SUNCETT MA Short Course: Advancing Pedagogy in Post Compulsory Education and Training

At ease, soldier! Stop 'smashing it out' in a week; extending the Functional Skills English classroom in Army Apprenticeships

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Abstract

The provision of maths and English support to military personnel is often subject to the same arrangements as other army training in that it is predominantly classroom-based and generally confined to one/two-week courses. There is, therefore, a misguided belief that these time-restricted courses can offer a 'quick-fix' and that success can be 'smashed out' quickly. Additionally, soldiers must fit the literacy and numeracy requirements of their army apprenticeship around their usual duties, training, exercises and deployments and, as such, access to personnel for regular lessons across the duration of their apprenticeship is difficult to maintain. In response to these challenges, the research aims to 'extend' the classroom using flipped and blended techniques and digital resources to enable the curriculum to be delivered over a longer period of time, regardless of the soldiers' location, and allow classroom time to be used more effectively. It seeks to answer the question *To what extent does a flipped approach using digital resources impact on learner engagement and progression in Functional Skills English?* and research methods include questionnaires and online feedback to gauge responses to flipped resources along with observations of flipped sessions and an interview with a key military line manager.

Berhmann and Sams (2007, p14) identify the concept of a flipped classroom as "that which is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class". Mehring and Leis (2017, p1) argue that the flipped learning environment is "one where lessons and content are more accessible, students have more control over their learning, and students have time to reflect upon and become more critical learners".

Emerging findings indicate that learners enjoy having access to digital materials before the classroom session as this enables them to review the information at their own pace and, consequently, classroom time can be spent applying and exploring newly acquired knowledge. Most learners have no previous experience of this approach to learning and would like to do further programmes of study delivered in this way. It is important to note, however, that many of the learners available to be involved in this research project are independent and motivated and, as such, further research is required to understand the potential of flipped techniques with less motivated students.

Key words: flipped learning, extended classroom, digital resources, Functional Skills English

Introduction

"Each year, up to 50 percent of the Army's 8,000 to 10,000 recruits join the service with literacy or numeracy skills at Entry level 3 or below." (NIACE, Armed Forces Basic Skills Longitudinal Study, P11) For most of these recruits, literacy and numeracy progression takes place under the umbrella of their Army Apprenticeship and soldiers must fit the requirements of this around their usual duties including training, exercises and deployments. As such, access to personnel for regular lessons across the duration of their apprenticeship would be difficult to maintain. In addition to this, the provision of maths and English support to military personnel is often subject to the same arrangements as other army training in that it is predominantly classroom-based and generally confined to one/two-week courses.

Our Functional Skills provision is not supported by academic terms or timetables which creates a unique - and sometimes challenging - learning environment and, as such, the purpose of this research project is to explore the extent to which a flipped approach using digital resources impacts on learner engagement and progression in Functional Skills English.

Mehring and Leis (2017 p1) provide further clarification of the approach by explaining that "the flipped classroom is the common instructional approach where teacher-created materials featuring instruction of new concepts are viewed outside of the scheduled class time, in turn freeing teacher-student time for more collaborative efforts in class".

The starting point for this research coincided with the third national lockdown period in response to Covid-19, and some of the military personnel selected for this research suddenly found themselves assisting with the vaccine roll-out or providing emergency support to the Welsh Ambulance Service. Although this particular scenario was in response to an extreme and unusual situation, it is not uncommon for military personnel to be removed from classroom sessions at very short notice, further compounding the requirement for flexible, accessible and engaging resources to enable military personnel to progress with their programmes of learning away from the classroom.

"The challenge lies in building a system of literacy and numeracy provision that meets the needs of all personnel, wherever they are stationed across the UK, overseas and on operations". (NIACE, Armed Forces Basic Skills Longitudinal Study, P13).

Literature Review

When reviewing literature regarding flipped learning, it is immediately apparent that most of the research in this area has taken place in the USA within junior high school/high school settings (broadly equivalent to UK secondary education). As such, it will be interesting to see whether this approach, or at least elements of it, will lend itself to adult learners in the UK work-based learning sector.

