

# **An Evaluation of the Delivery of Quantity Surveying Degree Apprenticeship in UK Universities**

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## **Abstract**

Degree apprenticeship training has recently gained significant attention in the UK, prompting an examination into the experiences of quantity surveying degree apprentices at a UK university. A questionnaire was used for collecting data from quantity surveying degree apprentices in their third to fifth years. The questionnaire focused on their backgrounds, experiences, challenges, and overall satisfaction. Forty-seven responses were analysed using descriptive statistics, the relative importance index (RII), and the Kruskal-Wallis non-parametric test. The results revealed no significant differences in opinions among apprentices across most factors except the overall program experience. The findings highlighted that degree apprenticeships create valuable opportunities and widen participation, with notable positives including pride in one's work and peer interactions. However, challenges included employer support, training content, and balancing work with study commitments. While most strategies employed were considered adequate, it is recommended to review them to enhance the experience for all stakeholders and ensure the program's long-term sustainability.

**Keywords: Built environment; Degree-Apprenticeship; Quantity Surveying; United Kingdom.**

## **1.0 Introduction**

In reforming and improving the degree apprenticeship program, the UK government introduced a new policy in September 2022. The policy ensures that the apprenticeship programme better recognises the role of degrees and graduate status in the labour market. Also, any degree apprenticeship is a distinctive product that secures the best apprenticeship and higher education (Institute for Apprenticeships and Technical Education, 2022). The policy further explained that such reforms would be achieved by enabling degree apprenticeship for graduate occupations, ensuring improved integration of on- and off-the-job training. Other issues require complete alignment between the degree learning outcomes and the knowledge, skills, and behaviours (KSBs) in the apprenticeship standard, integrating the end-point assessment with the degree and ensuring assessment by occupational experts. However, a complex implementation landscape was observed for employers, apprentices, and universities (Smith *et al.*, 2021). Some of the challenges of the degree apprenticeship programme include curriculum design, programme delivery, support, portfolio, and end point assessment (EPA), collaboration with employers, and recruitment and onboarding (Horackova et al., 2024; Cedefop, 2018; Quew-Jones, 2023). Also,

1 people from disadvantaged backgrounds view the degree apprenticeship route as unfamiliar and risky  
2 (Casey and Wakeling, 2022). Therefore, understanding the stakeholder contexts is essential for the  
3 longer-term sustainability of degree apprenticeships (Smith *et al.*, 2021).

4 Furthermore, apprenticeship should not be seen as one-dimensional but as a multifaceted learning  
5 vehicle considering pedagogical, occupational, locational, and social aspects (Fuller and Unwin, 2011).  
6 This is because the apprenticeship model allows the learner to participate in a community of practice  
7 (Lave and Wenger, 1991). Such a community provides new learners with a level of expertise as they  
8 have more opportunities to practice within the context of learning. However, Carter and Tubbs (2019)  
9 argued that educators should maintain their responsibilities to education as servants of the common  
10 good despite the economic benefit of the degree apprenticeship scheme.

11 There is a paucity of academic research on the impact of degree apprenticeships (Nawaz et al., 2023).  
12 Additionally, there has been limited investigation into the practices and experiences of degree  
13 apprentices in built environment programs. Consequently, a study that explores the current practices  
14 and experiences of degree apprentices in this field is vital.

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## 1 Literature Review

### 2 2.0 An Overview of Degree Apprenticeship Training in the UK

3 The degree apprenticeship was introduced in 2015 to address skill gaps in sectors requiring higher-level  
4 expertise (Universities UK, 2019). It allows apprentices to work while pursuing a degree, which can  
5 lead to membership in professional bodies. Training lasts two to five years, with 20% of the time  
6 dedicated to off-the-job training, such as attending university (IfATE, 2024). Degree apprentices are  
7 employed and receive a salary and employee benefits, including a minimum of 20 days of paid holiday.  
8 The government and employers jointly share course costs through the apprenticeship levy. Key  
9 organisations involved include the Department for Education, which oversees the programme; the  
10 Institute for Apprenticeships and Technical Education (IfATE), which develops apprenticeship  
11 standards; Ofsted, responsible for inspecting quality; and the Office for Students, which regulates higher  
12 education (Department of Education, 2021). Enrolment in degree apprenticeships within construction  
13 fields has increased, with 2,470 apprentices in 2023, up from 2,220 in 2022. Areas of study include  
14 chartered surveying, construction quantity surveying, civil engineering, town planning, architecture,  
15 construction site management, building services, and engineering (Construction Index, 2024).

