEIs with many faculties it would be advisable for them to invest in the development of centralised professional support and governance structures. The adoption of such an approach would result in the formation of a *hub-and-spoke* governance model to oversee and standardise the administration of DAs across the institution, both during their development, approval, delivery and quality review.

> But I do think from the point-of-view of a large, multi-faculty university; it would be worth having central control […] before any apprenticeship programmes are launched […]

Despite HEI04-RESP07's idealistic view, most HEIs participating in the study had chosen to develop and deliver DAs before finalising their governance and administrative structures; albeit one respondent, HEI01-RESP01, explained their employer had not yet started to consider its organisational structure, even though it had a mature portfolio of DAs:

> [degree apprenticeships have] provided them [my HEI executive] with quite a challenge, and it's also thrown a bit of a spanner in the works to the university structure because they're now not sure where these degree apprentices sit, the management and the governance of them, the quality assurance of them. That's all a little bit at large. It will be resolved in the next six months, but when you have a big disruption like this that comes in, there's a lot of turf war that needs to be undertaken and resolved.

In larger HEIs, it would seem there is potential for inter-faculty power and authority dynamics to arise that may inadvertently distract attention away from the requirement to establish a governance structure that will efficiently support the unique requirements of DAs. The comment made by HEI01-RESP01 was supported by HEI05-RESP09 who said:

> […] what we've found is that they [tutors] need support from the central team in order to do that, because there are lots of things, bureaucracy, etc. that goes around the apprenticeships.

The potential benefits accrued from the establishment of a centralized governance structure were discussed by HEI03-RESP03. They talked about the *hub-and-spoke* model setup in their HEI:

> In terms of the university getting on board with this, it's just been at the right time. We have a central team now, which is ever expanding, which is dealing with all business

> including degree apprenticeships and then within each of the faculties, and sometimes departments, there are people like myself who are working with the central team but also working specifically on those specific standards in those specific subject areas. So that's about working with the operations side as well.

HEI03-RESP03 also mentioned the need to monitor and report the effectiveness of the governance structures supporting DAs to HEI executives. They explained how their employer had evolved its governance structure over time to include a board attended by two Pro-vice-chancellors (PVCs) with leadership responsibilities allied to DAs.

> One of the things that has happened since I've been here is we've set up a degree apprenticeships board specifically looking at lessons learned and those sorts of issues. We have two PVCs who sit on the board, because one of the things they've realised is we have to be a lot more flexible and agile, and decisions need to be made. So that board meets every four weeks.

Temporarily putting aside the potential benefits and opportunities available to degree apprentices, which will be discussed later in Section 6.2, it can be seen from Figure 4 above that only three respondents raised comments regarding the barriers or drawbacks for DA students. HEI03-RESP03 shared a recent experience they had encountered during an open-day presentation, which seems to indicate DAs are not suited to all HEI applicants, as some are seeking a *university experience* that is only available to students on traditionally-taught degree programmes.

> I did a presentation the other week to some built environment students explaining what the potential benefits were and maybe what the downsides were and it's an incredible amount of work.[…] I had interest from some and then I had some others who said, "Yes, we know we're going to come out with all this debt and we know this, but actually we want to have a full-time student experience at university."

Another potential disincentive reported by HEI05-RESP08 for apprentices was associated with the intertwined nature of the educational and professional experience framework of DAs. It was observed that apprentices may potentially receive their degree award from the HEI but will not complete the apprenticeship programme until they have completed the end-point assessment, which is evaluated by the professional accrediting body (PSRB) and not the HEI.

> Their degree award is independent, so they'll get their degree; they won't complete their apprenticeship until they've successfully done the end-point assessment.

HEI05-RESP08 considered the inter-relationship that exists between the apprentice's educational pathway at the HEI and professional experience while working for the employer as a potential obstacle. This observation has far-reaching implications for the collaborative partnership that supposedly is meant to exist between the HEI and employer during DAs. It highlights the capacity for apprentices to be placed within a professional context of an SME that has limited scope and capacity for them to address the learning outcomes of the educational pathway and professional competencies and skills demanded by the accrediting PSRB.

> So, some of our SMEs, for instance, they have got quite narrow workload, and narrow focus on the kind of work that they get involved in. So, from their perspective, it's being able to provide the apprentice with the breadth of experience that's required of them to be able to fully demonstrate that they've achieved all the professional competence, because that's the only kind of thing that might be stopping more employers getting involved.

However, HEI05-RESP08 recounted a solution their HEI was considering putting in place to mitigate this weakness by exploring opportunities for apprentices employed by SMEs to rotate, i.e., swap roles and responsibilities on a temporary basis. Although it is recognised this proposal is attempting to replicate the graduate training programmes typically offered at large companies, there would need to consideration given to

the agreement and support from SMEs about this innovative proposal – as it would likely be accompanied by a raft of potential human resource and employment contract law issues.

> And again, we're looking at strategies for how we address that. So, it might be that for a week we get apprentices to swap employer, so they can have a different experience.

6.2 BENEFITS AND OPPORTUNITIES

In a similar manner to the quantitative data analysis that was undertaken for stakeholder barriers in Section 6.1, the number of references coded to two of the stakeholder benefit child nodes for *employer* and *HEI* was calculated using the matrix coding query function in NVivo. The operation revealed that the total number of times benefits for HEIs were cited by all the respondents was almost double the number of times benefits were cited for employers.

When focused on the benefits for HEIs alone, it can be seen from Figure 8 below that the number of coded references arising from respondents employed by HEFCE funded HEIs was almost triple the number from their non-HEFCE funded peers – a significant and unexpected observation. Perhaps one explanation for this is that respondents employed by HEFCE funded HEIs have become overly enthusiastic about the potential opportunities to extend the benefits of working with employers beyond DAs. Because non-HEFCE funded HEIs have a long-established history of delivering taught professional programmes to part-time students employed by industry, they are likely to hold a more pragmatic view about their relationship with employers.

