EDUCATION & TRAINING FOUNDATION

APPRENTICESHIP WORKFORCE DEVELOPMENT: FINAL CASE STUDY

Flipped Learning in Apprenticeship Delivery

CREATED BY

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Contents

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Project Overview

Off-the-job training is precious in apprenticeship education, and it is vital that it goes beyond knowledge acquisition. Flipped learning was developed and tested initially in schools in America (Bergman and Sams, 2012). It has been adopted in the UK within higher education, largely. The need for agility, creative and critical thinking, problem-solving and communication skills are vital in 21st century employment and learning activities in the apprenticeship curriculum that develop these skills are essential. Instead of apprentices acquiring knowledge in off the job learning, and then applying, analysing, and evaluating afterwards, apprentices will use face to face sessions applying pre-learnt knowledge to the working environment. The approach develops independent learning too.

Project Aims

This project will test a flipped learning model for off the job training using a range of digital tools, such as H5P tools available in Moodle and Nearpod, to promote independent study skills and enable face to face sessions to focus on higher order thinking skills, such as problem-solving, critical, and creative thinking skills and collaborative projects, rather than focusing on knowledge acquisition.

Positive Impact and Expected Outcomes

1. Although this project is in its infancy and the continues, there have been recognised positive impact for apprentices. Although, evidence of this would be difficult to quantify currently with no results of achievement being available, TTAs have suggested the following tentative trends as emerging impacts on apprentices:

> "What I've been trying out is setting them some task to go out and find out about… I have looked at past reviews by other assessors and when they asked the questions…nine times out of the 10, the student was saying, I don't know, I don't know. I don't know. So, my view is I don't think that added any value. So, the way I've been doing it is try and using the flip learning and therefore on the first review I set some tasks to go out and research and find out about health and safety in the workplace.
>
> I wasn't asking them the specific questions….so it was really up to them to go out and do the research and then the following review I started discussions and asking questions on the topic of health and safety and I thought that worked really, really well." – Engineering Assessor

2. Impacts on apprentice knowledge acquisition: Among the apprentices undertaking the flipped learning model their acquisition of knowledge has shown signs of improvement from the interactions that the TTAs have had with them on their next meeting, lesson, one to one or review. Following the model of Fuller and Unwin's (2003) proposal of 'Novice to Expert' journey and developing the idea of Lave and Wenger (1991) of the expert moulding the novice, TTAs have stated that undertaking some form of flipped learning within their practice they have managed to progress apprentices effectively, compared to more traditional methods of teaching and learning. Halasa et al. (2019) state that students' familiarity with the material can

lead to the acquisition and implementation of knowledge, which may have contributed to improved progress.

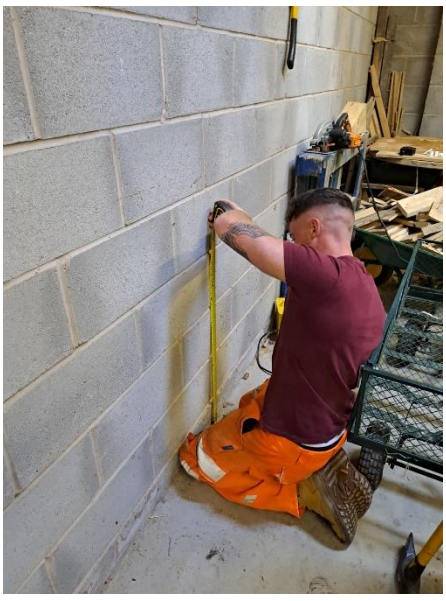
3. Help towards End Point Assessment (EPA) understanding: Since the apprentice had been expected to gain some knowledge of the topic through the flipped learning activity the TTAs wanted to discover what knowledge they had acquired so followed up the flip learning tasks with questions (like what may be asked at EPA) and undertook professional discussions.

> "It prepares them better for EPA. It gives them a chance of getting better scores passing first time which you know hopefully when they come to do their discussions and their end point assessments, they've got that experience to fall back on and hopefully there are things I've done in those videos that remind them, you know, give them tips and they can recall that information when someone else is asking the questions." – Land Based Assessor

4. Provides time and opportunities for further discussion and retrieval practice to take place: to check knowledge and understanding rather than 'teaching' knowledge before checking. Ziegenfuss and Furse (2021) acknowledge this can only be beneficial to the learner. The focus on developing higher order thinking skills using a flipped pedagogical approach, enables apprentices to develop problem-solving skills and other transferable skills, so that they can more fully contribute to the workplace quickly, and their future career and working life is benefited.

5. Ownership and Engagement: Flipped learning has encouraged apprentices to take ownership of their learning (O'Flaherty & Phillips, 2015). Apprentices who are motivated to advance in their careers are more engaged with the materials and use features like gap analysis to track their progress. This approach seems to work particularly well with apprentices who are committed to their training. With access to digital tools and resources through OneFile, they can track their progress, identify gaps in their knowledge, and request additional materials or tasks, empowering them to be proactive in their learning journey. This has been particularly noted within the electrical engineering apprentice route.

