

LSIS Leadership in Technology (LIT) grant based intervention

Title: epens in Work-Based Learning

Introduction:

Furness College is an incorporated general further education college situated in the industrial and relatively isolated town of Barrow-in-Furness. The college occupies a single, purpose-built campus close to the town centre and has adequate car parking and good disabled access. The focus of the college is to provide high quality vocational education and training for the people and industries of the Furness Peninsula. The strategic priorities for the college are largely informed by government priorities and their associated funding streams. These priorities are translated into Skills Funding Agency and Young People's Learning Agency priorities and in turn to regional and local priorities.

The college delivers a high proportion of training for work-based learners involving monthly and quarterly visits to ensure that learners are progressing and data required for funding is collected. This entails recording visit dates, progress on qualifications undertaken, safety review and workplace monitoring. Currently this data is recorded on paper and any data required for funding purposes is entered manually for the monthly returns. Data required for the management of this area is recorded in a variety of forms, ie spreadsheets, learner records and health and safety monitoring records. A number of different members of staff use this data and create different tracking documents and reports for a variety of purposes. This has led to the tracking of students' progress to become disjointed with various bits of data in different formats and residing with different staff.

The specific use of the digital pens in the area of WBL will focus the on aspects of the management and tracking of student progress to link into our current and developing systems. Currently paper records are completed at the workplace, transported back to college, typed up, verified, any errors or omissions chased up with added visits to learners. The tracking software requires the inputting of data on the learners progress which is not compatible with the WBL records and forms. The use of paper records for WBL and apprenticeship learners causes errors in completion, delays in checking and internal verification; and managing the learners progress with timely information of the learners progress to employers and management. The use of digital pens in this specific area is seen as a major step in allowing assessors and tutors to carry out their tasks in the work-place with significant reductions in administrative overheads. There is still a need to have paper records with signatures for audit and funding purposes, therefore the digital pen solution was crucial at this time to allow paper records to be kept but digital data to be used in collating and tracking students' progress.

Therefore the main aims of the project are:

- Improvement of accurate and timely work-based learners progress
- Significant reduction in administrative overheads
- Reduction in travel costs and lower carbon footprint
- Minimal change to existing work practice
- Timely information on learner progress available to management and employers

- Development linked into current student tracking software

The behaviour change in assessors will be to progress from a paper based only system to one that is more electronic and linked into SQL databases. This will enable the systems to develop as technology and assessment methods change with the use of technology.

As the college works collaboratively with a number of regional colleges and contributes to a number of forums and conferences we envisage that the outcomes will be highly transferable to other organisations across the sector.

Methodology

A project working group of key stakeholders was formed to oversee the project. These involved staff from across the college from IT support, lead assessors, work-based learning administrative staff, health and safety administrators and quality improvement staff. Joint application development workshops took place to plan, discuss and prioritise the initial requirements with these key stakeholders in the development and deployment of the technology. An action plan was drawn up and updated after these workshops. An Agile approach/methodology was used to ensure stakeholders were empowered and decisions they were making were to the full benefit of the project and college.

The use of agile project management techniques and therefore the incremental development and deployment of the technology was key to the prioritisation of requirements. One of the major decisions in deploying the use of digital pens in the work-based learning area was to decide on what forms/processes were to be digitised and could effectively be used in improving management processes and improving efficiencies in the administration of this key area. The 12-weekly review that all assessors/lead assessors undertake with all work-based learners was chosen as a key form because of the funding data requirements and is a key milestone in learners progress.

Regular bi-monthly workshops took place to track progress, review and re-prioritise the requirements if required and also to ensure that key stakeholders were empowered by the development of this project. Detailed workshops took place with appropriate staff on the design of the digital forms and training plans were scheduled to fit around the deployment of the technology.

As a first step in facilitating change, the college reviewed its key performance indicators (KPI's) for the management of work-based learners to help re-invigorate a mindset change through the measurement against a set of defined expectations.

We chose a digital pen technology with the requirements to integrate with the paper processes that operate in the training and college area, where substantial volumes of paperwork have to be completed accurately and in specific timescales.

The working group also covered issues such as defining new behaviours and rules for management control and reporting, defining new rules for assessors for using the documentation and reporting to line managers, and facilitating the re-organisation of the supervisory and lead assessors roles to ensure appropriate levels of responsibility, authority and ownership. Another key element was assisting with the implementation of change, through coaching and mentoring of managers, supervisors and lead assessors.

With the aim of increasing productivity, improve performance and underpinning the compliance levels required by the college, the working group focussed on the bringing about best practice in the pilot area – with timely completion of paperwork, performance monitoring, data accuracy and cost effectiveness.

Redesigning the forms was fundamental – making it easier to adhere to the process and saving time and work for both assessors and administrators. The first form to be digitised was the 12-weekly review as the project was being implemented when most learners were already enrolled and registered on their programmes.

Using the digital system, assessors still write out forms as before, but using a digital pen. They then click on the “send” box on the form, where the data from the pen (recorded as pen strokes) is transmitted via their Bluetooth mobile devices to a secure server, where it is converted into text. A work-based learning administrator at the college can then go online to the hosted service to see the original handwritten form side by side with the converted text version on the screen. If necessary, they can then call the assessors while they’re still with the learner to identify areas for attention, so that any issues with the paperwork can be resolved straightaway.