The result may also be attributed to the broader range of academic-related activity undertaken by HEFCE funded HEIs when compared with their non-HEFCE funded counterparts. For instance, HEFCE funded HEIs tend to be involved in external research and knowledge exchange-related activities whereas non-HEFCE funded HEIs typically do not. In which case, HEFCE funded HEIs see the opportunity to extend these types of activities with DA employers than their non-HEFCE funded counterparts.

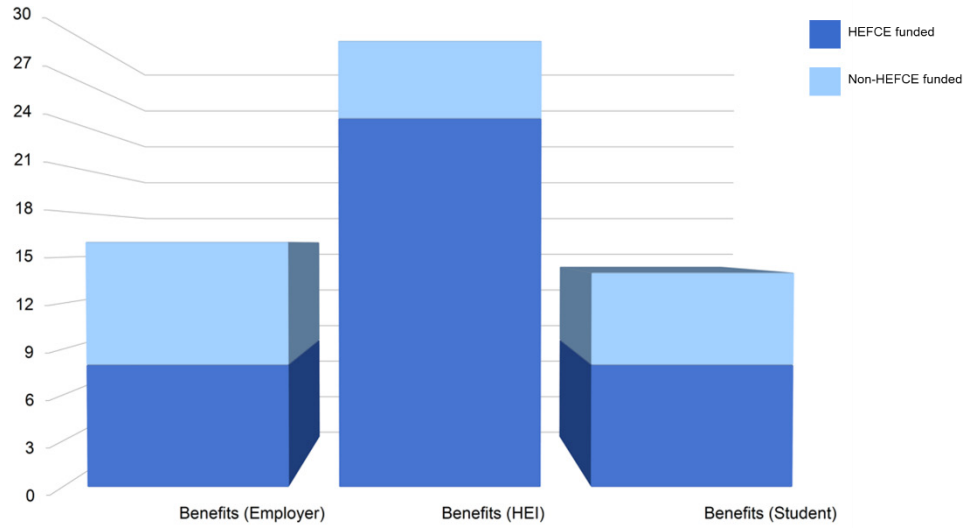

Figure 8 Number of coded references for stakeholder benefits by HEFCE funding

Respondents from HEFCE funded HEIs may also see DAs as a platform from which they can collaborate with employers to organise student site visits to live construction projects, to partner with employers on research projects and KTPs (Knowledge Transfer Partnership), and to engage with practitioners for the delivery and exchange of specialist knowledge. HEI05-RESP08 confirmed this viewpoint by declaring:

> […] being able to work with these employers on quite a close relationship, it enables me to link in with site visits, problem-based learning, external lecturers, and just getting that relationship between employers, industry and the university. That's a major benefit for us.

Moreover, HEI03-RESP03 mentioned the opportunities available to HEIs to engage with employers in research and innovation, industrial placement opportunities for full-time students enrolled on traditionally taught degree programmes, and industrial sabbaticals for academic members of staff:

> I think for us, if you're setting yourself up as an applied university, what a great opportunity to start working in even more partnerships with employers because, potentially, if you can get good relationships there, there are all sorts of spin-offs in terms of research and other things, and potentially placements for full-time students.
>
> […] beyond the taught element […] it could even extend to employee staff placements. So, utilising our employers via the apprenticeship, providing opportunities for staff to have work placements within the employers. So, we are increasing and making sure that their industry knowledge and experience is as relevant as it possibly can be, and bringing that back, then, into the classroom.

A second more tangible explanation is that DAs provide an alternative revenue stream for HEFCE funded HEIs; whereas, for non-HEFCE funded HEIs, they are likely to become their predominant source of income as employers decide to switch from funding employees studying part-time to be degree apprentices.

The contribution of each respondent's views to the quantification of the potential benefits for HEIs and employers attributable to DAs is displayed in Figure 9 and Figure 10 below. These charts show that HEI05 discussed the benefits for HEIs most often with HEI01 and HEI04 being almost tied in second place. The extent and maturity of HEI05's DA provision may account for this result: HEI05 has the broadest portfolio of DAs—including occupations from several industrial sectors—of the HEIs included in the limited sample. Of all the HEFCE funded HEIs, HEI05 has also delivered DAs for the most prolonged period. Such relevant experience meant respondents HEI05-RESP08 and HEI05-RESP09 were conversant with the benefits HEI05 had gained because of its early engagement and mature status with the delivery of DAs.

Participants from HEI04 discussed the benefits for employers most often. Because HEI04 does not receive HEFCE funding, it is reliant upon income streams derived from other sources, such as public- and private-sector bodies/organisations, both nationally and internationally. Such an outlook helps to explain why respondents from HEI04 were more conscious of the benefits available to employers when they engage in DAs. During their interview, HEI04-RESP04 explained HEI04 adopts a holistic approach to supporting employers with the recruitment of apprentices and their progression to professional membership:

> The benefits for HEI04 are that we're able to provide a more seamless service from the initial recruitment of the apprentice through to them getting professional membership, which is one of the reasons HEI04 exists. It has always had this mission to help people progress into the profession from whatever their starting point was.

HEI05-RESP09 discussed the development of relationships that extend beyond DAs. They explained HEI05 regards the DA as a unique educational pathway that co-exists alongside traditionally-taught degree programme and helps to reinforces its engagement with industry:

> From the university perspective, I think it's about—certainly from our university's [HEI05] perspective—we have a main strategy which is about forming these partnerships with industry, specifically because our whole past is steeped in working with industry, and this is the perfect vehicle for us to do that. And we want it very much to sit alongside our other offer; it's just another offer alongside postgraduate and undergraduates [sic].

