

Identifying good practice: a survey of college provision in information and communication technology

This report examines factors that enable post-16 learners to make good progress in the sector subject area of information and communication technology. Between October 2007 and March 2008, inspectors visited 25 colleges where provision in information and communication technologies had been judged to be good or outstanding at their most recent inspection. The report has examples of good practice and recommendations for further improvement.

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Executive summary

The survey was conducted to identify features that enabled post-16 learners to make good progress in information and communication technology. Between October 2007 and March 2008 six inspectors visited 25 colleges where Ofsted had identified good or outstanding provision at their most recent inspection.

Almost all the colleges visited had successfully maintained their high standards in information and communication technology and three quarters had success rates well above the national average. Students were enjoying their studies; they valued the good-quality resources and facilities found in most of the colleges and were generally developing good analytical and technical skills, particularly on level 3 courses. Progression opportunities were good in almost all of the colleges visited, either within the college up to Higher National Certificate or foundation degree level, or through productive links with neighbouring higher education institutions.

Inspectors found examples of good practice in teaching and learning, such as a rich variety of activities in lessons, often based on the development and extension of material produced by the former Department for Education and Skills' Standards Unit. There was plenty of active student involvement in theory as well as practical lessons, and tutors made good use of questioning to check and extend their understanding.

Students' progress was closely monitored, often through sophisticated information technology tracking systems. The best of these encouraged students to reflect on what they had learned rather than just record the tasks they had completed.

Well-managed drop-in workshops, staffed by information technology specialists, had been effective in providing support in nine of the colleges visited that had seen improved attendance and success rates.

Resources were well planned and well used. Approximately one quarter of the colleges had recently completed major building programmes. Most of the colleges had formal rolling programmes of hardware and software replacement to ensure their information and communication technology equipment remained up to date.

Although all the colleges visited made appropriate use of information learning technology such as data projectors and interactive whiteboards, the use of virtual learning environments to support the teaching of information and communication technology courses was considerably underdeveloped.¹ Only six of the colleges had

¹ A virtual learning environment (VLE) is a computer-based system designed to support teaching and learning in an educational setting. A VLE will normally work over the internet and provide a collection of tools such as those for assessment, communication, uploading of content, return of students work, peer assessment, administration of student groups, collecting and organising student grades, questionnaires and tracking tools. In January 2009 Ofsted published *Virtual learning environments: an*

developed their virtual learning environments to their full potential, where students could work independently, and remotely, with good communication links to their tutors and other students. Too many of the colleges visited were still at the stage of using virtual learning environments simply to store teaching notes or to host email for the students.

More than a third of the 25 colleges had good systems to support students with learning difficulties and/or disabilities, and this had clearly had an effect on the recruitment and success rates of these students. However, colleges were much less successful at recruiting female students to information and communication technology courses. The gender imbalance remained a real concern in all of the colleges visited, with all the technical and higher level courses overwhelmingly male dominated. Only on lower level courses or user-type courses was there a more equal pattern of recruitment.

Seven of the further education colleges visited had close links with major employers that they used very well to support their students and keep their staff technically up to date. But the majority of the colleges in the sample struggled to develop and maintain productive links with employers in the information technology industry for their mainstream information and communication technology provision. Often, colleges had developed provision to meet the training needs of the information technology industry in isolation from the rest of the information and communication technology curriculum. Many found it difficult to guarantee relevant work experience for their students, or to involve employers in setting or assessing projects and assignments or even in talking to students about careers in the industry.

Key findings

A number of factors contributed to the high success rates and to achieving work of good quality.

- Students in 15 of the colleges visited were developing particularly good analytical and technical information and communications technology skills, especially, though not exclusively, on level 3 courses.
- Teaching and learning in information and communications technology was good in 17 of the colleges; the best practice was exemplified by well-planned lessons, a good variety of activities including frequent checks on learning, confident integration into lessons of information and learning technologies, and regular reference to current commercial practice in information and communication technology.
- Tutors monitored the progress of their students closely using a good variety of systems, including some linked to the college's virtual learning environments.

