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LEARNING FUTURES PROGRAMME FINAL REPORT

Improving Success by Flipping the Learning

Hull College Group



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Project title

Improving Success by Flipping the Learning

Name of lead organisation

Hull College Group

Project summary

Our project was designed to assess four different technologies – mobile apps, video, Xerte and Nearpod & Padlet – which would support flipped learning. As well as establishing a view about the effectiveness and the efficiency of each of these technologies, we planned to build on our “Small Change Big Difference” coaching philosophy by using four of our ‘expert’ coaches as project leads (supported by our eLearning team) to train more staff to use these technologies and to create learning materials for a range of courses. Each coach represented a curriculum area with emerging best practice and as well as building on this, they were paired with an area or site where eLearning development was weaker to allow us to spread effective practice through the college.

The curriculum areas involved were Construction (at Hull & Harrogate), Engineering (in Hull & Goole), Hair, Beauty & Catering, Health, Care & Applied Science and Higher Education. We started and ended the project with the [Coralesce Digital Literacy Self-Assessment](#) tool to enable us to assess the impact of this approach on staff as well as on student satisfaction and achievement.

Who should read this report and why

This report will interest those interested in:

- developing a flipped learning approach in vocational curriculum areas;
- exploring technologies that encourage flexible student learning, support differentiation and maximise the use of workshop time;
- developing a coaching culture across an organisation to encourage the sharing of resources and effective practice;
- using subject based coaches to increase staff confidence and competence in the development of their ICT skills;
- the impact of individual and group coaching on technology-enhanced learning in the classroom;
- increasing student satisfaction and employability through the use of the learning technologies.

CPD resources developed

- 'Taster course' to introduce staff to – mobile apps, video, Xerte and Nearpod & Padlet;
- Screencasts to support staff in using these technologies;
- Case study examining the application of a flipped learning model to vocational further education;
- Case study explaining the coaching philosophy that underpinned our project;
- Model of future CPD delivery within the Hull College group;
- Links to internal / external resources being shared with the sector.

Project lead contact details

Hull College Group is a large general further education college, with sites in Hull, Harrogate and Goole. We have approximately 26,000 students and deliver a wide range of courses from full-time 14-16 education to Masters level courses. The Hull College Group eLearning Strategy aims to "give every student ... the necessary transferable skills, including ... digital literacy skills that will be needed by a 21st century workforce." Our aim is to develop a culture where 'eLearning' is not considered as a separate priority but where the technology seamlessly supports the ability of the tutor to select the most effective tool or resource for delivery and allows the student to access a wide range of resources to support their learning at any time, on any device and in any place.

If you wish to know more about this project, please contact:

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What the project set out to do and why

We wished to test the efficacy of flipped learning for vocational learners, and felt this was particularly important following the FELTAG recommendations. We were aware that many of our students come from relatively deprived backgrounds and may have poor literacy. In particular we wanted to identify any barriers they may experience in undertaking independent study as part of a flipped learning model. This project gave us an opportunity to evaluate our experiences of flipped learning to date, identifying its potential within particular curriculum areas so that we could model the benefits that such an approach can have on student engagement and achievement.

This project supported our eLearning Strategy which has a focus on the use of coaching to spread effective practice and build on the skills of teachers with the aim of maximising student achievement and enjoyment of their study. Our JISC SkillScan in July 2014 identified a number of development areas for staff as well as areas of outstanding practice. Our aim with this project was to secure greater consistency in the use of technology and to encourage wider engagement in learning outside the classroom by building on our previous work with mobile devices and use of video in vocational teaching.

The emphasis was on supporting teachers to select and use appropriate systems and resources rather than prescribing a particular pedagogy, technology or learning system. We were looking to develop learning technology focused processes and resources that would meet a particular learning outcome rather than just replicate what was previously done on paper.

The process

We started with:

- An initial digital literacy survey of 79 staff across the curriculum areas involved
- Pedagogy for eLearning training delivered to the four project leads

The project then split into four strands, with each strand including:

- Training of staff in the project leads own area – 39 staff in Construction and at Harrogate, 26 staff in Engineering and at Goole, 47 staff in Hair, Beauty & Catering, 11 staff in Health & Social Care and 62 Higher Education staff ;
- Development of materials
 - Revision quiz apps for Construction modules developed for Android using Appsgeyser website with Google Sketchup used for images
 - Xerte tutorials for use within Moodle by Hair, Beauty & Catering students
 - Student-led videos showing how to set up machinery in the Engineering workshops
 - Nearpod and Padlet materials to support teaching Research Skills to HE students;
- Use of the materials with students and collection of student feedback;
- Training of staff in 'paired' area in the same technologies;
- Input from a subject-related employer.