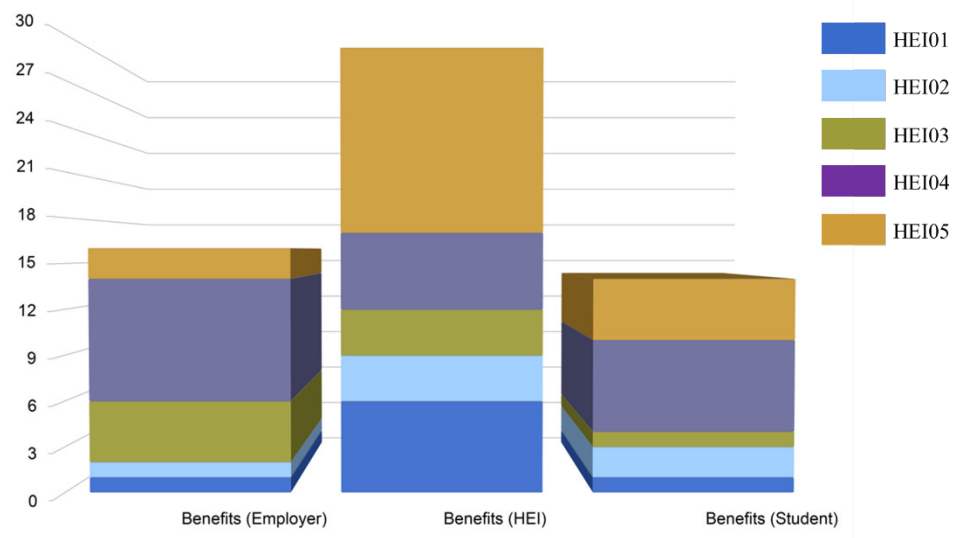

Figure 9 Number of coded references for stakeholder barriers by HEI

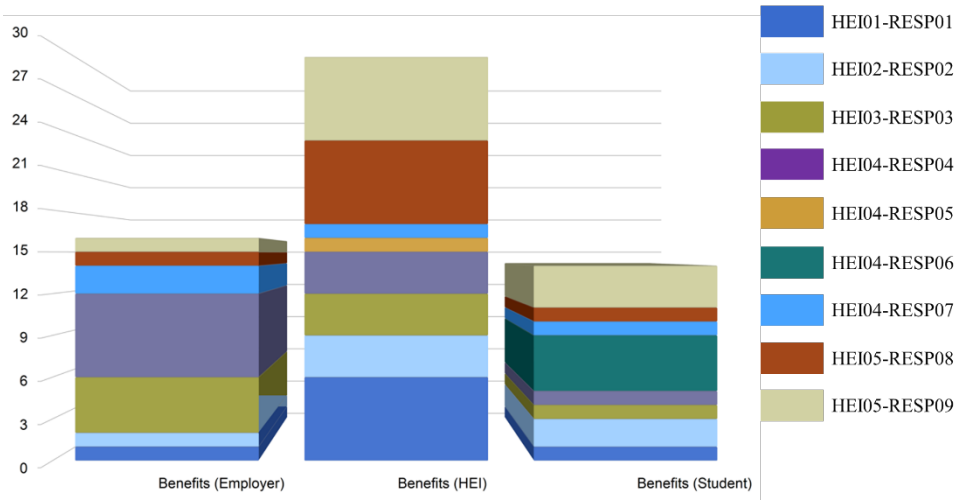

Figure 10 Number of coded references for stakeholder barriers by respondent

Several respondents from HEFCE funded HEIs discussed how DAs provide new, unprecedented opportunities for HEIs to engage with industry. For example, HEI01-RESP01 explained:

> To the university [HEI01], I think it provides a structured engagement with employers which we haven't had in the past. Most of our engagement tends to be through student year-out training and the "milk round" sort of graduate employment.

Aside from the benefits for HEIs and employers, the uniqueness of DAs for apprentices was also highlighted by HEI04-RESP04. They explained:

> I just think it provides an opportunity to transform higher education, particularly in implicational subjects. My particular view, because of the institution I'm at, I feel there's something quite unsatisfactory about the current mainstream higher education system where young people go off to university full-time, run up a huge amount of debt, probably do something that isn't necessarily that helpful in terms of their future career, in some cases don't pay it back because they're not able to reach the threshold and the debt has to be borne by the taxpayer, or else they do pay it off, but they're paying a high-interest rate and end up with quite a debt burden for a large part of their working life.

Independent of this main advantage of DAs for students—the ability to attain the Richard Review of Apprenticeships defined benefits without accruing the burdensome financial debt that is commonplace among the full-time HEI student population, whilst gaining meaningful work-based experience—respondents also discussed opportunities related to engagement, motivation, and the professional skills development of apprentices.

The number of coded references discussed by respondents about the benefits, opportunities, and employability advantages for students when they choose to complete a DA is illustrated in Figure 11 below. The results show that respondents from both types of HEI, i.e., HEFCE and non-HEFCE funded, discussed student-related advantages to the roughly same extent apart from the opportunities that extend beyond the DA.

