Making a difference with technology for learning: evidence for college leaders

Increasingly, research evidence demonstrates the role that technology has to play in delivering benefits for colleges and for students. Here Becta presents the research evidence that every college leader needs to know.

Further details of the research can be found in *The Becta Review 2005*[1] and *2006*.[2]

1 Technology benefits students' learning

2 Technology makes colleges better able to manage their business

3 Technology makes colleges better able to personalise learning

4 Technology enables colleges to streamline processes

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ICT Research

1 Technology benefits students' learning

Improved participation and attainment

The benefits of appropriate use of technology for students include:[3]

- improved concentration
- increased receptiveness to learning
- increased confidence
- better understanding of concepts.

These benefits enable students to participate more and therefore achieve more.

A third of lecturers surveyed across the further education sector reported that their use of technology over the last three years had improved student attainment (only 1% considered technology use had worsened it). In addition, almost two-thirds (64%) of lecturers surveyed reported that, by using e-learning, they had developed their understanding of their subject more effectively.

Higher student retention

Increasing numbers of college staff report that technology use also has a positive effect on student retention rates. In further education colleges where achievement and/or retention rates have improved over the last three years, half of practitioners reported that their use of technology had led to these improvements.[4]

2 Technology makes colleges better able to manage their business

Institutional e-maturity (sometimes described as 'e-enablement') is the capacity of a college to make strategic and effective use of technology to improve educational outcomes.

Indicators of e-maturity

Five key indicators of e-maturity have been used to track trends over time:

- Student access
- Workforce skills
- E-learning resources
- Management and strategy
- Use across the curriculum.

Students keen to exploit technology

Those aged 16–24 years are the heaviest users of the internet (83% use it),[5] and they are keen to learn online. In 2003, 51% of further education students were confident about using the internet rather than books to locate information; by 2005, this figure had risen to 67%.[6]

Students are keen to access learning resources remotely. When given the opportunity, 34% of students access features of the learning platform, such as the virtual learning environment (VLE), from outside the college. Students report that the main benefit of using such systems is the ability to work at a time that suits them.[7]

Increasing institutional e-maturity

Nationally, there is steady movement towards e-maturity in further education colleges:[8]

Percentage of colleges that are:

	E-enabled	Enthusiastic
2005	11%	51%
2006	25%	50%

The most effective e-learning strategies are developed when all staff fully "buy in" to the over all vision for learning and the use of ICT.[9]

Colleges continue to find it difficult to sustain progress across all five dimensions (see Indicators of e-maturity). In the most e-mature colleges, the current emphasis is on using technology in teaching and learning to improve students' understanding.[10]

Achieving e-maturity

Most lecturers expect to use technology in their teaching and learning. A recent study found that 61% were determined to use technology to its full potential. Science and business departments are the most receptive to the use of technology in learning.[11]

> "Integration of ICT and e-learning is a complex development process involving a major leadership commitment, technology provision and support and professional development of the teaching staff."
> *The Becta Review (2006)*[12]

To realise the benefits of technology, the active support of a senior manager is essential. It is also essential to have buy-in from middle managers, who can facilitate or block developments. You therefore need to ensure that middle managers are closely involved with organisational strategy.[13] It has been shown that the most effective e-learning strategies are developed when all staff are fully committed to the vision for learning and associated strategies for the use of technology.[14]

To develop competence and confidence with technology, practitioners need time for training and consolidation. Good training, with local support and advice, emphasises the use of technology in teaching and learning contexts.[15]

Technological e-maturity priorities

For college leaders, the key priorities for achieving technological e-maturity are:

- providing up-to-date equipment, replaced every three years
- ensuring equal access for all learners
- linking administration and curriculum networks
- developing each tutor's skills in using technology effectively in their subject area.

3 Technology makes colleges better able to personalise learning

Technology provides a range of tools and resources that offer students a choice about when and where they learn and who they learn with.

Important elements that support the personalisation of learning include the provision of a learning platform and the availability of appropriate content.

Features of a VLE

VLEs address the challenges of large-scale delivery of personalised learning by providing:

- a place to store, locate, access and use materials
- a platform on which to build and deliver learning activity
- a common and consistent interface and way of working
- secure and controlled access to differentiated materials
- a set of communications possibilities enabling sharing of information and resources
- tracking and monitoring of student activity, performance and progress.

