

Learning in Apprenticeship: how to support formal and informal learning and secure performance

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Overview of paper

The popularity of the Apprentice Scheme initiative has been reinforced given nearly half a million new starts in England in 2014/15, and a host of related public and private investments. This research presents a unique dataset from nearly 250 apprentices in the engineering sector, providing insight into how apprentices are managed in the workplace and what this means for their learning and performance, providing much needed insights to inform policy and practice. We target a gap in extant knowledge; rather than reflecting on Apprenticeship recruitment and employer perceptions, attention is directed at apprentices' experiences at work, revealing how factors such as work autonomy, support and the challenge of the job contribute to apprentices' performance.

Background

Following recommendations from the Richard Review (2012), Apprenticeships in England are undergoing a reform to meet the needs of a changing economy. The Government has confirmed its commitment to Apprenticeship, setting a target of 3 million new starts by 2020 to increase participation rates, and forecasting to double spending on Apprenticeship in comparison to 2010-11, raising £3 billion in the UK with the newly introduced levy.

The popularity of the Apprentice Scheme initiative has been reinforced given nearly half a million new starts in England in 2014/15, and research has validated benefits reported by both employers and apprentices. Whilst employers indicate increased productivity, staff morale and retention, and the opportunity to train staff in line with the company's culture (BIS, 2012a), apprentices benefit from developing sector-relevant knowledge and skills and by gaining better career prospects (BIS, 2012b). Further reform is set to ensure Apprenticeships are rigorous and responsive to employers' needs, contributing to the economy at large.

As part of the reform, 140 employer-led groups known as 'trailblazers' involving over 1,200 employers are developing Apprenticeship standards, identifying the levels of skills, knowledge and competency required in an occupation, set to replace current Apprenticeship frameworks (House of Commons Library, 2016). An increasing number of

Higher Apprenticeships has been launched to secure progression routes in areas ranging from Aerospace Engineering to Nuclear, Digital and Construction (House of Commons Library, 2016), making Apprenticeships prestigious routes to successful careers. Additionally, the quality of training off-the-job is enhanced guaranteeing employers purchasing power over training providers and assessment services, encouraging providers to operate competitively (BIS, 2015).

Overall the reform aims to ensure Apprenticeships are high quality, placing employers in charge of the Apprenticeship design and delivery, and positioning the relationship between the apprentice and the employer at the core (BIS, 2015). This shift towards an employer-led system turns the spotlight onto the work environment, as important determinant of apprentices' learning experience, in need of further investigation. Whereas research has predominantly focused on Apprenticeship as a Government policy considering its institutional arrangements (i.e. Fuller and Unwin, 2003; 2009), estimating the costs and benefits in delivering this form of training (i.e. Hogarth et al., 2012), and considering the motives leading employers and apprentices to participate in the programme, along with the returns available (Gambin and Hogarth, 2016), little is known about the factors that during the Apprenticeship contribute to its success. Here we address this question, investigating Apprenticeship as a model of learning and examining apprentices' learning experiences at the basis of their performance.

Research question

Apprenticeships are classified as paid jobs, incorporating training on- and off-the-job, leading to nationally recognised qualifications (House of Commons Library, 2016).

Apprentices therefore develop into competent professionals by means of formal training delivered at college or University to impart the theoretical knowledge underpinning the job role, and by means of informal learning in the workplace, contributing to developing job competence and core skills as team working, communication, creative thinking (Specification of Apprenticeship Standards for England, 2015).

As theoretical knowledge is delivered with formal training off-the-job, it entails the issue of transfer of learning, defined as generalisation and maintenance of newly acquired

knowledge to the workplace (Baldwin and Ford, 1988). Informal learning, defined as the learning activities taking place in the workplace without being institutionally sponsored, comprises various levels of individual intentionality (Marsick and Watkins, 2001). Given the discretionary role of the individual in transferring the knowledge acquired off-the-job to the workplace (Chen and Hampson, 2008) and in engaging in informal learning (Billet, 2001), it is important to understand how the work environment facilitates engagement in both forms of learning, contributing to apprentices' development and performance.

Among the factors enhancing learning transfer, the literature indicates transfer design and supervisor support (Burke and Hutchins, 2007; Grossman and Salas, 2011), whilst factors as social support, challenging work and work autonomy have been identified as positively sustaining individual engagement in informal learning (Doornbos et al., 2004; Eraut, 2007). As this study aims to shed light on the influence of the work environment in the Apprenticeship process, these factors have been explored to test the relationship between the perceived quality of the Apprenticeship and apprentices' resultant performance, identifying best practices which can inform practitioners and policy makers.