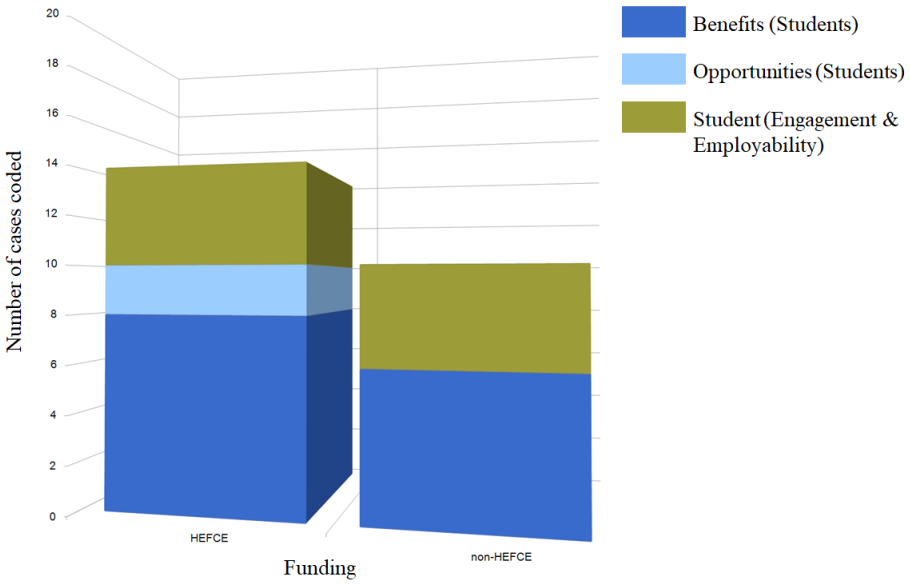

Figure 11 Number of coded references for student benefits, opportunities, engagement and employment

HEI04-RESP05 explained how HEI04 views the DA as an educational vehicle from which students are exposed to current theory and practice, thereby equipping them with the skill set to succeed as professionals in the real world.

> And so, we are trying to ensure that we can make sure that everything is always relevant and up-to-date, and basically giving the students, equipping them as best it [sic] can really to then enter the real world, and not only pass their studies, but actually be ready for their employment, and to move, progress forwards with their apprenticeships.
>
> So, we have tried to consider the bigger aspects and the more rounded student that you are trying to create at the end, so rather than just creating a student that has achieved their academic goal, you are kind of equipping that person to be a person for the real world.

Other respondents shared their views that DAs increase the likelihood of developing self-motivated students. For example, HEI04-RESP06 and HEI04-RESP07 explained:

> […] the more vocationally relevant the work that you're doing, the more likely it is that students are going to want to succeed and engage in it. It's about the [student's] engagement at the end of the day.

While HEI02-RESP02 said:

> I am hoping the students will be much better motivated to go on to get their professional status […] The companies might gain by their employees looking further into the distance.

It would, therefore, appear that several respondents recognised that DAs inherently incentivise students to engage in the educational and professional practice-based ethos of the programme and encourage them to develop a longer-term view of the opportunities that extend well beyond the graduation horizon.

In addition to the educational and professional practice benefits afforded to apprentices undertaking a DA, a few respondents talked about the benefits and opportunities associated with finances, professional membership, and informed career pathways that promote retention of employees. Focusing, firstly, on the cost savings accrued from completing a DA, HEI01-RESP01 said:

> […] quantity surveying is a degree apprenticeship opportunity, because lots of applicants came along [to our open-day presentation] and their parents particularly said, "Do you know what? This is a no-brainer. Why should we pay £27,000+ when you can get a 5-year degree, it's only one year more than the industrial 4-year sandwich course."

Against this background, HEI04-RESP06 simplified this advantage by saying, "Students don't come out with half a hundred grand's worth of debt"; while HEI05-RESP08 focused on the additional benefits for vocationally-inclined students who would otherwise not have chosen to attend university, "we already have the kind of student who's more vocationally inclined and perhaps couldn't afford university." This opinion was then expanded by HEI03-RESP03, who connected the cost-saving benefits of DAs with the apprentice's ability to receive a degree award, gain a professionally-recognised qualification, and have the necessary work-related experience demanded of a specific functional role.

> For those people who don't want to come out with a huge amount of debt, it's a no-brainer really, isn't it!? You're trained for a job, you've got a professional qualification, you'll have your degree, [and] you're work-ready […]

The second category of potential benefits available to DA students regarding professional membership was discussed by HEI02-RESP02, who declared:

> It is not a five-year graft at university, and then maybe, "Oh bloody hell. I have to carry on and do something for my profession, but I'm too busy now". From the start, it is aiming at that higher point. I think that's got to be good.
>
> I suppose, some sort of certification that is beyond an academic qualification. Something that says they can do their job as well. That could be a real benefit.

Similarly, HEI04-RESP06 and HEI04-RESP07 said:

> What you do have is you've got someone who doesn't come to the end of three years who gets to the point of saying, "Which sector of the industry am I interested in working in? Am I going to get a job in the industry? Do I need money straight away? Yes, I do; so, therefore, I got a job in this and then ended up with a career in that."

The third and final category of opportunities available to students, which is focused on their ability to acquire meaningful work-related experience and perspicacity of career pathways, was shared equally by HEI04-RESP06 and HEI04-RESP07, who remarked:

> You've got a pipeline and these people at least have had experience of the industry and they're in the industry at the end of it and the likelihood is they'll stay in the industry. So, the more they go down this route, the better it will be for them. They can come out of it,

but at least they know what they've entered into. I think people who do a three-year degree still don't really know what they're about to walk into.

6.3 PEDAGOGY AND QUALITY ASSURANCE

Quantitative analysis of the number of interview references coded to the three child nodes—*barriers*, *benefits*, and *opportunities*—of the parent node *pedagogy* was undertaken using the matrix coding query function in NVivo as explained above. The results of this operation, which are shown in Figure 12 below, were grouped according to the two HEI funding categories. Despite there being an almost equal number of respondents from each HEI funding type, the results indicate that respondents from HEFCE funded HEIs were more concerned about pedagogic barriers and benefits than their non-HEFCE funded associates. Nevertheless, this was not the case for the *opportunities* child node, which had approximately the same number of statements expressed by both sets of respondents. This observation suggests opportunities for potential pedagogic development are not isolated to one type of HEI.