16

### 17 3.0 Benefits and Challenges of the Degree Apprenticeship

18 The degree apprenticeship provides the opportunity for an employer-led higher education and for the  
19 apprentice to undertake a work-based degree (Smith *et al.*, 2021). Such opportunities aid public-sector  
20 recruitment, support progression routes and social mobility within the existing workforce (Lester, 2020;  
21 Antcliff, Baines and Gorb, 2016; Taylor-Smith *et al.*, 2023). Also, it promotes social identity by  
22 providing pride in work, supporting others, sharing experiences, and belonging (Quew-Jones, 2024;  
23 Brinia, Stavropoulos and Athanasoula-Reppa, 2018; Taylor-Smith *et al.*, 2023). Earlier studies by  
24 Antcliff *et al.* (2016) noted that employers consider the degree apprenticeship to meet the recruitment  
25 needs in ways other options do not because of its ability to make an immediate contribution to the  
26 workplace. Additionally, data shows that degree apprenticeships meet employers' intended purpose of  
27 contributing positively to the UK Government's high-level goals for productivity and social mobility  
28 (Nawaz *et al.*, 2023).

29 However, despite the benefits identified and the government effort, the implementation landscape for  
30 employers, apprentices and universities is complex (Smith *et al.*, 2021; Nawaz *et al.*, 2023). For  
31 example, Obi (2024) argued that no models support employer engagement in training degree  
32 apprentices in the built environment. Therefore, it suggested employer engagement in the curriculum  
33 design and for the success and sustainability of degree apprenticeship programs. Other challenges facing  
34 the full implementation are aligning the educational content and the training, governance, the training  
35 content and learning outcomes and participation and support of employers (Cedefop, 2018; Fabian *et al.*  
36 *et al.*, 2022; Mulkeen *et al.*, 2019). Also, the degree apprenticeship route appears to be discounted as  
37 unfamiliar and risky by many of those from disadvantaged backgrounds. Instead, some middle-class  
38 students tactically adopt it as an alternative (Casey and Wakeling, 2022).

### 39 4.0 Strategies for Improvement

1  
2 The Situated Learning Theory (SLT) explains that individuals can learn and participate in a community  
3 of practice (Lave and Wenger, 1991). In such a community, new learners reach an expert level as they  
4 have more opportunities to practice within the context of learning (figure 1). Therefore, learning in such  
5 a community is unintentional, referred to as Legitimate Peripheral Participation (LPP) (Lave and  
6 Wenger, 1991; Herrera, 2020). As shown in Figure 1, the learner moves from the periphery of the  
7 community to the centre as they gain expertise and engage and participate actively in the sociocultural  
8 practices of the community. The university environment and the workplace provide the context which  
9 enables the degree apprentices to develop their skills and expertise (Figure 1). The university  
10 environment enables meaningful friendship and peer support, which feeds into their work and studies  
11 (Taylor-Smith *et al.*, 2023; Brinia, Stavropoulos and Athanasoula-Reppa, 2018).

12 However, the interaction within the community of practice and how they align with the performance of  
13 the degree apprentices in the built environment is still unclear. Some of the strategies suggested that  
14 could lead to improvement in the degree apprenticeship scheme are monitoring and control (Daniel *et*  
15 *al.*, 2020; McKnight *et al.*, 2019; Rowe, 2019; Konstantinou and Miller, 2020); mentorship and  
16 inclusive learning (Quew-Jones and Rowe, 2022; Nottingham and Mao, 2023), stakeholders'  
17 engagement (Smith *et al.*, 2021; Welbourn, Devins and Reynolds, 2019; Quew-Jones, 2023; Rowe *et*  
18 *al.*, 2017). Monitoring and controlling have been argued to help under-achieving groups and could also  
19 change the pedagogy of learning (Daniel *et al.*, 2020; Dermentzi, 2024). Another way to monitor the  
20 progress of the DA training in the UK is through a tripartite meeting. This meeting occurs at least every  
21 three months and is a mandatory requirement for funding from the Department of Education. It involves  
22 a structured discussion between the apprentice, the employer, and the education provider. The goal of  
23 this meeting is to ensure that the DAs are making progress, aligning their learning with the required  
24 Knowledge, Skills, and Behaviours (KSB), and meeting the standards for the End-Point Assessment  
25 (EPA). On the other hand, involvement in negotiated learning enhances mentorship because unplanned  
26 experiences can add value and scope for richer mentoring dialogues (Quew-Jones and Rowe, 2022).