- The use of short-term targets and provision of back-up support, for example through well-managed drop-in workshops staffed by information and communication technology specialists, had improved attendance and success rates in nine colleges and was valued by students.
- Nine colleges were making particularly good provision for students with learning difficulties and/or disabilities: adaptive technologies were readily available and used well; staff had been trained appropriately; and courses had been adapted to suit the diverse needs of students.
- Progression opportunities and take-up were good in almost all of the colleges visited; most of the students completing level 3 courses progressed into higher education, often in the same college, rather than directly into employment.

The survey identified aspects which needed further improvement, even where the overall quality was good or outstanding.

- Although seven of the colleges were very successful in working particularly closely with information and communication technology-sector employers to develop bespoke provision, the remaining 18 had not extended their industrial links to the main information and communication technology curriculum to benefit students, for example by providing work-experience opportunities, or to support professional updating for staff.
- The proportion of women recruited to computing courses was low in all the colleges visited; in most cases, female students tended to choose office-related or information technology-user courses rather than more technical computing courses.
- Seventeen colleges had invested much time and money in introducing virtual learning environments, but the use of these was underdeveloped in many of the information and communication technology centres visited.

Recommendations

The survey identified a number of aspects of good practice in the information and communication technology departments visited. To further improve the quality of provision, the Department for Innovation Universities and Skills and the Department for Children, Schools and Families should:

- continue to work with local authorities, schools, guidance services, employers and colleges to make a career in computing more attractive to women

Becta and the Learning and Skills Improvement Service should:

- take steps to disseminate further the good practice that exists in information and communication technology

and Becta should:

- establish ways of helping colleges provide access to regular technical updating and industrial secondment for information and communication technology lecturers.

Colleges should:

- make better use of their links with employers to increase the availability and take-up of information and communication technology-related work experience opportunities for students and the opportunities for information and communication technology tutors to maintain and update their technical skills and knowledge
- work with local authorities, schools and employers to attract more women to information and communication technology courses
- improve the use of virtual learning environments in information and communication technology courses.

Factors associated with good practice in information and communication technology

Success rates, progression and the development of high-level information technology technical skills

1. Almost all of the colleges in the survey had successfully maintained their high standards in information and communication technology. Success rates were well above the national average in 19 of the 25 colleges visited, with three colleges having outstanding results. In those colleges that had some courses with average or declining success rates, managers were taking decisive action to improve the position; usually this involved staff development to improve teaching and learning, better induction arrangements or the restructuring or withdrawal of inappropriate courses.
2. In 15 of the colleges students were developing good analytical and research skills, particularly, but not exclusively, on level 3 courses. In the best lessons observed, students demonstrated a good grasp of current information technology topics in class discussions. In colleges offering level 3 technical information technology courses, such as A-level Computing or the BTEC National Diploma for Information Technology Practitioners, students were developing very good technical skills and knowledge; this included programming, sophisticated concepts about how and in what form data is stored, and an easy fluency in current commercial software applications.
3. In three colleges, students were being encouraged successfully to develop skills in peer assessment and reviewing, often when they and their peers presented the results of group project work to the class.

4. Progression opportunities were good in almost all of the colleges visited, five of which had their own Higher National Certificate or foundation degree offer. The better colleges could provide many case studies of individual students progressing from level 1 to level 2 or from level 2 to level 3 courses, but often did not compare rates of progression from year to year. In rarer cases, there were examples of students progressing from level 1 courses through to level 3 and beyond.
5. Ten of the colleges had developed productive links with higher education institutions and some were actively collaborating in providing level 4 courses; these were usually specifically tailored for the range of courses offered at level 3. Progression rates from level 3 to these courses were particularly good. Many of the students observed were seeking progression to higher education and due to practical and personal circumstances found the provision of local courses the most accessible. Most of the students who completed level 3 qualifications progressed to higher education rather than directly into employment.
6. Almost all the information and communication technology students surveyed were enjoying their studies and were confident that they had chosen the right course. Most referred warmly to the knowledge and competence of their teachers, the range of activities they undertook in lessons, and the support they received both in and outside class. In those colleges that had invested heavily in the information and communication technology accommodation and facilities, this was not lost on the students, who felt that this indicated how much the colleges valued them. All of the colleges visited had well-established rolling replacement programmes for equipment to ensure that they kept up to date with trends in hardware and software to meet the needs of their students and employers.