Although respondents acknowledged the importance of using appropriate teaching, learning, and assessment approaches and methods for DAs, it was the use of work-based learning (WBL) strategies that aroused the most concern. HEI01-RESP01 shared an empathetic account of how the trailblazers that designed the apprenticeship standards were unaware of pedagogy.

> Any discussion on pedagogy or assessment or structure of work-based learning components wasn't discussed really, and I can understand why. It was a big group [trailblazer] with a great disparate number of employers in the room, some with very structured approaches, others which were small SMEs, but mainly driven by the large employers.

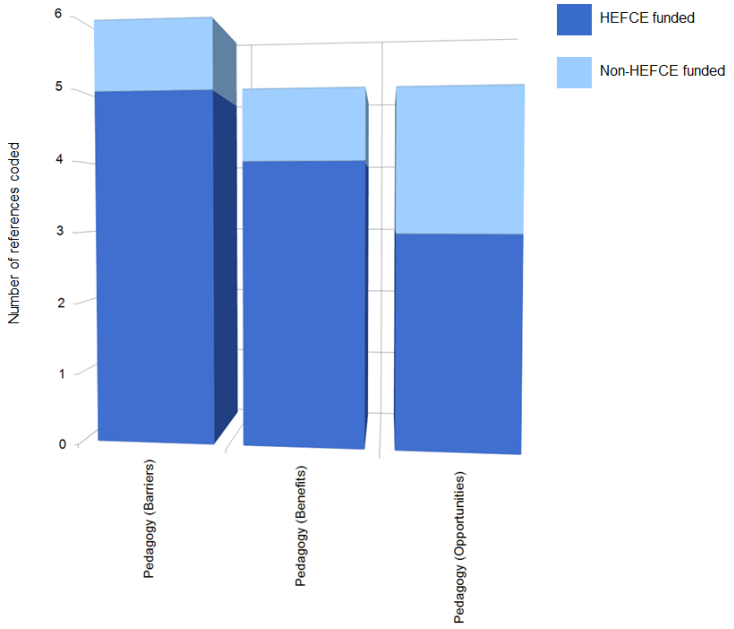

Figure 12 Number of coded references for pedagogy by HEFCE funding

HEI01-RESP01 also made clear the reason why this pedagogic barrier potentially exists by sharing their experience of using WBL and, perhaps controversially, conveying their conviction about its inappropriateness for DAs. At first glance, HEI01-RESP01's view does appear to be unfavourable; nonetheless, it is founded on a recurring theme that was expressed by a number of the respondents: the need to resource DAs adequately to establish a quality student learning experience.

> The whole area of work-based learning is a massively complex one, and we have dabbled with it in the past, and I'm hesitating to get involved in it in the future because you've got

> all the issues with different types of employer, sizes, experience, expectation of the individual and the university, and to try and homogenise all that in terms of quality is a real tricky job. If we were to do it properly, which is the only way I will want to do it, is we would have to put some pretty big resources to think how we structured it and how we make sure that the mentors are trained, that the students are getting an equivalent experience if they're working for a painting sub-contractor, which is a couple of guys, and you've got another one working for [Company A], and you're saying, "You need to demonstrate competency in procurement."

HEI01-RESP01's concerns about WBL were not limited to the challenges associated with its use or academic quality assurance but included reflections about the apparent lack of interest or demand for it from employers. This limitation may be due to employers having a limited understanding of the potential benefits WBL could bring to DAs and the student learning experience.

> I think we might go to a work-based learning programme if the market from employers was strong enough for them to say, "We feel we can offer something which is of value here," but I don't think the employers are that interested.

The demands placed on employers with respect to adequately resourcing WBL for their apprentices and to provide them with associated workplace mentoring support was also discussed by HE01-RESP01. For many SMEs, the additional resource requirements associated with supporting degree apprentices in the workplace may well be overwhelming and be a potential barrier to their engagement with the initiative.

> Well, obviously. within the work-based learning, the employer has a responsibility to give the apprentice the work-based learning experiences that they need to get to the end-point assessment. They also need to have a work-based mentor because, obviously, there's a three-way agreement that has to be signed as well.

Aside from the identification of potential barriers, several respondents reflected on the pedagogic benefits that could be gained from DAs. These included opportunities for students to disseminate their independent workplace learning with peers and tutors in the classroom and with co-workers from their place of employment. HE103-RESP03 explained:

> […] I think in terms of pedagogy as well, you've got people who are coming away from that organisation, they are learning independently from that organisation theory, and they're bringing that back into the workplace.

When focused on the pedagogy of the end-point assessment, HEI05-RESP08 and HEI05-RESP09 reported the following three observations concerning professional, statutory, and regulatory body (PSRB) competencies and requirements and the ability to bring the student's workplace into the classroom. From their comments, it would appear that DAs have motivated tutors to become increasingly aware of the association that has always existed between accredited degree programmes and PSRB competency requirements.

> I think what the apprenticeship scheme has done is […] certainly within our little department […] it's made us focus more on making explicit that link between what they're learning in class and the competencies associated with their professional bodies.

> I'm more engaged with the apprenticeships and the professional bodies […] but this is what was talked about in our team […] is that we can make it explicit now. It's like, "Right, well, you're learning this because this is what it says in your professional competencies to get RICS qualified."