Having clarified the meaning of a flipped approach, it is necessary to gain a better understanding of the rationale for employing this technique and to consider its strengths and weaknesses. Mehring and Leis (2017, p1) argue that "the main focus of flipping should be on creating a student-centred learning environment…the key focus is a pedagogical change and not a technological one". They go on to suggest that learning takes place through the active behaviour of the student and that flipped learning requires a combination of instruction from the teacher and students actively engaged in the learning outcomes. They suggest that the flipped model is underpinned by constructivism and the processes that students experience as part of their learning. Kivinen and Ristela, cited in Gregson and Duncan *et al.* (2020 p36), identify constructivism as "the acquisition of knowledge and the development of conceptual understanding as involving *active* processes rather than simply passive transfer". As such, at the design stage of the flipped curriculum, it will be necessary to consider the learners' ability to interact with the resources to create an active process.

The potential benefits of a flipped approach appear to be significant, particularly when applied to the unique environment in which this research takes place. The British Army is diverse and many soldiers and officers do not use English as their first language but all need to achieve Level Two English in order to promote through the military ranks. Mehring and Leis (2017, p24) argue that "international students are disadvantaged by the use of traditional lectures as the unidirectional, rapid, and heavily accented delivery of content demands good listening and note-taking skills". In response to this, Bermann & Sams (2007, p14) suggest that in flipped classes "students can pause their teacher, rewind their teacher and make sure they actually learn the important concepts". They go on to suggest that "these students understand digital learning. To them, all we are doing is speaking their language" (2007, p20).

When considering the potential drawbacks associated with a flipped approach, Bergmann & Sams (2007, p14) highlight that "one of the drawbacks to the flipped model is that students

cannot ask immediate questions that come to their mind". Mehring and Leis (2017, p4) also point out that an "increased workload is one challenge as students are surprised by the amount of preparation…additionally, the instructor will also realise the flipped classroom requires a lot of preparation". Perhaps more significantly, in a Department for Education Report compiled in 2021, concerning online and blended delivery in Further Education, Hamer and Smith (2021, p19) argue that:

> There have been very few high-quality studies of the impact of flipped learning programmes on student outcomes (Stringer et al, 2019), and some commentators have expressed reservations (Lo and Hew, 2017). The main concern is that flipped approaches risk leaving struggling students to their own devices at the initial stages.

Although the latter concern has been highlighted more than once, it is the intention of the research to keep the time gap between independently viewing the resource and attending the classroom session to a minimum so learners will be assured that there will be opportunity to address concerns quickly.

Flipped learning does not dictate that the resources must be digital but, in line with my employer's Quality Improvement Plan, there is a desire to improve our use of these and, as such, I will be predominantly utilising online resources within the flipped curriculum. Bergmann and Sams (2007, p25) also argue that "we believe that flipping allows teachers to leverage technology to increase interaction with students". The issue of student access to equipment and internet services, however, must be taken into consideration at the design stage of the research project; JISC (2020, p12) argue that:

> Learner access to devices, equipment, connectivity and suitable space has been a pressing issue for colleges since lockdown, with 81% of polled staff concerned about students being disadvantaged due to poor access to technology or connectivity.

Logier (InTuition, p10), however, goes on to point out that "anecdotal evidence suggests that new delivery approaches and use of different digital media may be removing barriers to learning. For other learners, lack of tech and connectivity is making it harder to access learning, exacerbating the social divide". As such, flipped resources will be developed for use with entry-level equipment and limited internet access and will also be accessible through PCs located in the Learning Resource Centres for learners with limited access.

With reference to curriculum design, Cokrum (2013, p2) suggests "you don't need to be particularly innovative in your use of technology to flip your class; you just need to be willing

to step out of your comfort zone and learn". This is an important message as many practitioners felt out of their depth when there was a sudden requirement for online delivery in response to Covid-19 restrictions in 2020. Mehring & Leis (2017, p16) point out that:

> "students tend to appreciate watching a video made by the instructor. Instructor-made videos may not always be the best in terms of production quality, but a more handmade style increases the student viewer's sense that it was made for them, thus increasing its relevance".