27 Furthermore, understanding the stakeholders' context is essential in enhancing the degree  
28 apprenticeship's long-term sustainability (Smith *et al.*, 2021). Such an understanding could be achieved  
29 through higher education institutions (HEIs) that design workforce development initiatives with various  
30 employers (Welbourn, Devins and Reynolds, 2019). Such strategies enhance collaboration, widening  
31 participation, work-integrated learning, and meeting the end point assessment (EPA) (Quew-Jones,  
32 2023; Horackova *et al.*, 2024; Rowe *et al.*, 2017).

33 Additionally, collaborating with stakeholders enhances an effective employer-led recruitment process,  
34 careful management of expectations, sound HEI retention strategies, employer involvement and board-  
35 level motivators to ensure organisational benefits are derived from effectively situated workplace

1 learning and a focus upon effective, empowering mentoring and support strategies (Quew-Jones, 2023;  
2 Horackova *et al.*, 2024; Rowe *et al.*, 2017).

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7 **Figure 1: Model of Situated Learning: Source (Herrera, 2020)**

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## 5.0 Methodology

11 This section outlines the methodology used to assess the experiences and performance of quantity  
12 surveying degree apprentices. Researchers have various methodological options available to address a  
13 research problem effectively. According to Creswell (2014), these options include quantitative,  
14 qualitative, and mixed-methods approaches. The choice of research approach depends on the specific  
15 research problem and questions, the researcher's personal experience, and the intended audience  
16 (Creswell, 2014; Ewuga *et al.*, 2023).

17 This study employed a quantitative approach to effectively assess the experiences and performance of  
18 quantity surveying degree apprentices. This approach (quantitative) enables the evaluation of concepts  
19 based on their quantity, intensity, or frequency. Furthermore, the quantitative approach provides  
20 valuable insights into activity patterns across groups or categories of individuals rather than  
21 concentrating solely on individual experiences (Denscombe, 2014). Data were gathered through a  
22 questionnaire survey distributed to third- to fifth-year quantity surveying degree apprentices currently  
23 enrolled at a UK university. The questionnaire instrument has been extensively employed in social  
24 research and offers the advantage of standardising responses. This ensures that all respondents are asked  
25 the same questions, eliminating the potential for variation that might arise through face-to-face  
26 interactions with the researcher (Denscombe, 2014).

### 5.1 Sampling Criteria and Data Collection Instrument

28 The intended generalisation of the study influences the choice of sampling technique. According to  
29 Onwuegbuzie and Collins (2007) and Denscombe (2014), a random sampling method is suitable for  
30 generalising findings to a larger population. Non-random sampling is more appropriate for gaining  
31 insights into specific phenomena. This latter approach allows researchers to intentionally select relevant  
32 individuals, groups, and settings (Onwuegbuzie and Collins, 2007; Denscombe, 2014). In this context,  
33 purposive (non-random) sampling was chosen to collect degree apprentices' responses using a

1 questionnaire. This technique can identify participants who can provide valuable insights into the  
2 research problem (Creswell, 2014).

3 The questionnaire was structured into two main sections. The first section gathered general  
4 demographic and professional information from the respondents, including their year of study, gender,  
5 ethnic origin, age group, and the nature of the business they are employed. The second section explored  
6 the degree apprentices' experiences, challenges, and satisfaction with implementing various strategies.

7 An online survey was distributed to degree apprentices to secure between eighty (80) and one hundred  
8 (100) responses. Despite rigorous follow-up efforts through email reminders and phone calls, forty-  
9 seven (47) responses were obtained, as detailed in Table 1. Given the study's focus and the sampling  
10 technique, a response rate of forty-seven (47) was deemed adequate. Shih and Xitao (2008) noted that  
11 web-based surveys typically have a response rate about 10% lower on average compared to postal  
12 surveys. Additionally, for studies within the built environment, a 20-30% response rate is generally  
13 considered sufficient (Fellows and Liu, 2015; Enshassi, Ayash and Mohamed, 2018).

14 A five-point Likert scale was used to evaluate the degree apprentices' experiences, challenges, and  
15 satisfaction with implementing the various strategies. The five-point Likert scale was deemed  
16 appropriate because it ensures an objective data scale with fewer neutral items and less extreme items  
17 at either end of the continuum (Oppenheim, 1992). Additionally, it maximizes data reliability and  
18 validity (Krosnick and Presser, 2010). The data analysis technique is presented next.