> So, I think it's bringing it [workplace learning] more explicitly into the classroom; whereas, we would have had our regular learning outcomes associated with the programme, and they would have been implicitly linked with the professional body because, obviously, our degrees are accredited by these professional bodies. But that was more implicit than explicit, and now we can make it explicit.

It would seem DAs provide a unique opportunity for tutors to align programme learning outcomes with PSRB competencies and to highlight this connection with students during in-class activities; thus, reinforcing the need for students to engage in the directed learning process pro-actively; thereby supporting the inherent demands for students to attain professional membership from the accrediting PSRB on completion of the apprenticeship.

Participants were also asked to share their views about the challenges they had faced concerning the design, approval, and delivery of the DA. In response to questions about programme design and its relationship with the professional standard and experiential or on-the-job learning, HEI04-RESP06 explained:

> The bit that I don't think we've got right, or anyone may have got right, is the matching of when you look at that standard and say, "You're doing your module in health and safety," so, therefore, looking across at, "This is what you should be doing in the workplace." I'm not sure that bit is working.

HEI04-RESP06's response appears to indicate that a potential disconnection may exist between the content of the HEI taught programme and the experiential or on-the-job learning DA students acquire from their employer. Additional barriers associated with the distinctiveness of DAs, but this time from the perspective of its delivery model, was discussed by HEI04-RESP04. It is worth noting that HEI04-RESP06 is employed by a non-HEFCE funded HEI that does not usually deliver classroom-based programmes.

> […] there are lots of other barriers to do with the delivery model. If your main focus is on delivering full-time programmes for campus-based students, having the flexible delivery and support systems for apprenticeships requires more of an investment.

HEI04-RESP07 also expressed concern about HEFCE funded HEIs delivering DAs alongside their traditionally taught degree programmes. Uncertainty about the physical resource requirement demands that are placed on HEFCE funded HEIs when delivering DAs was reported by representatives employed by non-HEFCE funded HEIs but not their HEFCE funded associates. The reports would seem to indicate respondents from non-HEFCE funded HEIs perceived their institution's programme delivery resources to support DAs are more aligned with their supposed needs.

> I'm not certain that the expectations of HEIs that "this is going to be an easy thing to just slot into your normal provision" is going to [be] realise [sic]. I can imagine there are going to be some problems there.

The academic programme management barriers associated with DAs were raised by respondents employed by two different HEIs. In the first example below, HEI01-RESP01 explained how the shift in HEIs' focus in recent years from teaching to research-related activity because of the impact of the Research Excellence Framework (REF) on university league tables has resulted in a reduced number of academic staff with the requisite skill set to become a programme leader. It is interesting to note that concerns of this nature were not expressed by representatives from non-HEFCE funded HEIs that typically do not engage in research or knowledge exchange-related activities.

> Now, I don't know what your experience of HEIs are, but we've seen a lot of staff have tended to cleave away from programme management and become almost fairly autonomous, just delivering their own modules, so they've lost sight of what it is they're meant to be doing, which is part of an integrated whole.

The second reflection, expressed by HEI05-RESP09, focused on the different type of relationship that exists between the student, HEI, and employer because of DAs and how tutors and professional support staff may not understand this change. An evolving culture and power dynamic between the three stakeholder groups would seem to be occurring when compared with that of conventionally-taught, part-time degree students sponsored by an employer.

> Also, it's getting the academics to understand that this is a different relationship that we have with employers: a three-way agreement means a three-way agreement. Issues around confidentiality are all different to a normal degree, but the way in which we interact with the employers is different.

Closely related to the thematic issues associated with the pedagogy and teaching quality of DAs is the statutory requirement of HEIs, under the auspices of the Quality Assurance Agency (QAA) UK Quality Code, to quality assure and monitor new and existing degree programmes. Results from the in-depth qualitative interviews seem to indicate that the sample of HEIs currently delivering DAs in the built environment have adopted one of two approaches to this academic quality assurance requirement: either the revision to existing or the development of new programme design, approval, and monitoring frameworks, the latter being articulated to a higher degree by one HEI in particular.

Focusing on the former category in the first instance, HE104-RESP04 recounted how their Registry had decided to implement an apparent *bolt-on* approach to its existing academic quality assurance framework, policies, and procedures. This strategy reflected HEI04's opinion that the educational philosophy of DAs is not too distant from traditionally-taught part-time degree programmes.

> The model we adopt for degree apprenticeships in terms of the core degree element is not that different from our standard delivery model, which is mainly for people in work studying part-time, and so we don't find that we need to do full validations in most cases, because we're basically taking a degree, and then you're making a minor modification like you're adding one work-based learning module. It doesn't really change the overall learning outcomes very much. And you're also adding additional components for the apprenticeship which sit outside the degree itself, so they don't really need to be part of a validation.

When progressing to the latter category, HEI01-RESP01 explained how HEI01 initially adopted the former approach to validate its DAs as quickly as possible from its existing traditionally-taught part-time degree programmes, but because of this experience and aspirations to offer additional DAs, has decided to develop a new framework for academic quality assurance purposes.

> […] our first thing to do was to put them [DAs] on different code [sic] so all the student degree apprentices are now on a separate programme code. Then we had to write in a piece within the programme, part of the programme specification, which said that you will be employed by an employer and you're pursuing a degree apprentice, there'll be a legal agreement on there, so that was a change there, and so we had the university standing parliament that did all that.
>
> Our Registry is currently writing a paper on how we quality assure degree apprentices, so we will have an angle of thought, the thought of which is yet to be agreed, which will talk about progression, about achievement, and, maybe, there'll be an element of an external examiner looking at their experience. We haven't quite got that established yet. We'll probably have a separate AMR, annual management report, completed by the programme leader which will include reports from the academic tutors.