Methodology

Research evidence in the approach to understanding the quality of the learning environment in Apprenticeship is mainly qualitative (i.e. Fuller and Unwin, 2003; 2007), and here a positivist approach has been adopted to test the association between the factors sustaining engagement in formal and informal learning and apprentices' resultant performance. Following the principle of deductivism, the review of the literature guided the elaboration of the theoretical framework, identifying the variables of interest and the hypothesised relationships.

Data was collected via means of a survey with apprentices as respondents, capturing individual-based perceptions of the quality of the Apprenticeship and self-performance ratings. The constructs included in the survey were measured with existing scales with proven reliability, and an open question was included allowing apprentices to express their views, providing scope for data triangulation. Correlations and regression analysis were used to test hypothesis.

Case study context

The survey targeted Advanced and Higher apprentices (N=241) employed by two large engineering organisations operating in England in areas ranging from aerospace, marine, nuclear power and energy. The engineering sector was chosen for its longstanding tradition in offering Apprenticeships and for its leading role in delivering Advance and Higher Apprenticeships, underlining the importance of integrating formal and informal learning for effective performance.

Among respondents, over three quarters are male, with 30% aged under 20 and 70% aged over 20. With regards to the Apprenticeship level, 54% is studying towards a Level 3 (Advanced) qualification and 46% is studying towards Level 4 and 5 (Higher Apprenticeship), presenting an illustrative profile of the Apprenticeship programme. The majority of the sample is studying towards an Engineering framework, with others taking a Manufacturing, Supply Chain or Project Management qualification. 83% of the sample had been employed in the organisation for over a year, and only 17% had less than a year of experience as an apprentice. A good proportion of the sample is employed on a permanent contract (65%), and the remaining 35% is employed on a temporary contract.

Key Findings

The findings from this unique dataset provide insight into the way apprentices are managed, revealing what factors in the work environment contribute to apprentices' performance and underlying job competence and core skills. As the Apprenticeship includes both formal and informal learning, we present these separately addressing the idiosyncrasies of each learning mode.

Formal learning and training transfer

For the Apprenticeship formal training to be considered effective, apprentices need to transfer the technical knowledge acquired at college, University or at the training academy to the workplace and apply it to their role securing optimal performance results. The findings indicate that transfer design and supervisor support display a strong association with training transfer, as suggested by the literature and here supported by statistical analysis.

Transfer design refers to the degree to which formal training matches job requirements and includes activities, exercises and examples reflecting the applicability of the technical and theoretical knowledge to the workplace (Diamantidis and Chatzoglou, 2014). The dataset indicates that apprentices have an adequate perception of transfer design, and a positive association is observed between transfer design and performance (Beta= .49; $p < .01$; $n=193$), denoting the influence of the quality of training on apprentices' performance, as indicated in the following quote:

'I find the training academy provides skills and knowledge that directly impact my role and performance. University however provides broader knowledge that at present does not impact how I perform at work, however I can see the benefit long term as I progress through the organisation.'

Similarly, supervisors support in sustaining apprentices in applying the newly acquired knowledge to the job, encompassing behaviours as discussing the application of new learning, providing time and space for implementing new skills, along with regular feedback and encouragement (Grossman and Salas, 2011) is positively associated with apprentices' performance (Beta= .38; $p < .01$; $n= 185$). These findings indicate that when apprentices operate in a supportive environment, they are more likely to apply the theoretical knowledge acquired off-the-job to their role, reporting performance improvements.

Informal learning and competence development

When considering the factors facilitating engagement in informal learning in Apprenticeship, the findings from the research indicate a positive association between work autonomy, social support and challenging work, and apprentices' resultant performance.

Perhaps most importantly, the study shows that, work autonomy, as in being responsible for organising ones job, positively impacts on apprentices' ability to adapt to changes (work autonomy – task adaptivity: Beta= .20; $p < .01$; $N= 198$) and engage in proactive task behaviours, such as exploring ideas and making original contributions (work autonomy – task proactivity: Beta= .28; $p < .01$; $N= 197$). The positive association between work autonomy and organisation role behaviours, indicates that when apprentices are empowered with the right level of responsibility, they feel as valued members and play an effective part in the organisation.

Social support, as in the existence of good relationships with colleagues, the opportunity to seek help and obtain information when required, along with feedback availability from both colleagues and supervisors, is associated with task performance. The findings indicate that when apprentices feel part of a positive learning environment, with access to knowledge, expertise and regular feedback, they develop the competencies required to perform the job role. Social support and feedback availability are also significantly related with team member and organisation member behaviours, suggesting that when apprentices are part of a supportive network, they develop team working skills, as in the ability to work as part of a team, share information and help others (social support – team member proficiency: Beta= .28; $p < .01$; $n = 193$; feedback availability – team member proficiency: Beta= .22; $p < .01$; $n = 201$), as well as skills of effective participation, playing a responsible role in the organisation (social support – organisation member proficiency: Beta= .43; $p < .01$; $n = 167$; feedback availability – organisation member proficiency: Beta= .38; $p < .01$; $n = 175$).