A Moodle 'taster' page to support staff who couldn't attend face-to-face training was set up in April and an additional staff survey to identify issues and barriers to engagement was carried out in June.

The project then concluded with a repeated digital literacy survey of staff who had initially completed the survey at the start of the project.

Throughout the project, staff were encouraged to use the project blog, social media and external events to disseminate progress and discuss issues.

The results

Challenges overcome

Whilst our project has been successful overall, we have had to address some challenges along the way, in particular:

- **Barriers to staff engagement**

A reduction in staff numbers and other unforeseen priorities made it difficult for staff in some curriculum areas to find sufficient time to attend training and develop materials for the project. We also had a limited response to our Digital Literacy survey, in part due to the use of the Coralesce tool which we adapted for use with our Moodle but which staff still found to be overly detailed and not very user friendly.

As part of our project we received some additional tailored support from Daniel Whiston an expert in learning design. This helped us to get back on track with certain aspects of our project and to expand our research by introducing an additional survey to identify the factors behind our low staff engagement so that we could address them more effectively. The results of this survey can be seen [here](#) and showed us that:

- Many of our staff were already making significant use of technology, particularly Moodle and video, and were managing to undertake some ICT training;
- The majority of staff wanted to spend more time developing their skills and the main barriers to achieving this were having time to develop materials and concerns about the unreliability of the college network;
- Almost half our staff felt that less than 3% of their course used online content and delivery, showing we need to increase the speed of adoption of technology-enhanced learning within the college to meet the aspirational FELTAG target.

This data informed our planning for future CPD development which can be seen in our **CPD Model for Hull College Group 2015-16** and emphasises the need to support and expand the role of our eLearning coaches.

- **Management and Leadership**

Unexpected staff changes during our project led to difficulties in sustaining senior management support (due to changes in the Project Manager role) and in leading the Video in Engineering strand. These changes caused some delays in engaging staff with the project which in turn led to delays in using the materials created with students. As a result we collated a particularly limited amount of learner feedback in Engineering, although we also struggled to get students from other curriculum areas to complete the feedback questionnaire, which restricted our ability to compare their experiences across four different technologies used. A new role of Director of Innovation & Technology has now been created which should support the future development of technology-enhanced learning within the college.

Impact identified

Impact Measures

People Engaged	Target	Actual	Evidence of Impact
Leaders & Governors	10	32	<ul style="list-style-type: none">- Creation of Director level post to support technology enhanced learning- Increased investment in mobile devices and WiFi- Large scale pilot of flipped learning by School of Hair, Beauty & Catering
Practitioners/ Assessors	175	185	<ul style="list-style-type: none">- Digital Literacy score increased from 2.4 to 2.5- 61% using video, 31% using apps, 12% using Xerte, 9% using Nearpod, 5% using Padlet.
Technical teams	3	4	<ul style="list-style-type: none">- Creation of virtual Small change Big Difference CPD programme- Development of coaching skills
Learners	1250	618	<ul style="list-style-type: none">- 86% of student enjoyed the materials- 73% said they helped them learn- 97% participation in VLe week- 100% achievement in Construction modules where mobile apps were used
Employers	4	4	<ul style="list-style-type: none">- None (as yet)

Staff CPD Impact

Comparing baseline data from the Corelesce digital literacy toolkit survey carried out in December 2014 with a repeat of the same survey completed by the same staff in October 2015, we can see that:

- the overall score for staff digital literacy improved from 2.4 to 2.5
- the score for personal use of technology improved from 2.8 to 2.9
- the score for use of learning technology improved from 2.2 to 2.4
- the score for use of learning technology in assessment remained at 2.1
- the score for use for personal and professional development improved from 2.2 to 2.5

“Staff have benefited from the training, and have implemented the activities into their eLearning. This has enabled students to have an enhanced experience both in and out of the classroom.” Head of School for Health, Social Care & Child Care

“The training was the turning point for my school the realisation that this is the future of T&L. The way it was delivered was so inspiring and enthusiastic and with such huge amounts of help and advice given staff felt very supported to produce the resources even the most resistant to this were converts.” Head of School for Hair, Beauty & Catering

We carried out an additional staff survey designed to identify barriers to engagement which had 111 responses - a higher number of staff responded to this survey as it was very short and focused on the things preventing them developing their skills quicker. This identified that many of our staff have engaged with technology-enhanced learning as part of the project (with 64% of staff having used at least one of the technologies from the project in their delivery), and 52% of staff indicated they would have liked to have developed their skills further. However, it indicated that there were two main factors that have prevented our staff from engaging further:

- Time – 51% of staff identified time as the key factor preventing them from expanding their use of technology-enhanced learning and identified that time was needed not only to attend training but also to practise those skills through developing their own materials using a range of technologies;
- Confidence in and access to the college network - 17% of staff stated that their use of technology in the classroom was restricted by concerns about unreliable internet access or network speed and consistency issues. 16% of staff said they found it difficult to access a computer room or banks of mobile devices to allow this type of delivery to take place.