> "Just the fact that it freed up that lesson time a little bit more to test them, give them the chance to show what they are picking up on and also time to discuss the different parts of each subject of each lesson. There's more time to go over things to embed them a bit more rather than me just delivering, delivering all the time which again, I think that benefits the apprentice" – Electrical Engineering Assessor



6. Improved Learning Outcomes: While it may be too early to determine definitive outcomes, the flipped learning approach is leading to improved progress. Apprentices are actively engaged, have access to resources that support their learning, and can measure their progress effectively. With the flipped learning model giving more time for interaction between apprentice and TTA then this can lead to more developed understanding being developed. This will only be as effective as the implementation of the flipped learning concept and how the apprentice interacts with the learning, but early indications do allude to this being a possibility.

   "The flipped classroom may accommodate more interaction between teachers and students. Indeed, if such interaction leads to closer relationships between teachers and students, it may improve students' academic achievement and persistence (Robinson, Scott, & Gottfried, 2019)"

   Låg and Sæle (2019)

7. Improvement in digital skills: With the incorporation of digital technologies within the flipped learning project it is contributing to the acquisition of digital skills within the work environment. As witnessed by the research conducted by Eurofound (2021), there is a necessity for our workforce to understand the needs and capabilities that digitalisation is having on the work environment. The approach is providing a skill needed for the future.

"The development of learners within apprenticeships has been positively impacted by the incorporation of flipped learning. Learners are more engaged, take ownership of their learning, and benefit from individualised, accessible, and aligned learning experiences. This approach has the potential to lead to improved outcomes and reduced administrative burdens while promoting continuous improvement in the learning process." Chris Sadler, AWD Project Lead

Project Outputs

- Literature review on flipped learning concept.
- Initial survey questions to staff regarding their understanding of the flipped learning concept.
- CPD training to staff on flipped learning concept and how this can be incorporated (role of TTA and role of apprentice).
- Focus groups surrounding flipped learning for data analysis.

Future Activity

Future activity would include expanding the project remit to areas further than the two that are under scope. This would allow for a full understanding of how the ideology of flipped learning within the apprenticeship workforce works within different areas of delivery to really check the validity of the concept. Delivery of the ideology would be incorporated into the professional development cycle that has been implemented with the apprentice workforce.

To support the above implementation a tutorial or skills development session could be developed and delivered to all apprentices on the concept of flipped learning to aid in the understanding of their learning. Apprentices have not been awarded this development within this cycle of the project and within the literature it was ascertained that for effective delivery and implementation of the

flipped learning concept understanding of this is vital. A future activity would be to incorporate learning on the concept so a fuller understanding of this is acknowledge so the utilization of it would hopefully be greater.

Exploration of the nature of the flipped learning concept will also be explored to see how the ideology is best suited to the apprentice/employer as well as the teachers, trainers, and assessors (TTA's). Within the scope of delivery currently the notion of NearPod is a prominent source of providing information but already within discussion with TTA's there have been other ideas put forward to support the concept of flipped learning. In its original implementation by Bergmann and Sam's, videos were the common form of disseminating information to the learners. With moving forward with this idea, the use of Podcasts could be a viable delivery method as these are current and mobile and can be used in many ways from audio to video form. This may require more upskilling of the TTA's to produce these, but this would allow them to meet better industry standards within their area as well as meet Professional Standards set by the Education and Training Foundation. Such examples of this would be PS16 as well as PS3 and PS9.

Creating a flipped learning environment with the apprentice's employer would be a logical step forward in helping to develop the concept. Giving training and guidance to the employer surrounding the concept and then providing them with access to the flipped learning activity could be considered beneficial in the development of the apprentice. As the apprentice spends most of the time with their employer, and who should in theory have the up-to-date relevant knowledge on industry practice they could support the apprentice with the on-the-job training that could derive from the flipped learning model. The employer being involved in the process of creating such learning materials may also be worthy of consideration so that there is a full understanding of expectations of learning.

Recommendations for effective collaborative partnership working to address quality improvement in apprenticeship delivery.

Throughout the delivery of the project there have been valid lessons learnt and aspects that have required further development and as such recommendations for future implementation of the project have arisen. These are summarised below:

1. Implementation of a more developed CPD programme of flipped learning for TTAs – both the pedagogy and the technology
2. Expansion of the project to other faculties and sector areas across the College
3. Implementation of apprentice workshops on the intent and benefits of flipped learning
4. Sequenced development of apprentices' digital skills so they can fully engage with the approach and build their digital skills for current and future employment.
5. Linking TTAs development of digital skills with the Learning and Skills Professional Standards to provide even greater context for their development (PS16 as well as PS3 and PS9)
6. Involving employers with information on the flipped learning approach and the pre-set tasks so that there is a full understanding of expectations of learning and the employer can support the apprentice to complete tasks.
7. Developing practices in line with modern day culture in terms of information consumption: With the world of information consumption in a technological age shifting towards streaming, downloading and possible social media interactions the method of implementing flipped learning activities may have to mimic or replicate these cultural practices such as Podcasts

(either audio or visual) to invigorate the apprentices to undertake these tasks by bringing pre-learning tasks into ‘their world’.

Where can colleagues find more information?

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