Learner engagement can also be an additional obstacle to overcome and Cokrum (2013, p 115) suggests that "students' attention span is limited even with the most engaging content. Find ways to keep your content concise and efficient". In the Beginners Guide to Flipped Classroom (Trach, 2020), it is acknowledged that not all lessons are appropriate for a flipped approach; "this approach requires prioritizing lessons that work in such a model" and it goes on to suggest that the model "depends on student participation…devise a system that tracks and holds students accountable for watching your videos." In response to this, Mehring & Leis (2017, p 18) devised a suggested list of activities (Figure 1) to demonstrate engagement with the resource and support active involvement:

- Requiring students to develop questions on the content and submit them at the beginning of class to be used for an opening discussion.
- Having students respond to an online survey about the content, which they submit online the evening before class. Again, their responses can be used to guide the focus of in-class activity.
- Having students take a quiz to demonstrate their out-of-class learning (can be done before class online, or at the beginning of the class session). Options here include providing the quiz questions along with the online content—a type of open-book test—or devising a fairly easy quiz for the start of class that covers basic concepts.
- Providing students with an easy-level practice problem to solve before class, saving the more difficult problems to be worked in-class with classmate collaboration and instructor guidance if needed.
- Including one or more self-assessments with the content, shifting the task of ensuring student readiness for the class to the students themselves.

Figure 1: Methods of assessing engagement and understanding

Bergmann & Sams (2007, p96) conclude their research by emphasising that "the one unifying characteristic of all flipped classrooms is the desire to redirect the attention in a classroom away from the teacher and on to the learners and the learning" and, as such, this will underpin the research project going forward.

Methods

The research begins with an anonymous survey of colleagues with a view to confirming that insufficient time with learners is a shared frustration. The study then identifies a representative cohort of 18 army apprentices who complete anonymous online questionnaires to establish the extent to which they use their literacy skills and to better understand learners' attitudes to writing in general. A semi-structured interview is also held with an experienced and senior ranking member of armed forces in order to provide depth and perspective to the use of literacy skills within the military.

Research is then carried out into the nature of flipped resources to establish how these differ from classroom-based materials, and which are most effective. I had initially thought that adding voiceover to pre-existing PowerPoint presentations could be a 'quick-win' - and reduce the preparation time as identified by Mehring and Leis (2017, p4) - but many learners experienced issues with hearing the audio and so this accelerated the requirement to create screencasts. This process pushed me further outside of my comfort zone (as predicted by Cokrum, 2013 p2) and required additional research about the mechanics of producing and hosting such videos on YouTube. Self-created screencasts were then combined with freely-available YouTube tutorials along with self-created *Thinglinks* to form a set of flipped digital resources for trial with the selected learners.

Flipped sessions are followed-up with anonymous questionnaires to collect quantitative data and qualitative data is also collated through open-ended stimulus questions using online feedback methods and lesson reflections are recorded to capture key observations.

Summary of research methods and participants:

Participants	Method
Functional Skills Tutors x 10	Anonymous online questionnaire
Army Apprentices x 18	Anonymous online questionnaire
Military Line Manager x 1	Semi-structured interview
Army Apprentices x 13 (some from the original cohort and some additional volunteers)	Paper-based questionnaires completed after each flipped session (quantitative) Anonymous online feedback (qualitative)

Intervention Plan

The research takes place within the field of Functional Skills delivery to military personnel on the Army Apprenticeship scheme which is delivered by civilian work-based learning providers contracted by the MOD. The British Army regularly recruits personnel from Commonwealth countries such as Fiji, Africa and the Caribbean and other overseas territories including Nepal and, as such, the learner-base is culturally very diverse and many soldiers do not use English as their first language. The study seeks to research and develop digital flipped resources for trial with a representative group of learners before observing the effect on classroom sessions, gathering learner feedback and disseminating findings to colleagues and the wider business. This project supports the company's key objectives from the Quality Improvement Plan to develop and implement technology to enhance the learning process, review learning technology options and implement and evaluate the effectiveness of technology within the learning environment. It is hoped that the digital flipped resources will capture the interest of learners away from the classroom and that colleagues will see the benefit of utilising these as a way to better use the limited classroom time that we currently experience.

Ethical Statement

This research project is underpinned by the guiding principles as detailed in BERA's Ethical Guidelines For Educational Research 2018.