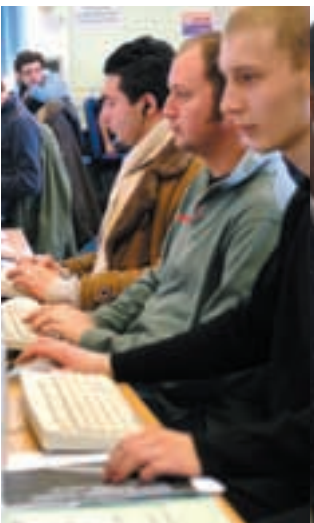
Benefits of sharing digital materials

Recent digital learning resources, such as those from the NLN Materials programme, are developed in such a way as to allow teachers to modify and update them for their students. Users rate the NLN Materials highly.[16]

What factors influence preparedness to use digital resources?

- Personal level of comfort with technology
- A culture of sharing best practice
- Perception of benefits of technology
- Levels of technical support
- Ease of access
- Standard of hardware
- Time to evaluate materials thoroughly and embed them into practice

Tutors who are relatively advanced in their use of technology consider that important benefits are gained from sharing and reusing learning materials. Most tutors share materials at least with their immediate team, saving time developing lessons and learning resources.[17]



4 Technology enables colleges to streamline processes

Management and administration

Technology increasingly supports a range of institutional management and administrative processes. Good use of management information systems (MIS), for example, can considerably enhance the operational efficiency of colleges through streamlining processes such as enrolment, student management and course administration.[18] However, the number of colleges taking this approach is limited.

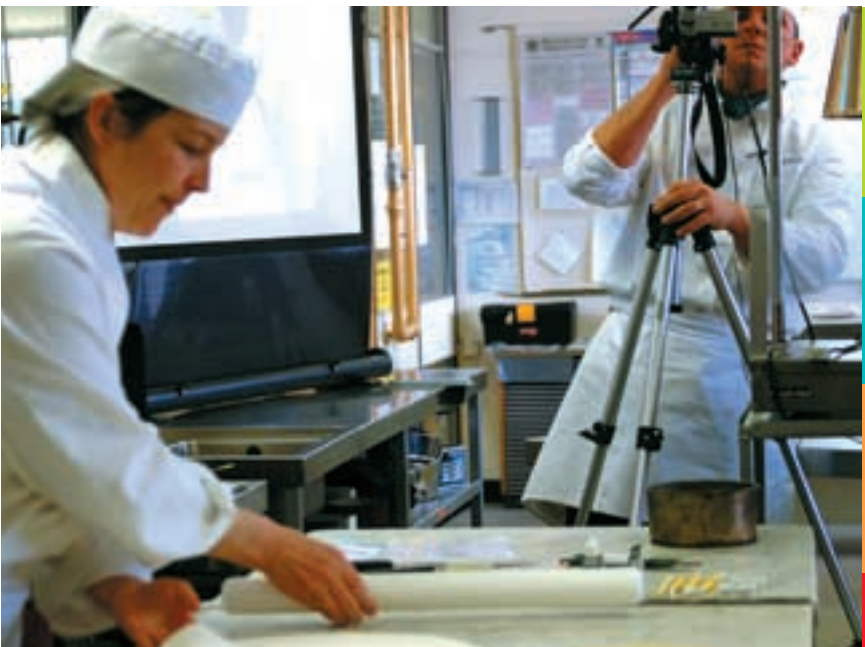
Learning and assessment

Almost half of colleges now use electronic information to support:

- learning, including lesson preparation and assessment
- personal tutorials

In addition, 29% per cent of colleges record information from tutorials electronically.[19]

However, only 27% of colleges maintain electronic student portfolios or records of achievement.[20] E-portfolios support summative assessment, learning and the development of learning skills, as well as presentation and personal and professional development planning.[21]



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References

Full information about most of the original sources summarised in this document can be found in *The Becta Review 2005*[1] and *2006*[2]. Any additional material is fully referenced.

1 Becta (2005) *The Becta Review 2005. Evidence on the progress of ICT in education.*
2 Becta (2006) *The Becta Review 2006. Evidence on the progress of ICT in education.*
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