Variety and student engagement in teaching and learning

7. Seventeen of the colleges visited had strengths in teaching and learning that were clearly making a positive impact on their success rates. The most common elements of best practice in teaching and learning included a rich variety of activities in lessons, plenty of active student involvement, good use of questioning to check and extend understanding and close monitoring of the students' progress, often through sophisticated information technology tracking systems. The best monitoring systems encouraged students to reflect regularly on what they had learned, rather than on what tasks or activities they had completed. Two colleges were using a network system that allowed tutors to monitor individual students' work stations and take control if they appeared to be struggling with the practical tasks or if the tutor wanted to demonstrate a particular command sequence.

Case study: making lessons more student centred

Staff in a sixth form college had received a lot of professional support to encourage them to develop students' own thinking rather than simply supplying answers. Challenging targets were set. For instance, in one lesson a tutor led a discussion on the various approaches students could take to an assignment, stressing the expectation that they would all try to meet the criteria for higher grades, and allowing them to suggest ways that they could do this. There were many good contributions and questions from students, and a lively discussion about sources of information that could be useful in meeting the brief. The assignment was constructed well to allow students to practise some skills while developing others, while the next section tested their development and innovative thinking. This incremental approach was also much appreciated by students in another class, who were highly competent and developing confidence in their own abilities.

8. The variety of activities included individual and paired working, small-group work, web-based research, student presentations and practical activities often using materials developed by the former Department for Education and Skills' Standards Unit, or materials similar to them. The students' group and project work that leads to formal presentations to their peers is used well.

Case studies: introducing variety into student-centred lessons

In one lesson on software development, students in a further education college developed small software programs in three different computer languages and compared and contrasted them. The lesson was well paced and the tutor led it well to extend their knowledge. All students completed the practical task even though some had never written programs before. Their discussions, in small and large groups, resulted in a good understanding of the merits and limitations of each language. In another session in the same college, students started the day with little practical experience of computer networking and ended it by setting up three sub-networks and sending signals to each other through them. The sessions were well structured to develop their understanding in cycles, building each exercise on an extension of the previous one, so that complex principles of theory about how to set up networks, allocate addresses to the computers and give users access to domains [particular areas of the network that users could share] were demonstrated in practice. Students were in the class all day, but were still enthusiastic at the end of the afternoon. This was a highly realistic simulation of the sort of work that they would experience in the information technology industry.

In another very well-structured lesson students used a discussion about computer-related devices and their uses to inform tasks based on an interesting case study looking at all the possible uses for a gym club, its managers and its customers' fitness training. They researched products on the internet and discussed their advantages or disadvantages in a virtual learning environment blog or discussion group. This then formed the basis of a log of their activities. A plenary activity related this to a set of past examination questions so that they could understand how to achieve good grades; the percentage of distinctions in level 3 courses at this further education college has increased sharply recently.

9. The colleges visited used a wide range of methods to assess student work and monitored their progress well. These ranged from largely paper-based systems to fully integrated virtual learning environment-based approaches. Six of the colleges were also incorporating individual learning plans into the systems so that they were continually being kept up to date.
10. Workshops, where they were used, were generally provided to add variety, give extra support to students who needed to catch up on missed work or to help with topics they found difficult, rather than as a main method of providing the course content. In the best examples, students were set relevant short-term targets, which were linked to their individual learning plans, and their progress was closely monitored in the workshop by specialist information and communication technology staff. For students in these colleges, attendance at a workshop was considered to be something that everyone would do at some time in their course.

Case studies: focused workshops that attract high attendance

Students in a further education college used to regard workshops as punishment for poor work. The workshops were re-organised to ensure they always had information technology specialist staff in attendance, and offered a series of focused support sessions on specific topics. Students are now much more positive and see workshops as opportunities to improve grades. There are as many self-referrals as there are referrals from tutors. There is an additional learning support workshop where literacy and numeracy are key elements.