Informed consent has been obtained from learners and other contributors and they have been informed of the purpose of the research, how it will be used and who the results will be shared with. They have also been offered access to the results on completion of the research project.

The research is carried out with transparency and honesty at every stage for the protection of learners, employers and the wider military and participants are aware that they have the right to withdraw at any stage without the requirement to provide explanation. Duty of care has been considered to avoid placing participants in a position of risk, distress or discomfort.

Participants are guaranteed anonymity through the avoidance of reference to rank, squadron, regiment or cap badge. Data is stored securely through password protection and encryption in line with the UK Data Protection Act 1998 and GDPR legislation.

Although this research has been funded by the Education and Training Foundation (ETF), the Foundation has in no way influenced the conduct of the research or its outcomes.

Data and Analysis

The initial survey of colleagues was used to confirm my assumption that there is a shared frustration with regards to time constraints; colleagues were asked simply to outline their biggest frustration as a tutor and 71% of responses supported my supposition. One colleague explained "…there's not enough time with the soldier…I always feel rushed" and another suggested the need for "…freeing-up soldiers for long enough to have a meaningful time in the classroom".

Although I have worked in Army Apprenticeships for many years, I have never taken the time to seek a wider perspective on the literacy requirements of military personnel and so the semi-structured interview with a senior line manager was an illuminating experience. It is widely understood that Level Two qualifications in maths and English are required for promotion to Sergeant and beyond but it became apparent that soldiers with lower ranks (e.g. Lance Corporals and Corporals) are regularly required to use their written and verbal skills to communicate with personnel of much higher ranks including Civil Servants. It was also established that by the time a soldier reaches the rank of Corporal they are likely to be required to take on the role of an instructor which necessitates writing training programs, corresponding with other personnel and writing reports on students. I was surprised to discover, therefore, that army personnel are not required to *evidence* Level Two literacy skills until they reach the rank of Sergeant but are clearly required to *use* these skills much earlier. The interviewee also shared examples of how poor communication skills can manifest themselves; these included a recent incident in which a Private soldier was tasked to take a vehicle from Colchester to Warminster but ended up in Westminster and a situation in which a Lance Corporal faced ridicule for mispronouncing 'waging war' as 'wagging war' when delivering a brief.

The anonymous questionnaires to the original cohort of learners provided an interesting insight into their use of literacy skills and particularly writing. 61% of learners did not speak English as their first language and this is representative of the apprentices that I work with. When asked about how often they produced text (e.g. letters/emails to friends and family, or written communication in a wider context) 61% did so a few times per month or less often but 89% communicated via social media every day. When asked for examples of when they might need to produce writing in a work context, 56% could not provide a response. This data helps to paint a picture of a group of learners who currently write infrequently but will be required to demonstrate well-developed literacy skills after their first step on the promotion ladder. In addition to this, many learners are undertaking Functional Skills qualifications because they were not successful in achieving GCSE English whilst at school and may be experiencing barriers to learning as a result.

Although not all learners from the original cohort were available to attend the flipped courses, the research continued with additional volunteers who accessed the resources, completed the activities and attended the classroom sessions. There were a number of Nepalese Gurkha soldiers in this new group and these learners tend to be highly motivated and self-disciplined. In the anonymous questionnaire feedback which followed each flipped session, 100% of learners said that they like having access to materials before the lesson; 38% liked being able to view the resource at their own pace, another 38% liked viewing the resource as many times as necessary and 24% were motivated to do more research on the topic. These learners support the flipped model because they are engaged with their learning outcomes as highlighted by Mehring and Leis (2017, p1). When approached for further online feedback about the flipped resources, learners explained that "it's accessible", "it's helpful and informative" and that "more research is available on YouTube and can be practiced anytime needed". Comments also included: "it's a great idea to learn something before you come to the class" and "it has high effectiveness". I encouraged learners to be open and honest in their feedback and their suggestions included that the video audio should be louder and slower. Another learner suggested that the examples I provide should be more closely related to their daily life. Two learners pointed out the inability to ask for guidance if confused as highlighted by both Bergmann & Sams (2007, p14) and Hamer and Smith (2021, p19). The complexity of the text was also highlighted in one flipped *Thinglink* resource with a request for something more simple. Despite these observations and suggestions, learners came to the classroom with at least a sense of familiarity with the topic being covered. My initial experience of flipped classroom sessions was that I spoke less than

I would do under normal circumstances and there was more time for class discussion; as an example, a session on fact, opinion and bias (flipped using a *Thinglink* interactive worksheet) prompted an enlightening classroom discussion about its manipulation in the media, both in the UK and in learners' home countries, to support political ideologies. Sessions such as this felt more learner-centred as promoted by Mehring and Leis (2017, p1) and Bergmann and Sams (2007, p96).