19 **Table 1: General Information of Respondents**

20

## 1 5.2 Data Analysis Techniques

2 The data analysis employed descriptive statistics and the relative importance index (RII). The  
3 descriptive statistics are presented in a table with the respondents' general information. The RII was  
4 employed to examine degree apprentices' experiences, challenges, and satisfaction in implementing  
5 various strategies. The RII has been utilized in numerous studies in the built environment and related  
6 disciplines to measure perception or attitude (Oyegoke *et al.*, 2024; Ewuga and Adesi, 2023; Egemen  
7 and Mohamed, 2006). Using an ordinal scale from 1 to 5, with 1 representing the lowest and 5 the  
8 highest. The RII ranges from 0 to 1.

9 The RII is given as:

$$10 \quad \frac{\sum w}{AN} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5N}$$

11

12 Where  $w$  = the weighting given to each factor by the respondent, ranging from 1 to 5

13  $A$ = the highest weight (i.e.5 in the study)

14  $N$ = the total number of respondents

15 Furthermore, the Kruskal-Wallis non-parametric test was performed to assess whether significant  
16 differences exist among the apprentices' views and responses to the various identified factors.

17

## 18 6.0 Results and Findings

19 The study results and the findings are divided into four sections. The first section presents the findings  
20 based on the respondents' general information. The remaining three sections present findings on the  
21 degree of apprentices' experiences, challenges, and satisfaction with implementing strategies.

22

### 23 6.1 General Information of the Respondents

24 To ensure that the data collected addresses the aim of the study, the year of study, gender, ethnic origin,  
25 age group and nature of business employed were evaluated. Such information is essential to confirm  
26 that the responses provide insight into addressing the research problem. The results in Table 1 show  
27 that Year 5 apprentices had the highest response, 47% (22), followed by Year 3 and 4 with 30% (14)  
28 and 23% (11). The results indicate that the findings from the study will provide good insight and  
29 experience at various levels. Additionally, regarding diversity, 77% (36) of the respondents are male,  
30 21% (10) are female, and 2% (1) prefer not to say their gender. Likewise, the ethnic origin has 98%  
31 (46) of the respondents are white, while only 2% (1) are from mixed or multiple ethnic groups.

32 Furthermore, in evaluating the age group, the results show that most of the respondents are within the  
33 age groups of 18-22 years-34% (16) and 23-27 years-38% (18), while the remaining are within 28-33  
34 years-17% (8) and 34 years and above -11% (5). This finding indicates that the degree apprenticeship

1 provides a good opportunity for different age groups. Lastly, it was essential to understand the nature  
2 of the business practice in which the apprentices are employed. Table 1 results showed that most of the  
3 degree apprentices are employed in commercial contracting firms either in building-38% (18), civils or  
4 infrastructure-19% (9), or mechanical and electrical-15% (7). While 15% (7) are employed with the  
5 private quantity surveying firm (PQS), 9% (4) are employed with the public sector, and 4% (2) are  
6 employed in other sectors like renewable energy firms.

## 7 8 **6.2 Level of Satisfaction with the Degree Apprenticeship Training**

9  
10 The satisfaction level of degree apprentices was assessed based on eight factors listed in Table 2. All  
11 eight factors received an RII of 0.7 and above, with the highest "pride at work" score at 0.83. This  
12 indicates that degree apprentices are satisfied with their training. Upon closer examination, the first  
13 three factors primarily focus on apprentices' interactions within the community of practice (refer to  
14 Figure 1). In contrast, the 5th to 8th-ranked factors is related to satisfaction with the quality of delivery.  
15 In terms of overall satisfaction with the experience, a score of 0.76 was achieved, with most scores  
16 being very good and good.

17 Further analysis using the Kruskal-Wallis test, as shown in Table 3, was performed to confirm whether  
18 degree apprentices have differing views about their experiences. The results revealed no significant  
19 differences across seven factors, as indicated by  $X^2(2) > 0.05$ . However, there was a significant  
20 difference in the overall experience with the degree apprenticeship, with a p-value of 0.028, indicating  
21 significance at the 0.05 level.