Firmly standing in the latter category of new programme design, approval, and monitoring frameworks is HEI03, which had established a bespoke WBL framework to scrutinise new DAs. The intention of the WBL framework is to *fast-track* proposed DAs to validation by a university-level panel of experts. HEI03-RESP03 explained the rationale and function of HEI03's WBL framework:

> […] the framework is a fast-track way of getting courses to validation, because we know universities can be very slow in terms of getting validations through.
>
> […] there's a panel of work-based learning/apprenticeship experts in the university who sit on this panel and we meet monthly. So, business can go through very, very quickly.

I think if we didn't have our work-based learning framework, I think we would be at sea. I think if we were going through our normal validation processes, it wouldn't be quick enough on its feet. I think you wouldn't have the experts on the panel actually hearing the courses being presented.

7 SUMMARY AND DISCUSSION

This section of the report will summarise the key findings of this exploratory study into DAs in the built environment. The study set out to identify and define the barriers and benefits to HEIs and employers when engaged in DAs and to outline pedagogic, policy, and practice recommendations.

There is a clear need for clarity and certainty of understanding regarding the definition, rationale, scope, and operationalisation of DAs among key stakeholders, i.e., apprentices/students (including parents and guardians), employers, and HEIs. This problem is exacerbated by the ever-changing rules and regulations affecting DAs, which are determined by the IFA. Because the number of DA standards within the same discipline, i.e., the built environment, is increasing at a steady pace, the potential exists for different HEIs and employers to interpret the requirements of the standards in different ways. Such variations of understanding about DAs create uncertainty and induces process or technological-related obstacles which either prevent or hinder the development of meaningful, collaborative partnership arrangements between the key stakeholders.

Variation exists about the commercial benefits that DAs can bring to HEIs; this is most notable between non-HEFCE and HEFCE funded institutions. Because of their experience of delivering part-time, remote learning, HE programmes in vocational disciplines, non-HEFCE funded HEIs tend to have well-developed relationships with regional and national employers and are well-positioned to take advantage of the commercial benefits that DAs potentially offer. Traditional, i.e., HEFCE funded, HEIs hold culturally-established, self-perceptions of their role and contribution to civil society; these restrictions create internalised barriers that restrict their capacity to adapt to the changing landscape of part-time HE in the vocational disciplines, such as the built environment, in an agile and responsive manner.

HEIs reported that employers, particularly SMEs, possess limited understanding about how the DA process works or is to be administered. HEIs explained they are regularly engaged in conversations with SMEs to provide support and guidance about the DA process and governance. As capacity exists for each DA to be operated in a slightly different manner, even when they are classified within the same vocational discipline, the requisite, specialist knowledge held by employers is relatively small. Employers' needs for understanding DAs is reported by HEIs to range from a fundamental level, i.e., how does the process start and finish, to a moderate level, i.e., what are their responsibilities to the apprentice (including a misunderstanding of the 20% time for off-the-job training), to a more advanced level, i.e., what are the in-house supervision and PSRB mentoring demands.

It is not uncommon for SME employers who want to engage in DAs to experience difficulty when attempting to recruit appropriately qualified and self-motivated students – as most academically able school leavers choose to follow the traditional HE pathway to *experience* university life. Once appointed, concern about the breadth and quality of the professional practice they would experience in the SME workplace was raised. Limited workplace experience could adversely affect the apprentice's ability to develop the essential skills and competencies needed to secure their professional membership of the accrediting PSRB.

In a similar vein, anxieties were raised about the costs associated with providing support to apprentices from PSRB mentors to help them attain their professional membership, which determines the endpoint of the DA. Often, SMEs do not possess formalised in-house human resource departments and training facilities or have the time to understand the legal and academic demands of DAs. Such problems concerning DAs are not isolated to SMEs. Larger employers, with costly levy payments, have parallel concerns about the number of apprentices

they would need to employ to *spend* their payment; or, they may not have the workload capacity, mentoring skills, or additional training resource requirements to support a large cohort of apprentices.

Uncertainties and complications exist regarding the financial, legal, and governance dimensions of DAs. For example, the IFA has a 12-week reporting cycle which governs the timeframe when invoices can be raised and settled for HEIs and employers; however, the IFA's schedule does not coincide with the 15-week semesterised teaching period employed by HEIs. Public sector employers are also constitutionally required to adopt the *best value* approach to service delivery. Such procurement restrictions unexpectedly affect the development and delivery of DAs by generating additional legal and financial burdens for HEIs and, ironically, the employer.

HEFCE funded HEIs can see the potential benefits of working with employers that lie far beyond the reach of the DA itself; whereas, non-HEFCE funded HEIs, which have an established history of delivering part-time, remote learning vocational courses, tend to hold a more pragmatic view about their relationship with employers. Traditional HEIs could see DAs provide a convenient platform from which they can engage with employers in research, innovation, and KTP projects; seek industrial placement opportunities for full-time students; undertake staff industrial placements/sabbaticals; gain access to site visits and case study documents; and invite practitioners to be *guest lecturers*. Non-HEFCE funded HEIs could see the potential to reap the harvest of industrial specialist knowledge and experience to support in-class and scholarly activities.

Although it was recognised that DAs provide an opportunity to embed work-based learning (WBL) pedagogy into learning, teaching, and assessment strategies, concern was raised about the desire or capacity of employers to engage in this approach to vocational learning. The homogenisation of WBL to address academic quality standards was questioned. Opportunities for apprentices to disseminate their independent workplace learning with peers, tutors, and co-workers was a significant benefit when compared with the pedagogic experience of students enrolled on traditionally-taught full- and part-time degree programmes. It appears that DAs have enlightened tutors to the association that has always existed between the programme level learning outcomes and PSRB professional skills and competencies requirements; it was reported that tutors explicitly focused on the apprentices' end-point assessment and professional membership requirements.