In another further education college, workshops are used to drive up progression, and are not perceived by students as punishment but rather as support. If a student is not performing at their target grade they will be referred for support, and it is expected that they attend. Self-referral is also common. The expectation that all students will benefit from attending a workshop at some point in their course is the key to making them a natural and accepted part of the courses.

In a third example from a further education college, compulsory cross-college support provided by lecturers in workshops has made a difference to grades achieved and retention rates. Attendance is monitored by faculty student mentors who also monitor punctuality, and literacy and numeracy support assistants are always available. Support is seen as the norm rather than the exception, as practically all students receive it in some form.

Finally, one further education college has significantly increased its additional support for mathematics and English for 16–18-year-old students from one to three hours a week to help those facing difficulties with the mathematics underpinning the network calculations. Take up of these sessions has been high, particularly around assignment hand in dates, and extra sessions have been arranged during the holidays. Master classes for students who are higher achievers have also been introduced recently.

11. However, in two of the colleges, workshops were being used to cater for large numbers of students to reduce course costs, but students found them frustrating, particularly if there were no specialist information and communication technology staff on duty.
12. All the colleges visited had attractive and well-furnished accommodation and were well resourced, including a lot of interactive whiteboards and data projectors. The best examples had well-established arrangements to ensure that the hardware and software was updated regularly to maintain commercial and industrial relevance. Six colleges had recently had substantial building projects and some had moved to a more open plan environment. In the most successful examples learning zones had been set up that included classrooms, resource-based learning areas and libraries. This allowed students to draw upon different sources of information very efficiently.

Case study: a creative approach to accommodation and resources

The new-build design in one further education college had been crucial to its success. A cluster for each sector subject area had been created, consisting of workshop/classroom and learning resource centre. The college realised the original design included too much open plan space and increased traditional classroom space and breakout rooms to ensure they would have sufficient areas for group activities. This resulted in a more positive working environment, better behaviour and attendance. Team teaching improved and lecturers now have good opportunities to observe their peers and share good practice.

Using technology to teach information technology

13. Although all the colleges visited were technically well resourced and made appropriate use of equipment such as data projectors and interactive

whiteboards, the use of virtual learning environments to support the teaching of information and communication technology courses was considerably underdeveloped.

14. Only six of the colleges had developed their virtual learning environments to their full potential, where students could work independently and remotely with good communication links to their tutors and other students.

Case studies: virtual learning environments

One further education college has implemented a sophisticated virtual learning environment that is used very widely in lessons. The college has finally switched off access to the shared drive this year, to persuade staff to use the virtual learning environment properly. Subject learning coaches promote various approaches and encourage information and communication technology staff to try more novel methods of using the virtual learning environment, such as promoting the idea of using a discussion thread to review standards unit materials and how to build on them. Extension materials and extra resources help to individualise learning opportunities.

Students in one sixth form college used the virtual learning environment to evaluate each other's website designs. Comments for the others were hidden from them until they had made their own contribution. In another lesson, students enjoyed using voting technology with a wireless mouse for each student to check their knowledge of types of errors and debugging. They had immediate feedback on the correct answer and the tutor had a detailed printout at the end which identified which students were having problems and with which questions.

Far more often, however, the virtual learning environment was still at the stage of being a repository for teaching materials, albeit sometimes with an email facility to upload or download assignments and assessments. Fewer than a quarter of the colleges were using them to support independent learning, for example by planning courses or modules around chosen topics to re-enforce areas that students needed to develop, or to track progress through exercises and assessments linked to individual learning plans.

15. Seven of the colleges were implementing their second choice of virtual learning environment, usually based on well-known open source software, having had a poor experience with their first choice. Most were nevertheless making good use of the experience in introducing their new version.

Gender balance

16. All the colleges visited found it difficult to recruit a balance of male and female students on individual courses. Most technical courses had a majority of male

students. All of the colleges recognised the position, but only two had particularly good ideas for improving the take-up of courses by female students.