Once the administrators are satisfied that the data is accurate and compliant, they then click “verify” to trigger the next fully automated stage of the process: an xml data file which is sent to the learner information system, and a graphical pdf created and sent to an e-journal indexing system.

Evaluations in the deployment of this technology are currently being carried out using with verbal feedback and comments being reported directly to the Project Lead via email and the a Forum on the VLE. Once the digital pens have been operating for a longer period then a full evaluation will be carried out with assessors/lead assessors and administrative staff.

Results

Overall the project has demonstrated that the

The main aims of the project were:

- Improvement of accurate and timely work-based learners progress.
The time taken to complete an assessment form, carry out a full compliance check and add the information to the database has been reduced dramatically. Initial estimates of the original paper-based system is that data is recorded more accurately and is more complete, is timely and time is not spent extracting data from the paper review forms to be input into the funding returns on a regular basis. The time to complete a form is basically the same but the time has been saved in checking and extracting data. This ranges from a complete and accurate paper form to be checked from 2 minutes to an incomplete and inaccurate form having to be sent back to an assessor which could take up to 20 days to be fully completed. The data extraction on average took 15 minutes per student. This has now been eliminated.
- Significant reduction in administrative overheads
Administrative overheads have started to show reductions in the time needed in the management of the process of work-based learners. This has initially been seen in two main areas of data becoming available on the learner information system which is leading to management control and reporting becoming easily accessible. As the use of digital pens is still early in its use full data analysis and cost savings have not been fully seen as yet.

- Reduction in travel costs and lower carbon footprint
As assessors can now upload their reviews immediately at the learners work place, the do not need to travel back to college on a regular basis. In such a rural community the initial savings to the travel expenses and fuel bills is estimated to be around 10% initially.
- Minimal change to existing work practice
From the point of view of the assessor the work practices has been maintained with paper forms being completed with the learner. The major benefits is from the administrative side in ensuring forms are accurate and complete. The management of the student tracking and assessor workload is now more accurate and up to date.
- Timely information on learner progress available to management and employers
Further development of the use of the digipens is to review the reporting structure to management of the compliance and tracking of students progress with data now collected and available via the learner information system. Further work is also required to make this tracking of students progress available to students and their employers. Initial indications are that as the data is now being collected digitally and stored on the learner information system this process will be quickly implemented.
- Development linked into current student tracking software
A number of developments are taking place on the student tracking software and the use of the digital pen data has enabled this to proceed at a faster pace without any extra administrative burden on the assessors in recording the students' progress. This is currently underway.

The project has also been a catalyst in the work-based learning area for reviewing work practices especially with the management control and compliance of tracking work based learners and also to enhance the use of technology in the assessing process. This has led to the review and discussions on the use of e-portfolios, using simple video-conferencing to communicate with learners and further work on using digital evidence gathering within this area.

Actual or planned savings

As the implementation of the project is in its early weeks, the planned savings are estimated to be:

Assessor administration: 10-20% time savings in accurate and completeness of forms. Planned error rates or un-complete forms having to be completed to be reduced by an initial 10%, with greater savings in the future as this rolls out to all assessors.

Data Administration: planned time savings of 20%. Data input now instant with no manual input required for funding and learner information system data.

Management control and compliance: planned time savings of 20% initially. The initial reporting of assessor case loads and timeliness of 12-weekly reviews will be directly entered and reporting will then help the control and compliance of the process. Further savings are expected as the project continues and reports are fine-tuned.

Students progress: this area was underdeveloped so no actual savings were to be accomplished but data and tracking will become available to students and employers, without extra administrative costs incurred.

Lessons

As per usual on most projects and especially IT projects there are hidden “extras” that have not been identified in the original planning. For the digital pen project the extra costs were

- New mobile phones were required for the assessors to enable Bluetooth and web data handling to the digital pen system. This was expected to some extent as this area of work had already identified the need for “smarter” phones to enable better communication and the multi-functionality would also enable pictures, video and speech to be recorded when dealing with a learner rather than taking multiple devices. A further extra cost for these smarter phones has been the added “data bundle” package required for each phone.
- The project had accounted for the development costs of the new data coming into the student information system, but there was a unexpected significant cost to enable the web service data handling from the learner information system point of view.

Other lessons learnt were to be expected:

- Re-designing forms is an iterative process and requires all stakeholders to have a say. This can cause some tensions between stakeholders as sometimes they do not see the whole picture or understand why aspects have changed. The joint workshops enabled this process to be managed in an effective manner where all points of view were treated on their merit and steered to an overall consensus
- Changing working practices can be tricky, especially in the current economical climate where change can be viewed with apprehension and caution. Stakeholders were allowed in the joint workshops to develop the procedures required and review working practices in the light of trying to alleviate duplicated effort and time in terms of the processing of forms and the management control. Assessors and administrations have been thoroughly informed and feedback valued as the project as progressed through to implementation.

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