ICT and e-learning for work-based learning in the skills sector

Five case studies

These case studies were produced as part of the research commissioned by the British Educational Communications and Technology Agency (Becta), and funded by the Learning and Skills Council (LSC), into the use of ICT and e-learning for work-based learning in the skills sector. The full research report and case studies are available to download at [http://www.becta.org.uk/research/reports].

Becta
ICT Advice

Canary Wharf Construction Workers' Learning Centre

Lead organisations

The Union of Construction and Allied Technical Trades (UCATT) and Lewisham College Trade Union Study Centre.

Partner organisations

Canary Wharf plc, learndirect, Department for Education and Skills (DfES), approximately 20 construction companies.

Aims

To use e-learning to engage workers traditionally excluded from learning.

Project details

This project targets workers from a number of construction companies via a learning centre set up in a portable building on one of the construction sites at Canary Wharf in London. The Union Learning Fund pays for a project worker and the course materials; the employers provide the portable building and associated maintenance and security.

Many of the learners have never used a computer before and have basic skills needs. Courses available cover a range of topics, including health and safety, basic literacy, English for speakers of other languages (ESOL), computing skills and TUC learning representative courses.

Laptops are also made available in construction workers' canteens during lunch-times, largely for short informal sessions that stimulate interest in further learning. Approximately 700 construction workers have so far participated in these 'taster' sessions.

Issues

The workforce is transient with a high proportion of non-British workers, and there is no traditional learning culture. The workers are spread over many sites and employers.

Some employers have not been supportive in marketing the courses and persuading their employees to participate in learning.

What worked well

- Having a physical place for learners to come to.
- Visual materials that helped overcome language barriers – for example, a body-mapping exercise where learners matched labels describing injuries and risks to a map of the body.
- A 'blended' approach, combining e-learning with tutor support.
- Employing former construction workers as tutors, thus helping learners overcome fear and embarrassment about learning and using computers.
- Having an informal setting that did not feel like a classroom.
- The courses being provided free of charge to the learners and employers, and some companies giving paid time off for learning to workers. All this stimulated demand for learning.

Outcomes

- Previously most employers took workers through a 15-minute verbal introduction to health and safety on their first day. Now the centre can get more than 250 learners through an accredited course in a week.
- The online health and safety test has been completed successfully by 170 learners since June 2004.
- There has been a raising of health and safety standards generally.

Real World Environment for Service Engineers

Lead organisation

British Gas.

Partner organisation

Logicom.

Aims

To upgrade and enhance the fault-diagnosis skills of British Gas service engineers and modern apprentices. The emphasis was on providing better rather than cheaper training, with a requirement that it should be interactive and replicate what the engineers do in their day-to-day work.

Project details

Multimedia software was used to create three-dimensional simulations of a typical customer's home, with scenarios in which the engineer has to interact with a customer and repair a faulty boiler. There are eight scenarios, each including different random events with artificially intelligent actions plus consequences from the engineer's own actions.

Groups of four to six trainees, working with a technical trainer, aim to complete at least four scenarios in a day. They may complete the remaining scenarios in their own time as the software remains on their laptops.

Trainees' progress is recorded in a log that both trainees and trainer check afterwards. This record is used to determine best practice and to illustrate to trainees how and where their actions diverged from the model ones.

Issues

The project was originally delayed when British Gas changed the laptops they used. This meant that the software designers had additional work to make the program compatible with the new system.

The initial cost involved in developing the software and having the hardware in place could be prohibitive in organisations with smaller training budgets than British Gas.

What worked well

The feedback from engineers was that they found the 'Real World Environment' to be practical, real and enjoyable.

Outcomes

The training aimed to show measurable changes in a number of performance indicators. In fact, there were clear improvements in all of them, including:

- increase in first-time fix rate
- reduction in job recall rate
- reduction in part usage/cost
- reduction in customer complaints
- reduction in the volume of calls to the National Technical Helpdesk
- reduction in joint visits with appliances manufacturer.

e-skills into business (ESiB)

Lead organisation

e-Skills UK Sector Skills Council.

Partner organisations

South East England Development Agency (SEEDA), Business Links, University of Surrey, NETg, Xebec McGraw-Hill and others.

Aims

To improve business competitiveness and bottom-line performance for small and medium-sized enterprises (SMEs; businesses with under 250 employees) by engaging them in e-learning and helping them to see the benefits that can come when they use ICT.

Project details

Three online tools are available. Although they may be purchased independently, each has been designed to follow on from the previous course. The three are:

- BAT (Business Analysis Toolkit) – diagnostic tools that enable firms to work out where they stand in relation to ICT and business development, and where they want to be. They include an individualised company action plan on how to engage in ICT to benefit business.
- SAT (Skills Assessment Toolkit) – helps firms identify existing skills and skills gaps.
- LMS (Learning Management System) – over 200 online courses in IT, e-business and management from which companies can choose those that meet the needs identified in the SAT.