Case study: getting the application process right

One sixth form college found that although they gave very specific information about courses at parents' evenings and open days, students arrived with a fixed idea about what their families thought they should be doing. Male applicants often wanted to study programming while female applicants were more interested in course that used software applications. This led to many enrolling on information technology courses for which they were not actually suited. The college approached this problem by introducing screening materials that tested logical thinking and insisting on better mathematics grades for those applying for programming courses. This reduced the intake, but improved the experience for the students. At the same time the college is working to persuade more parents that computing is a good profession for women and better paid than some more traditional careers; it is using better role models in the course literature and better links with a local girls' school.

Students with learning difficulties and/or disabilities

17. Nine of the colleges had particularly good participation rates by students with learning difficulties and/or disabilities in information and communication technology courses. Where this was the case, support for the students was very good, including appropriate adaptive technology, accessible facilities and good training for the teaching and support staff.

Case studies: examples of supporting students with additional needs

Students with Aspergers Syndrome and Attention Deficit Disorder are particularly attracted by the content of information and communication technology courses. One further education college has recognised and responded to this by providing good support and adapting teaching styles to include these groups. Many staff in the college have undertaken useful staff development activities to support this work.

In another further education college, learning support tutors were present in level 2 classes, and although allocated to support particular students, they carried out their role in a sensitive manner by not seeming to focus too directly on those students but also providing general support to the group. Support tutors were competent in information technology and were closely involved in the planning of the session.

One room in a further education college's new city centre campus has been adapted to meet the needs of blind and partially sighted students. It has a good level of equipment – adaptive hardware and accessibility software – and is very popular with students.

Working with employers in the information technology industry

18. Seven of the colleges visited had developed very useful links with major companies that considered the college to be first choice for providing bespoke or specialist information technology training for their employees. All the colleges concerned were general further education colleges. In one case, this was also linked to a significant provision for information technology apprenticeships, although overall, only four of the colleges were providing work-based learning opportunities in information and communication technology. The colleges surveyed were more likely to offer business studies apprenticeships than information and communication technology apprenticeships at level 2.

Case study: linking work-based learning to progression opportunities

One further education college provides the knowledge elements of the apprenticeship for 300 apprentices a year for a major national information and communication technology employer. Staff work very closely together to make sure the topics covered are relevant and integrated into each learner's workload, and to develop the employer's understanding of the apprenticeship framework. A software tracking tool is accessible to workplace supervisors as well as to the people in the college's training centre, so that all understand the progress that learners make. College staff are included in briefings about company developments. They have enabled the employer to customise the apprenticeship framework to its specific requirements and minimise duplication of learning by including units adapted from existing company training courses that previously did not lead to any form of nationally recognised accreditation. The college and its higher education partner have developed four new foundation degree courses to improve progression opportunities for company staff. In one special project, the company has taken on a cohort of 30 learners who are without the necessary entry qualifications; many are recruited through Jobcentres. The college provided a package of learning for each learner to boost their skills and knowledge so that they could begin the apprenticeship. Learners interviewed were very impressed and excited by their own progress and by the quality of the learning experienced.

Case study: making information technology courses business-focused

There is a particularly good focus on industry and employment needs in this further education college. Information and communications technology students are encouraged to take additional qualifications, such as systems support and programming, and enter competitions, such as 'Make your mark' in which they have to apply all their skills to the task of business design and planning over a two-day period.² One group of students visited the National Health Service to look at the information technology systems being used. Another group of students attended an international information and communication technology conference in Paris last year.

19. Two colleges were taking a national role in developing information technology qualifications. Four others were developing good reputations locally or regionally for being responsive to requests for good-quality information technology training. Where this involved providing vendor qualifications such as Cisco or Microsoft, the colleges usually offered them to the full-time students as part of their course.

Case studies: impact of Centres of Vocational Excellence

The Networking Centre of Vocational Excellence is an outstanding example of how a Centre of Vocational Excellence can meet employers' needs and still provide support for 16–18-year-old students. It is clearly held in high esteem by Cisco. The further education college is one of the few Cisco academies that offers the full range of Cisco qualifications. The Centre of Vocational Excellence also offers the full range of Computer Technology Industry Association qualifications, the vendor-free awarding body for lower-level Cisco-approved qualifications, which is very beneficial to the 16 to 18 provision. A member of the Centre of Vocational Excellence represented the college at a recent meeting in Rome to discuss a small market trial of the new Cisco curriculum.