The Moodle taster course was designed to provide an opportunity for staff who could not attend face-to-face training to engage with the project. 8 staff undertook some or all of the activities we provided through Moodle and their feedback indicated that they liked the approach but still struggled to find time to complete the activities. There were also some technical difficulties e.g. use of Flash-based materials on Apple devices. The use of an open badge as an incentive had limited effectiveness, with 5 staff starting but not completing the course.

We will continue to expand and develop our online CPD materials. However, the staff survey identified that many staff have limited time and lack confidence in using technology (particularly where reliability is an issue) which means that we need to offer a more blended approach to CPD harnessing our coaching model to support skills development and encourage staff to adapt their delivery. Our **CPD Model for Hull College Group 2015-16** shows how we intend to develop our CPD delivery over the coming year.

Student Satisfaction and achievement

Of the 177 students who completed our survey, 86% enjoyed using the online materials and 73% felt that the online materials they used help them learn about the topic. Broken down by curriculum area, 100% of Engineering and Higher Education students found the materials useful and enjoyed using them, 95% of Construction students found the materials useful and 92% enjoyed using them and 77% of Hair, Beauty & catering students found the materials useful and 87% enjoyed using them.

During our Hair, Beauty & Catering VLe week, 97% of students completed part of their course online. Usage of the VLe went up substantially in that week but also in the following weeks and the percentage increase was highest in Hairdressing (62%) and Catering (45%) where usage levels had been lower than in Beauty Therapy before the project. See our [blog](#) for more detailed information about the impact of our Hair, Beauty & Catering VLe week. In the two Construction modules supported by the revision apps, 100% of the students achieved. Student views on these apps can be seen [here](#). Overall satisfaction with Moodle increased by 8% in the last year and is now 81%.

Leaders & Governors

- The project has been presented to and discussed by many leadership groups and management committees within the college during the year, including senior managers, Heads of School, departmental quality managers and teaching and learning coaches. Findings have also been discussed with local networks such as the HUDCETT consortium, the University of Hull digital technologies network and the Yorkshire & Humberside ILT managers group;
- Senior Managers and Governors will be made aware of this final report and the outcomes of this project will be used to support our ongoing Innovation & Technology strategy.

Comparison of the four technologies used

Technologies	Strengths	Disadvantages
Mobile Apps	<ul style="list-style-type: none"> - Quick to create, especially where staff has prepared multiple choice questions. - Can be used without an internet connection once downloaded - Give students immediate feedback. - Images can make the app more attractive. 	<ul style="list-style-type: none"> - Needs access to an appropriate device. - Apps are specific to a type of device e.g. Android, Apple. - Difficult to find suitable copyright-free images, we used Google Sketchup to create our own. - Including too many questions in one app can overwhelm students.
Xerte	<ul style="list-style-type: none"> - Supported formal flipped learning by allowing a variety of delivery and assessment methods e.g. video, quizzes, diagrams. - Provided a structured, tutorial format that encouraged student completion. - Materials produced had a high level of accessibility. - Integrates into Moodle to store results. 	<ul style="list-style-type: none"> - Time consuming to create materials. - Required reasonable level of ICT skills from the staff involved. - Requires access to the internet and a suitable device. - Copyright issues should be kept in mind if re-using a lot of external materials.
Video	<ul style="list-style-type: none"> - Allowed students to view practical task repeatedly and in their own time. - Supported students in reflecting on their own practice. - Supports differentiation and students reluctance to ask for extra help. - 	<ul style="list-style-type: none"> - Variable audio-visual and content quality if using student-created video - Needs server space to host larger files. - Permission and privacy need to be considered when using student videos.
Padlet/Nearpod	<ul style="list-style-type: none"> - Extremely quick and easy to create (especially Padlet). 	<ul style="list-style-type: none"> - Requires access to the internet and a suitable

	<ul style="list-style-type: none"> - Padlet supported collaborative work. - Nearpod allowed a different style of delivery within the classroom but also built into Moodle in 'Homework' mode. - Nearpod can include quizzes, video and websites (including Padlets!) 	<ul style="list-style-type: none"> device. - Results stored outside of Moodle - Can be automatically generated from a Powerpoint but cannot be edited in this form.
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Employers

We consulted with four employers across the four strands of our project – Trident (HE Computing), Salon 4 (Hair & Beauty), BAE Systems (Engineering) and Ashcourt (Construction).