The learning is generally accessed in the workplace. ESiB tutors provide support – mainly on technical and navigational queries rather than course content – by telephone during office hours.

Issues

- Many SMEs reported a lack of time to undertake the assessment and training.
- Lack of broadband internet access posed challenges in rolling out ESiB.
- Support was needed for the practical implementation of the process after the BAT and SAT. Business Link played an important role here.
- Evaluations showed that businesses unfamiliar with e-learning and the internet needed 'hand-holding' by the ESiB team to prevent drop-out.

What worked well

- Seventy-eight per cent of businesses thought the ESiB process would add value to the way they worked.
- Sixty-five per cent of the SAT users said their organisation would adopt the training outcomes identified.
- The 2001 pilot study found that ESiB had successfully engaged SMEs that had not previously undertaken any form of IT training.
- The biggest users of ESiB were project managers who needed a toolkit to help deliver business-improvement services to their target SMEs.

Outcomes

Users identified the following long-term business benefits of using ESiB:

- cost savings
- greater awareness of potential business opportunities
- greater appreciation of what is actually happening in the business
- greater customer focus
- clear strategic direction
- skilled, more adaptable workforce
- enhanced performance using IT
- increased staff motivation.

Those who paid for ESiB found it to be more useful than those who had received it free of charge.

eNVQs

Lead organisation

JHP Training, Leeds.

Partner organisations

QC Supplies, UKI Partnership, eNVQ Ltd.

Aims

The rationale is the same as for paper-based NVQs: to increase the competence and confidence of staff.

Project details

The learning is targeted at call centre operatives in both large companies and SMEs. eNVQs are offered in administration, management, team-leading, customer service and call-handling.

Candidates submit electronic copies of evidence to online NVQ portfolios using software supplied by eNVQ Ltd. Access to the e-portfolios is available to training managers and assessors at JHP Training, and to the learners' managers.

The learning is part of the working day, carried out in between taking calls and during lunch breaks. One company gives staff an hour off every week to work towards their eNVQs. Support from assessors is provided face to face and through email exchanges.

Issues

- The eNVQs have only really taken off in office-based environments where learners have constant access to computers. They have been less successful in the retailing and warehousing sectors.
- IT security was an initial concern with one call centre company. Before agreeing to implement the eNVQ system, the firm had to ensure that the system would not interfere with security.
- Some managers found learners were spending too much time during their working day accessing the eNVQ system. By monitoring use, managers easily addressed this problem.

What worked well

- Candidates had more frequent and better quality contact with assessors because of the email facility and the ability of assessors to check the progress of candidates at any time via their online portfolios. This helped motivate learners.
- The electronic nature of the qualification made it more attractive and interesting to learners.
- Candidates were able to track their learning progress easily and tended to be motivated by this.
- Managers appreciated being able to access action plans and keep track of the employees' progress from their own computers.
- Assessors adopted a more holistic approach to the NVQ process, and were able to take on bigger caseloads by replacing face-to-face with electronic support.
- Familiarity and confidence with ICT, for both learners and assessors, was vital for the success of the eNVQs, which were more popular with younger learners.

Outcomes

- JHP Training in Leeds now has over 200 learners taking part in the e-learning.
- eNVQs show higher completion rates than paper-based NVQs. eNVQ Ltd claims that previous completion rates of 30 per cent have doubled to 60 per cent with eNVQs.
- As a result of completing eNVQs, learners' IT skills have improved generally, with wider benefits resulting from the way learners now perform in the workplace.
- eNVQ Ltd claims that the cost of delivering eNVQs is £300 to £600 less than traditional methods.

Certificate in Online Learning

Lead organisation

Chartered Institute of Personnel and Development (CIPD).

Partner organisation

Sheffield College.

Aims

To instruct training staff interested in setting up online learning within the workplace. The course – aimed at those with modest computer skills and little experience of online learning – provides insight into the rationale behind e-learning and facilitates the design and delivery of online courses.

Project details

This is a certificate programme, delivered entirely online and accessible from home as well as work. The course is accredited by the Open College Network as a Level 4 NVQ equivalent qualification.

The programme consists of four units, requiring six to seven hours' study per week for 20–23 weeks. Support from peers as well as tutors is embedded into the course design.

Issues

Technical problems have occasionally arisen in relation to course access through organisational firewalls. These have been solved by technical staff.

What worked well

- The close relationships between learners with their tutors ensured that problems were identified and resolved early, before they led to withdrawal from the course.
- Demand from learners for progression resulted in the development of an accredited Advanced Certificate of Online Learning.

Outcomes

- Since 2001, three groups of learners – each typically consisting of 20 learners – have undertaken the programme every year.
- Feedback from learners has been uniformly positive and drop-out rates low.
- Course fees provide an ongoing income stream that is self-sustaining.