### 22 23 **Table 2: Level of Satisfaction with Degree Apprenticeship Training**

### 24 25 **Table 3: Kruskal Wallis Test for the level of Satisfaction with Degree Apprenticeship** 26 **Training**

## 27 28 **6.3 Challenges in Degree Apprenticeship Training**

29  
30 Eight factors relating to the degree apprentices' challenges were evaluated, as shown in Table 4. From  
31 the results, the first five challenges have an RII of 0.70 and above, while the last three returned a score  
32 of 0.64 and 0.68, respectively. The top four factors are closely related: support of the employer, training  
33 content and learning outcomes, balancing work and study, and support of education providers. These  
34 findings are not surprising considering the expectations and demands of the degree apprenticeship  
35 training. The findings further confirm results from earlier studies on the challenges in implementing the  
36 degree apprenticeship scheme (Horackova *et al.*, 2024; Cedefop, 2018; Quew-Jones, 2023).

37 Furthermore, the 5<sup>th</sup> to 8<sup>th</sup>-ranked challenges can be inferred to be related to the first four. Also, these  
38 challenges are mostly centred around the organisations' policies and strategies regarding degree

1 apprenticeship. Additionally, the results from the Kruskal-Wallis test, shown in Table 5, indicated no  
2 significant differences across eight factors, as evidenced by  $X^2(2) > 0.05$ . However, the results needed  
3 to be treated with caution because of the sample size and purpose of the study. Nevertheless, it has  
4 provided insight into understanding the challenges from the apprentices' point of view.

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6  
7 **Table 4: Challenges of Degree Apprentices**

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9 **Table 5: Kruskal Wallis Test for Challenges of Degree Apprentices**

#### 10 11 12 **6.4 Satisfaction of Strategies**

13  
14 Twelve factors were evaluated to assess the level of satisfaction with the various strategies in the degree  
15 apprenticeship delivery, as shown in Table 6. The relative importance index (RII) all return a score  
16 above 0.70. The highest score was on work-integrated learning (0.79), and creating time and space for  
17 reflective practice (0.71) was the lowest. Also, the 7<sup>th</sup> to 10<sup>th</sup> strategies had the same RII. This indicates  
18 that the degree apprentices are satisfied with the various strategies that make learning enjoyable. Further  
19 analysis, as shown in Table 7, indicated no significant difference across the twelve factors rated by  
20 degree apprentices, with  $X^2(2) > 0.05$ . However, these results must be treated cautiously despite /all  
21 the RII greater than 0.70. Looking at the results closely, it is observed that most of the scores are within  
22 the satisfied and neither scale, indicating that there is still room for improvement on the degree  
23 apprenticeship programme.

24  
25 **Table 6: Level of Satisfaction with the Different Strategies**

26  
27 **Table 7: Kruskal Wallis Test for Level of Satisfaction with the Different Strategies**

### 28 29 30 **7. Discussion of Findings**

31  
32  
33 The current practice and performance of degree apprenticeship delivery in quantity surveying show  
34 potential for creating opportunities and widening participation to different groups in accessing higher  
35 education. This potential should instil hope about the future of higher education. However, the findings  
36 on gender and ethnic origin may be influenced by the unfamiliar nature and risky perception of the  
37 degree apprenticeship programme (Casey and Wakeling, 2022). It is important to note that due to the  
38 sample size and nature of the study, the findings may not be generalisable to a broader range of a larger  
39 group.

1 Furthermore, in exploring the satisfaction level of the degree apprenticeships, the findings support  
2 earlier studies relating to social-economic fulfilment and developing networks and friendships (Quew-  
3 Jones, 2024; Brinia, Stavropoulos and Athanasoula-Reppa, 2018; Taylor-Smith *et al.*, 2023). It can be  
4 hypothesised that due to the benefits derived from the degree apprenticeship scheme, there is a  
5 possibility of experiencing a high recruitment rate in the future. However, with the positive experience  
6 noted, some challenges were identified. The findings on the challenges were not surprising, considering  
7 the nature of the scheme based on the on-and off-the-job training. Such a form of training is demanding,  
8 judging that the apprentices will have to meet up with employers and the university requirements. The  
9 implications of the challenges could indicate that a balance will have to be struck so that there will be  
10 a consistent standard of the main aim of the apprenticeship degree. Creating such a balance allows  
11 apprentices in the community of practice to develop the necessary expertise through opportunities to  
12 practice within the context of learning (Figure 1) (Lave and Wenger, 1991). Additionally, these findings  
13 align with the position of Carter and Tubbs (2019), who cautioned that educators should ensure they  
14 maintain their responsibilities to education because there is a tendency for employers to lose focus on  
15 the university learning component of the scheme. These challenges provide an essential focus for future  
16 research that could unveil and create a better understanding of the needs of the employers and the  
17 expectations of the degrees awarding institutions.