The digital skills that were most important to these employers fell into two categories – general use of technology, particularly for communication (including email, social media and web site creation) and use of technology specific to that sector. With the sector-specific technology, there was an emphasis not just on having the skills to use such software but on having a proper understanding of its function and purpose. Having the skills to keep up-to-date with new developments in technology was also identified as important.

The area where employers felt students most commonly lacked skills centred mainly on the appropriate use of technology for communication – using formal language in emails, managing their digital identity and employers expressed a strong desire to be further involved in designing the digital elements of courses, particularly in the more technical curriculum areas.

The use of e-Portfolios and similar technology to demonstrate students' skills and show employers projects they had developed at college was seen as important by three of the employers, with an acknowledgement that being able to show and explain their own work helps student be more confident in interviews.

The views of employers supported the philosophy behind our project that it was important to expose our learners to a wide range of types of technology and to make sure that emphasis was placed on the function and purpose of the software they are asked to use. Thus, it was important to us that staff were given freedom to select technologies that supported their delivery and where they could explain to their students how they fitted with the curriculum. By doing this, we hope to build confidence and curiosity in experimenting with new technologies and skills in selecting the appropriate technology for a task in both our staff and students.

Future plans

We will continue to extend our use of the flipped learning model, particularly in our School of Hair, Beauty & Catering where the Head of School has ambitious plans to extend it to all theory-based modules – which she describes [here](#). We will look to develop the use of this model and other technologies, such as the mobile apps and use of video, which have proved to be effective in both formal flipped learning and informal use by students to support their classroom learning and to encourage and support the dissemination of this effective practice across the college. We are also looking at ways to provide better access to laptops and tablets for students and will continue to train and coach our staff to improve their knowledge of and confidence in using a flipped approach effectively.

We will continue to take a longer term view of the introduction of online learning by looking to embed staff skills and understanding and develop a sense of ownership of the online aspects of their course rather than providing them with a ‘one-size-fits-all’ external solution. The combination of subject knowledge, IT skills and enthusiasm has been key to the success of our eLearning coaches and we hope to expand their role next year to accelerate the use of technology-enhanced learning across the college.

Key learning points

- Support from senior management and governors is crucial, staff engagement was harder to obtain for our project we lacked a project champion at senior management level who could ensure the project remained a priority for leaders within the college despite other pressures. Our biggest successes were linked not to the technologies used for that strand but to the vision and support of the Head of School for Hair, Beauty & Catering.
- A coaching approach can be very effective in allowing staff to explore and take ownership of the new technologies they use to support their students. Subject-based coaches were particularly successful in engaging colleagues who lack confidence and skills in technology-enhanced learning and in ensure that training resulted in staff creating materials that they were confident in using with students and adapting into the future - see our **Small Change, Big Difference: a coaching based approach to ICT skills development** case study for more details.
- The students involved in flipped learning through our project showed a high level of engagement and achievement and staff quickly overcame their initial reservations about job security and workloads. The project has shown that a flipped learning model has the potential to enhance delivery, particularly when delivering the more theoretical elements of the course, and to support flexibility, differentiation and maximising the use of workshop time - see our **Flipped learning in vocational education** case study for more details.
- Examining the barriers to staff engaging further with technology-enhanced learning has shown us that we should not be too quick to move to online delivery models, although these can be useful tools for staff who have already reached a certain level of confidence. Technology-enhanced learning has great potential to not only enhance but change the way tutors deliver, greatly increasing independence in

student learning. However, we must not underestimate the role of face to face training and support and the importance of allowing our staff and students time to practice and experiment so that they can use technology in their learning effectively. We also need to curate high-quality materials and encourage sharing and re-use to enable staff to extend their technology-enhanced learning efficiently.

Resources

- 'Taster course'

As well as providing staff with face-to-face training and individual coaching we created a '[Taster course](#)' on Moodle to enable staff to learn about our four project strands – mobile apps, video, Xerte and Nearpod & Padlet – online at their own pace.

The resources from this course which can be reused and adapted include:

- Uploadable Moodle pages with associated resources
- Xerte tutorials (in SCORM and non-SCORM formats)
- Screencasts to support staff in using these technologies

For those interested in the research and processes used within our project and the lessons we learned, we have made the following available:

- Case study examining the application of a flipped learning model to vocational further education;
- Case study explaining the coaching philosophy that underpinned our project;
- Model of future CPD delivery within the Hull College group

We have also provided links to two additional resources through our Moodle site:

- [Video of the Week Archive](#) – an ongoing collection of 3 minute 'How to' screencasts on various technologies that can be used to enhance learning
- [The eLearning Resources Portal](#) - links to internal / external resources being shared with the sector