In the Centre of Vocational Excellence at another further education college, staff are actively encouraged and supported to innovate within the college and across the sector. Study trips and technical training are used very well and the college is also good at attracting talent from industry. The Centre of Vocational Excellence ethos of working with industry to serve its needs has paid off and continues to be extended, for example in devising qualifications for 'smart houses' in construction as an example of a new untried avenue.

² www.makeyourmark.org.uk.

20. In six colleges, however, links with the information technology industry were an area urgently in need of development. Even where a college had a good record of providing training to local industry, this work was often being managed by a separate unit that had little contact with the main information technology curriculum, unless individual lecturers were involved in the bespoke training.
21. Few employers had been successfully involved in developing or teaching the information technology curriculum, even as visiting speakers, or in providing work experience for full-time students to help them prepare for a career in information technology.
22. All the colleges were using what industry links they had to encourage staff to keep up to date with technical or current commercial practices in information technology, but often this work was informal and mainly relied on lecturers' own enthusiasm for their subject.

Self-assessment and the drive for improvement

23. Only around half of the colleges visited showed robust elements of good self-assessment and subsequent quality improvement planning.
24. In the best examples, managers used observations of teaching and learning well to plan college-wide staff development, as well as support for individual teachers. Three colleges drew on a peer network in their region to help moderate the observations. They also reviewed courses on a range of measures including sophisticated data analysis and student feedback, and planned improvements accordingly.

Case study: using management information systems to support self-assessment

One further education college has developed a sophisticated information technology system to support self-assessment. From a management overview screen managers can pick a set of options, such as observation reports. Among other items this produces a summary of areas for development from all the observation forms in a given period and this is used to identify training needs. An 'areas of good practice' option identifies individuals who demonstrate good practice in a particular facet of teaching and learning who can then be paired up with others who have development needs in the same area. All observations are moderated and standardised by the college moderation team; the performance of curriculum areas can easily be identified. The system is being developed into a virtual management environment and is evolving into a strategic decision support system. Imminent developments include a student view where the student will have access to all the information, and a parent view where parents/guardians will have access to items such as timetables and attendance.

25. Seven colleges were making very good use of data to set and monitor targets for retention and success, although development was not consistent between providers. Only four of the colleges were routinely using value-added measures to assess their performance and set targets; this was most well established in sixth form colleges. Three colleges were making particularly good use of student feedback.
26. Some useful improvements focused on the structure of individual courses or the curriculum offer.

Case studies: changing courses to improve quality

One further education college restructured its diploma in digital applications to deal with a poor success rate of 40%. The college realised that the timetabling of a tutor for each unit, all starting at the same time and all finishing at the end of the year, was wrong for its students. They dropped out because they got confused with so much new work to learn. They could not see how well they were progressing because there was no assessment until halfway through the unit. In the restructured course, staff were changed regularly among units. A support teacher acted as the form tutor who mapped the students' progress individually each session, and the vocational staff began to teach one unit at a time as a team so that there was consistency in the learners' experience and they gained early indications of their progress. The standard of work observed and the variety of tools being used were outstanding. Following these changes, the success rate improved to 89%.

The pass rate on A2 information technology declined from good to satisfactory last year in this sixth form college. Observations of teaching and learning and student feedback showed no cause for concern with the teaching. However, detailed consideration of the syllabus and external examinations for this course indicated that the testing was reduced to a memorised list of facts and that no understanding was required from the students. It has been decided to change to another awarding body for this particular examination.

27. In other cases, the focus was on more active engagement of students in lessons and better use of information and learning technology.

Case studies: extending the use of information and learning technology to improve quality

In one further education college the subject learning coaches have developed creative approaches to improve teaching and learning using the virtual learning environment. In addition to storing course materials and extension work on the virtual learning environment there is extensive use of blogs and discussion areas to document the work that students are

doing in class. Students are encouraged to feed back to tutors via a blog posting at the end of each lesson and action is taken on their comments.