18 Various strategies have been developed and implemented to address some of the challenges. The  
19 findings from the study suggest possible improvement despite the high scores from the relative  
20 importance index (RII). Considering the challenges identified, these strategies should help enhance the  
21 apprentices' experience. For example, meeting the end point assessment requires that most strategies  
22 align with professional body requirements. Therefore, these findings indicate that close collaboration  
23 with the relevant stakeholders is essential for achieving the degree apprenticeship requirements (Quew-  
24 Jones, 2023; Horackova *et al.*, 2024; Rowe *et al.*, 2017).

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## 8. Conclusion and Recommendation

28 The study assesses the experience and current practice of quantity surveying degree apprenticeship in  
29 the built environment at a UK University. This is one of the early studies that evaluate degree  
30 apprenticeships in the built environment. The findings from the study indicate a high level of  
31 satisfaction among the degree apprentices, and the scheme has the potential to create opportunities by  
32 increasing participation in higher education among different groups. However, a significant difference  
33 was observed in the overall experience of the degree apprenticeship program. Additionally, despite the  
34 identified benefits, the study observed a need for closer collaboration among various stakeholders to  
35 address the challenges affecting the apprentices and maximise their potential. Such a collaboration  
36 drives Legitimate Peripheral Participation (LLP), allowing individuals to learn naturally within a  
37 community of practice. Notwithstanding the exploratory nature of this study and the limited sample

1 size, the findings offer valuable insights into how policymakers and other stakeholders could improve  
2 the delivery and implementation of the degree apprenticeship scheme. Additionally, this study provides  
3 meaningful insight for future research. Therefore, further study is needed to closely examine the  
4 expectations of both employers and higher education institutions, which could help develop a practical  
5 and achievable outcome.

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## References

- 1  
2
- 3 Antcliff, V., Baines, S. and Gorb, E. (2016) 'Developing your own graduate employees: Employer  
4 perspectives on the value of a degree apprenticeship', *Higher Education, Skills and Work-Based  
5 Learning*, 6(4), pp. 378-383.
- 6 Brinia, V., Stavropoulos, P. and Athanasoula-Reppas, A. (2018) 'Trainees' perception of vocational  
7 training institutes degree apprenticeship: An empirical approach', *Higher Education, Skills and Work-  
8 Based Learning*, 8(4), pp. 365-375.
- 9 Carter, J. and Tubbs, N. (2019) 'Degree apprenticeships, the 'joy of learning' excellence framework,  
10 and the common good', *Journal of Further and Higher Education*, 43(1), pp. 127-137.
- 11 Casey, C. and Wakeling, P. (2022) 'University or degree apprenticeship? Stratification and uncertainty  
12 in routes to the solicitors' profession', *Work, Employment and Society*, 36(1), pp. 40-58.
- 13 Cedefop (2018) *Apprenticeship Schemes in European Countries: A Cross-Nation Overview*: European  
14 Centre for the Development of Vocational Training. Available at:  
15 <https://www.cedefop.europa.eu/en/publications/4166> (Accessed: 12/02/2024).
- 16 Construction Index (2024) *Universities Slow to Embrace Construction Degree Apprenticeships*.  
17 Available at: [https://www.theconstructionindex.co.uk/news/view/universities-slow-to-embrace-  
18 construction-degree-  
19 apprenticeships#:~:text=According%20to%20government%20statistics%2C%20the,compared%20to  
20 %20the%20previous%20year. \(Accessed: 26/11/ 2024\).21](https://www.theconstructionindex.co.uk/news/view/universities-slow-to-embrace-construction-degree-apprenticeships#:~:text=According%20to%20government%20statistics%2C%20the,compared%20to%20the%20previous%20year.)
- 22 Creswell, J. W. (2014) *Research design: qualitative, quantitative, and mixed methods approaches*.  
23 USA: SAGE Publications.
- 24 Daniel, E. I., Oshodi, O. S., Gyoh, L. and Chinyio, E. (2020) 'Apprenticeship for craftspeople in the  
25 construction industry: a state-of-the-art review', *Education+ Training*, 62(2), pp. 159-183.
- 26 Denscombe, M. (2014) *The good research guide: for small-scale social research projects*. McGraw-  
27 Hill Education (UK).
- 28 Department of Education (2021) *Apprenticeship Accountability Statement*. UK: Education and Skills  
29 Funding Agency. Available at: [https://www.gov.uk/government/publications/apprenticeship-  
30 accountability-statement \(Accessed: 22/10/ 2024\).31](https://www.gov.uk/government/publications/apprenticeship-accountability-statement)
- 32 Dermentzi, E. (2024) 'Using game-based learning and online flipped classrooms with degree  
33 apprenticeship students', *Journal of Computer Assisted Learning*, 40(2), pp. 494-509.
- 34 Egemen, M. and Mohamed, A. N. (2006) 'Clients' needs, wants and expectations from contractors and  
35 approach to the concept of repetitive works in the Northern Cyprus construction market', *Building and  
36 Environment*, 41(5), pp. 602-614.
- 37 Enshassi, A., Ayash, A. and Mohamed, S. (2018) 'Key barriers to the implementation of energy-  
38 management strategies in building construction projects', *International Journal of Building Pathology  
39 and Adaptation*, 36(1), pp. 15-40.
- 40 Ewuga, D. and Adesi, M. (2023) 'Integrating sustainability practices into the Irish construction  
41 supply chain: main contractors' perspective', *Built Environment Project and Asset Management*, 13(1),  
42 pp. 105-122.