The challenges presented by the job are associated with apprentices' performance behaviours requiring adaptivity and proactivity, at the level of the job, the team and the organisation. The results indicate that when apprentices engage in experimenting with different working methods, techniques and tools, they develop self-management skills which allow them to cope with change and demanding situations affecting their job, whilst experimenting and problem solving allow them to develop skills of independent enquiry, making original contributions to the job.

In addition to improving apprentices' abilities to perform the job role effectively, the challenges presented by the job are associated with team related behaviours, as in adapting to change. Feeling positively challenged by the job, is also related to organisation member behaviours of proficiency and adaptivity, as is playing a responsible role in the organisation, such as presenting a positive image to others, and adjusting to changes implemented at the organisational level (problem solving – organisation member adaptivity: Beta= .21; $p < .01$; $n = 181$; experimenting – organisation member adaptivity: Beta= .21; $p < .01$; $n = 182$).

The positive impact of factors of social support, challenging work and work autonomy on apprentices' learning and resultant performance, is well reflected in the following quotes:

'I've really enjoyed the first year of my Apprenticeship. I've always felt like a valued, significant member of the team and company. The apprenticeship has widened my knowledge and experience and allows me to

experience new things which help improve my work. I feel like I am treated fairly, and given a range of responsibilities within my work. The work given is challenging, and very interesting and when learning the procedures alongside the more experienced and knowledgeable colleagues I am able to develop my personal learning faster.'

'My day job has given me far more responsibility than I thought an apprentice would get and has been very challenging at times. This has triggered a response towards learning for me so I feel I have good experience and skills, possibly better than I expected'.

Conclusions and Implications

Given the high levels of resources invested in Apprenticeship, the findings indicate that organisations and policy makers do not only have to pay attention to the quality of the training delivered at college or University, but to the facets of the work environment. When considering the factors of support, challenge and autonomy, the role of the line manager appears as particularly important in relation to both formal and informal learning.

As reported by the CIPD in the guide 'Apprenticeships that work' (2014a), the role of line managers is crucial for the Apprenticeship's success and this figure should be involved in key decision makings from as early as possible. As the findings from this dataset suggest that supervisor support is an important determinant for sustaining apprentices in transferring the theoretical knowledge acquired with formal training to the workplace, line managers should be included in discussions related to the choice of relevant training, and in planning how to support apprentices in its application. Involving line managers in the design and delivery of the Apprenticeship, allows to secure their commitment to the programme and to ensure the organisation benefits from investments in formal training, particularly in relation to Higher Apprenticeships where organisations invest considerably to develop their future talent.

When considering apprentices' learning in the workplace, support from colleagues and supervisors is an exceptionally important factor in contributing to apprentices' tasks, team and organisation related performance behaviours. This finding validates the recommendations presented by the CIPD in 'Managing Future Talent' (2014b), in recognising the role of colleagues and team members in sustaining new and inexperienced workers. As indicated in the guide, line managers ought to prepare existing employees with regards to the attitudes and supportive behaviours which could sustain apprentices'

development, such as sharing their experience and recognising apprentices' expected contributions.

Feedback availability, as in the opportunity for the apprentice to ask and receive constructive feedback on a regular basis is also vital for maintaining good levels of communication (CIPD, 2014b), contributing to apprentices' learning and development. This is reflected in the positive association between support and challenging factors, indicating that when apprentices feel part of a supportive learning environment, they are more likely to perceive challenging tasks involving problem solving and experimenting as positive developmental opportunities.

The role of the line manager is therefore vital in presenting apprentices with challenging work which can stretch their abilities, presenting the opportunity to identify potential and align apprentices' skills with the business needs (CIPD, 2014b). Similarly, providing apprentices with the right level of responsibility, autonomy and empowerment can support apprentices in developing their skills and grow into competent professionals (CIPD, 2014a).

As a challenging, supportive and empowering work environment has been identified as a strong determinant of apprentices' learning, this research draws attention to the line management responsibility for apprentices' development. As key figures in presenting apprentices with a positive learning environment, we acknowledge the importance of involving line managers in the planning and delivery of the Apprenticeship, to ensure organisations secure optimal results and develop talent aligned with the business strategy. With the current reform placing employers in the driving seat in the design of Apprenticeship standards to guarantee training responsive to business needs (BIS, 2015), organisations ought to address front line management involvement to maximise apprentices' learning in the workplace.

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