Findings

One of my key findings was that very few learners had anything other than a mobile phone on which to view and complete flipped activities. 73% of learners accessed the resources on a mobile phone and only 23% had a laptop. The remaining 4% had access to a tablet or iPad. As such, the flipped resources were developed with this at the forefront of my planning; everything needed to be accessible through a mobile phone and the content needed to be clear enough to view on a standard mobile screen. The feedback from learners confirmed that they could access and view the materials and I take on board the need to speak slowly and with higher volume on future YouTube videos. (Video production was the first step outside of the comfort zone identified by Cokrum (2013, p2) and will evolve with confidence).

Another key finding is that the learners in my research cohort *did* engage with the YouTube videos and have watched them more than once. The two videos that I produced are only accessible via a private link and they have been accessed 87 times during the research period. The *Thinglink* interactive handouts have also been viewed 50 times. I am unable to measure the success of the freely-available YouTube resources that I utilised but assume that these have also been accessed. The impact of viewing these resources is that learners are applying new skills confidently and consistently in the classroom; this is particularly evident with reference to a YouTube resource covering language features which enabled learners to identify and embed techniques such as rhetorical questions, similes and metaphors almost as soon as the lesson began.

As suggested by Cokrum (2013, p115), the duration of the YouTube videos needed to be in line with learners' attention span; one of my videos was in excess of 15 minutes which some learners found to be too long. As a solution to this, future videos will be broken-down into multiple, shorter-length recordings. With reference to the activities identified by Mehring & Leis (2017, p18) to evidence learner engagement, I ensured that each resource was

accompanied by an interactive task for submission via the learner's mobile phone, but I failed to establish the necessary system (identified by Trach 2020) to record that these were being completed. As such, some learners completed these and some did not and this will need to be addressed going forward.

In revisiting the original research question, *To what extent does a flipped approach using digital resources impact on learner engagement and progression in Functional Skills English?* the emerging findings indicate that there is a positive correlation in terms of engagement. Although it is too early to assess the outcome on progression, early classroom observations demonstrate good levels of understanding and so a continued approach will assist learners in preparing for Functional Skills English exams and also support their wider literacy skills development in preparation for progression through the military ranks.

Recommendations

Employing flipped techniques as a way of extending the English classroom in army apprenticeships has a number of benefits for learners and tutors. It would be unrealistic to attempt to deliver the entire curriculum using a flipped model but utilising some elements of this as part of a blended delivery approach is both achievable and valuable. Much has been said about the need for learner engagement but we are fortunate to work with learners who are intrinsically motivated or are motivated by the desire to progress through the military ranks and, as such, we should capitalise on this and utilise flipped resources where appropriate. A flipped approach supports asynchronous delivery and a bank of resources could be developed for learners to access and complete at their own pace and even on deployments, exercise and overseas tours; this would need to be carefully managed to ensure that learners still receive the necessary classroom (or remote classroom) time to apply the newly acquired knowledge.

Mehring and Leis (2017, p4) accurately pointed out that preparing resources for a flipped approach is time consuming and, as such, it is recommended that the workload is shared with other Functional Skills Tutors. This could include both the production of videos and other online resources and could also include locating pre-existing resources for use within our delivery. For the purpose of this research project, all resources were shared with learners via email or message so that they could be accessed directly from their mobile

phone but it would be recommended to host these in one online space to support ease of access for tutors and learners.

Further research is also recommended with those learners considered to be less motivated and this predominantly refers to learners who did not pass, or did not take, GCSE English. Although the research cohort included learners who could be considered as less motivated, they still reported that they liked having the resources prior to the session but some did not view these on the first time that they were asked and some did not complete the associated activities.

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