- 1 Ewuga, D., Mulville, M. and Hore, A. (2023). An Exploration of Sustainable Procurement Practice in  
2 Irish Construction-Contracting Firms. In *Mixed Methods Research Design for the Built Environment*  
3 (pp. 143-159). Routledge.
- 4 Fabian, K., Taylor-Smith, E., Smith, S., Meharg, D. and Varey, A. (2022) 'An exploration of degree  
5 apprentice perspectives: a Q methodology study', *Studies in Higher Education*, 47(7), pp. 1397-1409.
- 6 Fellows, R. F. and Liu, A. M. M. (2015) *Research methods for construction*. John Wiley & Sons.
- 7 Fuller, A. and Unwin, L. (2011) 'Apprenticeship as an evolving model of learning', *Journal of*  
8 *Vocational Education & Training*, 63(3), pp. 261-266.
- 9 Herrera, S. P. M. (2020) 'Situated Learning Theory', in Roe, J.E.a.M.F. (ed.) *Theoretical Models for*  
10 *Teaching and Research*.
- 11 Horackova, C., Bloomfield, S., Pereira, C. R. and Mutwarasibo, F. (2024) 'Delivering the Chartered  
12 Manager Degree Apprenticeship: what are the challenges and implications for good practice?', *Higher*  
13 *Education, Skills and Work-Based Learning*.
- 14 IfATE (2024) *Degree Apprenticeship*: Institute for Apprenticeships and Technical Education.  
15 Available at: [https://www.instituteforapprenticeships.org/developing-new-apprenticeships/degree-](https://www.instituteforapprenticeships.org/developing-new-apprenticeships/degree-apprenticeships/)  
16 [apprenticeships/](https://www.instituteforapprenticeships.org/developing-new-apprenticeships/degree-apprenticeships/) (Accessed: 11/11 2024).  
17
- 18 Institute for Apprenticeships and Technical Education (2022) *New degree apprenticeships policy goes*  
19 *live – Institute for Apprenticeships and Technical Education*. Available at:  
20 <https://apprenticeships.blog.gov.uk/2022/03/16/new-degree-apprenticeships-policy-goes-live/>.
- 21 Konstantinou, I. and Miller, E. (2020) 'Investigating work-integrated learning and its relevance to  
22 skills development in degree apprenticeships', *Higher Education, Skills and Work-Based Learning*,  
23 10(5), pp. 767-781.
- 24 Krosnick, C. A. and Presser, S. (2010) 'Question and Questionnaire Design', in Marsden, P.V. and  
25 Wright, J.D. (eds.) *Handbook of survey research*: Emerald Group Publishing., pp. 263-313.
- 26 Lave, J. and Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge  
27 university press.
- 28 Lester, S. (2020) 'Creating conditions for sustainable degree apprenticeships in England', *Higher*  
29 *Education, Skills and Work-Based Learning*, 10(5), pp. 701-714.
- 30 McKnight, S., Collins, S.-L., Way, D. and Iannotti, P. (2019) 'Case study: establishing a social  
31 mobility pipeline to degree apprenticeships', *Higher Education, Skills and Work-Based Learning*, 9(2),  
32 pp. 149-163.
- 33 Mulkeen, J., Abdou, H. A., Leigh, J. and Ward, P. (2019) 'Degree and Higher Level Apprenticeships:  
34 an empirical investigation of stakeholder perceptions of challenges and opportunities', *Studies in*  
35 *higher education*, 44(2), pp. 333-346.
- 36 Nawaz, R., Edifor, E. E., Holland, S. R., Cao, Q. and Liu, L. S. (2023) 'The impact of degree  
37 apprenticeships: analysis, insights and policy recommendations', *Transforming Government: People,*  
38 *Process and Policy*, 17(3), pp. 372-386.
- 39 Nottingham, P. M. and Mao, Y. (2023) 'Understanding the role of learning communities of practice  
40 within a degree apprenticeship to enhance inclusive engagement', *Higher Education, Skills and Work-*  
41 *Based Learning*, 13(5), pp. 1009-1022.