Academic programme management challenges for DAs because of the paradigm shift in traditional HEIs' focus in recent years from teaching to research, because of the impact the Research Excellence Framework (REF) has on national university league tables, has resulted in the number of academic staff with the requisite skills to meet the demands of this role is diminishing. Educating staff to recognise and understand the unique relationship that exists between HEIs, employers, and apprentices because of the tripartite collaborative relationship of DAs is an equal challenge. This situation is not helped by the structural, governance, quality assurance, and process issues traditional HEIs have to address to deliver DAs.

The most important stakeholder at the centre of the DA educational philosophy is the student or apprentice. The ability to attain the Richard Review of Apprenticeships defined benefits without accruing the burdensome final debt that is commonplace among full-time traditionally-taught students while gaining meaningful workplace experience, remains the central tenet of DAs. It was opined that self-motivated students that engage in the learning process and progress to professional membership status were the driving force behind DAs, in addition to incentivising them to develop a longer-term view of the opportunities lying beyond the graduation horizon.

8 RECOMMENDATIONS

The following recommendations, which have emerged from the findings of this study, enumerate what Higher Education Institutions (HEIs) should consider:

- securing executive and senior management commitment and support to degree apprenticeships (DA), which are central to Government policy and are revolutionising part-time student vocational education;
- briefing staff about the philosophy, definition, scope, and operation of DAs;
- informing staff—academic and professional/technical support—of the unique tripartite collaborative relationship that exists between key stakeholders, i.e., HEIs, employers, and Professional, Statutory, and Regulatory Bodies (PSRBs), during the design, development, and delivery of DAs;
- formalising a homogenised approach to the provision of programme support resources across Faculties, Schools, and Departments to establish a standardised, consistent experience for all DA stakeholders, including apprentices, i.e., students;
- developing a centralised specialist support team in Registry to ensure DAs are compliant with existing internal and external regulations governing legal and financial frameworks, academic quality assurance (programme evaluation and enhancement) procedures, student experience, and programme management;
- establishing unique coding frameworks for DAs to facilitate mandatory monitoring and reporting procedures;
- defining a single-point of contact for employers and students seeking guidance and support about DAs;
- creating a central specialist programme review panel to validate DAs and to ensure they are aligned with existing academic quality assurance processes;
- compiling standardised templates for DA programme handbooks, operations manuals, employer and mentor guides which define the roles and responsibilities of key stakeholders, including apprentices, tutors, and mentors;
- engaging with employers of all sizes to raise their awareness, understanding, and benefits of DAs;
- cultivating demand for DAs from appropriately qualified apprentices both regionally and nationally;
- supporting employers with the recruitment of appropriately qualified apprentices by advertising opportunities on dedicated web pages about DAs;
- facilitating industrial liaison workshops for engaged employers and those seeking participation in DAs;
- working beyond the delivery of DAs to explore opportunities for research and innovation, staff development, student site visits, guest lecturing, and curricula development;
- maturing new and existing industrial partnerships to maximise the commercial benefits and income streams that accompany DAs and to explore knowledge exchange and professional skills development opportunities;
- embracing work-based learning strategies to provide apprentices with professional practice experience to ground their skills and competencies development within the real-world workplace;
- participating in the digitisation of learning, teaching, and assessment practices for DAs by embracing technology-enabled learning (TEL) and electronic management of assessment (EMA) tools for blended and remote learning modes of study;
- supporting apprentices working for SMEs with narrowly defined occupational roles and responsibilities to broaden their professional practice experience by undertaking industrial placements, i.e., workplace exchange or rotation, at other SMEs engaged in similar DAs; and
- promoting the benefits acquired by students completing a DA that is designed to address industry needs, provide them with essential employability skills and competencies, and gain professional practice experience.

To conclude, as Doug Richard (2012, p. 16) said in his authoritative report, "there will be more work to do to bring this [DAs] to a reality but it is doable as long as we have the will to engage. I strongly hope we do."

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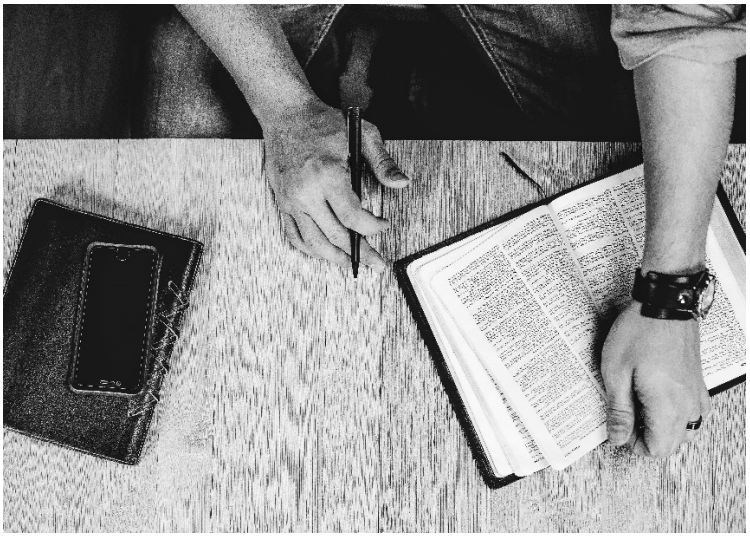

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This report is the result of research commissioned by the Council of Heads of the Built Environment (CHOBE). It was also sponsored by Northumbria University. The authors of the report were:

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