In another further education college, the learning model and its simplified version 'Has the penny dropped' is a college-wide approach to improving teaching and learning which is clearly evidenced in the variety of activities in the lesson plan and the drive to more active learning. By updating the syllabus, helping teachers to improve their skills and improving access to information and learning technology this college has increased the numbers of learners on the course and increased its retention which had been a real problem on level 3 courses. The use of a pilot virtual learning environment involved learners much more in their learning and electronic voting buttons enlivened quizzes used to check learning.

Notes

Three of Her Majesty's Inspectors accompanied by three additional inspectors visited 21 general further education colleges and four sixth-form colleges between October 2007 and March 2008. The colleges were chosen from those that had been awarded good or outstanding grades at their most recent inspection of information and communication technology. The inspectors would like to thank staff and students in all the colleges visited for their enthusiastic cooperation in the survey.

Useful websites

The Qualification and Curriculum Authority (QCA) www.qca.org.uk

The information and communication technology section of QCA contains details on the wide range of qualifications in the subject and useful links to relevant awarding body websites.

The Learning and Skills Improvement Service (LSIS) www.lsis.org.uk

Its website has useful information on innovation and excellence in the post-16 learning and skills sector.³

The LSIS excellence gateway is for post-16 learning and skills providers. Here you will find examples of good practice, self-improvement, suppliers of improvement services plus materials to support teaching and learning:

- www.excellence.qia.org.uk.

³ The Learning and Skills Improvement Service is the new body formed from the Centre for Excellence in Leadership and the Quality Improvement Agency to develop excellent and sustainable further education provision. It came into operation on 1 October 2008: www.lsis.org.uk/AboutUs/AboutLSIS.aspx.

- Ofsted Good Practice Database
<http://excellence.qia.org.uk/page.aspx?o=100800>

e-skills UK: www.e-skills.com.

This is the sector-skills council for information technology and telecommunications. It provides information about its work with the information technology industry as well as in schools and colleges; a guide to apprenticeships; ITQ, which is the National Vocational Qualification for information technology users; and offers general careers guidance.

The Department for Children, Schools and Families;
www.teachernet.gov.uk/teachingandlearning/resourcematerials.

This provides links to a range of learning resources useful in the teaching of post-16 information and communication technology.

The information and communication technology diploma began in some colleges and schools in September 2008. More details on the qualification and specifications are available on these awarding body websites.

- www.edexcel.com/quals/diploma/it/Pages/default.aspx.
- www.ocr.org.uk/qualifications/subject/ict/.
- www.diplomainfo.org.uk/information-technology.asp.

Further information about information and communication technology is available from Becta: www.becta.org.uk.

Annex

The following colleges were visited for the survey.

Alton College, Alton, Hampshire

Barking College, Romford, Essex

Barnfield College, Luton, Bedfordshire

Barton Peveril College, Eastleigh, Hampshire

Burnley College, Burnley, Lancashire

Chichester College of Arts, Science and Technology, Chichester, West Sussex

City and Islington College, London

City of Sunderland College, Sunderland

Eastleigh College, Eastleigh, Hampshire

Furness College, Barrow-in Furness, Cumbria

Hartlepool Sixth Form College, Brinkburn, Hartlepool

The Henley College, Henley-on-Thames, Oxfordshire

Highbury College, Portsmouth, Hampshire

Lambeth College, London

Luton Sixth Form College, Luton, Bedfordshire

Nelson and Colne College, Nelson, Lancashire

Newcastle-under-Lyme College, Newcastle-under-Lyme, Staffordshire

Reigate College, Reigate, Surrey

Richmond Adult and Community College, Parkshot, Richmond

Runshaw College, Chorley, Lancashire

Stephenson College, Coalville, Leicestershire

Sutton Coldfield College, Sutton Coldfield, West Midlands

Trafford College of Further Education, Manchester

Wakefield College, Wakefield, West Yorkshire

Wirral Metropolitan College, Birkenhead.