- 1 Obi, L 2024, 'Conceptualising a model for provider-employer collaborations in quantity surveying  
2 degree apprenticeship programmes', *Higher Education, Skills and Work-based Learning*.  
3 <https://doi.org/10.1108/HESWBL-11-2023-0324>
- 4 Onwuegbuzie, A.J. and Collins, K.M.T. (2007) '*A typology of mixed methods sampling designs in*  
5 *social science research*', *Qualitative Report*, 12(2), 281-316.
- 6 Oppenheim, A. N. (1992) *Questionnaire design, interviewing and attitude measurement, New ed.*  
7 *Questionnaire design, interviewing and attitude measurement, New Edition* London: Continuum.
- 8 Oyegoke, A. S., Fisher, B. W., Ajayi, S., Omotayo, T. S. and Ewuga, D. (2024) 'The disruptive factors  
9 and longevity effects of Covid-19 and Brexit on the SMEs construction supply chain in the UK',  
10 *Journal of Financial Management of Property and Construction*, 29(1), pp. 115-134.
- 11 Qew-Jones, R. J. (2023) 'Degree apprenticeships in the UK higher education institutions—are they  
12 viable?: Integrative literature review', *Higher Education, Skills and Work-Based Learning*, 13(6), pp.  
13 1250-1268.
- 14 Qew-Jones, R. J. (2024) 'Conceptualising degree apprentice identity to enhance work-integrated  
15 learning', *Higher Education, Skills and Work-Based Learning*.
- 16 Qew-Jones, R. J. and Rowe, L. (2022) 'Enhancing the degree apprenticeship curriculum through  
17 work-based manager and mentor intervention', *Journal of Work-Applied Management*, 14(2), pp. 242-  
18 256.
- 19 Rowe, L. (2019) 'Educating for the modern world: a report review', *Journal of Work-Applied*  
20 *Management*, 11(1), pp. 5-16.
- 21 Rowe, L., Moss, D., Moore, N. and Perrin, D. (2017) 'The challenges of managing degree apprentices  
22 in the workplace: a manager's perspective', *Journal of Work-Applied Management*, 9(2), pp. 185-199.
- 23 Shih, T.-H. and Xitao, F. (2008) 'Comparing Response Rates from Web and Mail Surveys: A Meta-  
24 Analysis', *Field Methods*, 20(3), pp. 249-271.
- 25 Smith, S., Caddell, M., Taylor-Smith, E., Smith, C. and Varey, A. (2021) 'Degree apprenticeships-a  
26 win-win model? A comparison of policy aims with the expectations and experiences of apprentices',  
27 *Journal of Vocational Education & Training*, 73(4), pp. 505-525.
- 28 Taylor-Smith, E., Smith, S., Fabian, K. and Bratton, A. (2023) 'Apprentices' perspectives of the  
29 tripartite collaboration at the heart of degree apprenticeships: a longitudinal study', *Journal of*  
30 *Workplace Learning*, 35(8), pp. 779-795.
- 31 Universities UK (2019) *The Future of Degree Apprenticeships*, London. Available at:  
32 [https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-07/future-degree-](https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-07/future-degree-apprenticeships.pdf)  
33 [apprenticeships.pdf](https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-07/future-degree-apprenticeships.pdf).
- 34 Welbourn, J., Devins, D. and Reynolds, M. (2019) 'Degree apprenticeships: Reflecting on university-  
35 employer partnership practice to improve workforce development in the United Kingdom', *Industry*  
36 *and Higher Education*, 33(6), pp. 403-413.