Key Skills

SUPPORT PROGRAMME

Teaching and learning

Information
and Communication
Technology

department for
education and skills

**learning
and skills
development
agency**

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European Social Fund

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For the full range of Key Skills Support Programme publications and online resources, please visit the website at www.keyskillssupport.net.

Preface

What is the purpose of this publication?

This Teaching and learning guide is designed to provide practical advice and support for teachers who are delivering and assessing the Information and Communication Technology key skill at Levels 1 to 3 in schools and colleges. It will be useful as an introduction to the ICT key skill, as a source of teaching ideas, for reference, as a handbook, or just for reassurance. It has been updated to take account of the revised 2004 standards.

Who is it for?

It is for teachers and lecturers who are asked to teach the ICT key skill but are inexperienced in teaching Information and Communication Technology and/or key skills. There are two main groups.

1 First, main subject teachers without any formal training in either ICT or key skills. They have probably developed their own ICT key skills to a level somewhere between Levels 1 and 2. They can use a word processor and e-mail, and perhaps basic spreadsheets and databases. Their skills will probably have been developed through practice and self-help rather than through direct instruction or through completing a formal qualification in ICT.

2 Second, administration and computer technology instructors and teaching staff, who have good ICT skills but little experience in teaching these skills in the context of a range of academic and vocational subjects.

If you are in either of these groups, then this publication will give you the information you need to get started and some ideas about where to go next.

What is not included?

This guide does not include:

■ detailed advice and guidance on interpreting the key skills standards for the purpose of assessing students' work. Assessment is the responsibility of the awarding bodies, who provide specialised training. (See Appendix 5 for contact details.)

■ advice on how to write assignments that develop and/or provide evidence for key skills. This is provided in the *Good practice guide: Writing assignments*, available from the Key Skills Support Programme.

■ detailed advice or guidance on the key skills tests. This is provided in the *Good practice guide: Preparing for the tests*, available from the Key Skills Support Programme.

To make full use of this publication, you will need a copy of *The key skills qualifications standards and guidance: communication, application of number, and information and communication technology; Levels 1–4 2004*, published by QCA (ref. QCA/04/1272) and available from QCA Publications (01787 884444) or from the QCA website www.qca.org.uk/keyskills.

Contact details for all the organisations mentioned in this publication can be found in Appendix 5.
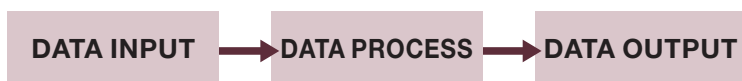
Introduction to the ICT key skill

An exciting aspect of ICT is the speed at which new ways to use and apply information and communication technology continue to arise. It is amazing to consider that the internet is only about thirty years old – and its widespread use can realistically be traced back only over the past decade. Even as recently as five years ago, few students had computers in their home and even fewer were connected to the internet. Now, almost all post-16 students have been touched by the computer revolution and 49% of UK households have access to the internet (Source: Family Expenditure Survey (provisional) December 2003).

Traditionally in ICT we have thought in terms of:

DATA INPUT → **DATA PROCESS** → **DATA OUTPUT**

In ICT key skills we think:

FIND INFORMATION → **DEVELOP INFORMATION** → **PRESENT INFORMATION**

This reflects a change of focus from machines and data-processing to people and the transfer of information between them.

For teachers, this fast-changing scene means that we must, like all lifelong learners, continuously upgrade our own skills and our lesson plans. We must be aware of changes in software and hardware. For example, the rapid increase in the use of e-mail has resulted in its becoming a requirement at all levels of the ICT key skill. Similarly, when discussing wider ICT issues, we need to be aware of the latest developments regarding hacking, virus protection and cyber-stalking.

It is for this reason that ICT key skills deal with the application of ICT to specific purposes. ICT key skills are not just about using software packages such as Microsoft Office or about using operating systems such as Windows or Macintosh. Neither are ICT key skills concerned only with keyboarding skills, such as students' ability to copy-type or follow instructions. Rather, ICT key skills are about how students use their knowledge about ICT to **find**, **develop** and **present** information, whether it be text, images or numbers, or all these in an integrated task.

SECTION 1   # The ICT key skills standards

Purpose

The ICT key skill standards place great emphasis on purpose, ie using ICT as a tool to solve problems and get things done in the context of a task or activity that has a real purpose in a student's work or leisure time. It is not enough to develop ICT key skills and collect evidence simply to satisfy the requirements of the key skills portfolio – this is not purposeful, does not meet the assessment requirement, and students will soon 'switch off'. On the other hand, students who develop these skills and see how they help them to do better work in the context of their main subjects will become absorbed in and committed to the work.

The levels

In all the key skills, progression through the levels is based on four themes:

- the use of wider and more complex techniques
- increasing responsibility for choice and decision-making
- becoming more aware of factors affecting performance
- working in more challenging contexts.

The table on page 2 summarises Part B of the standards for the ICT key skill at Levels 1 to 3. You will see, for example, how the complexity of what is required increases in relation to finding information. At Level 1, the student has to 'find and select' information; at Level 2 this becomes 'search for and select' information; at Level 3, the student has to search for information using different sources and multiple search criteria. The techniques that underpin these skills are detailed in Part A of the standards and should form the basis of your scheme of work.

> **Teaching and learning the ICT key skill should include activities to support both Part A (you need to know how to) and Part B (you must).**

Using ICT software

In the case of ICT, progression also means that students need to be able to use ICT software packages in more sophisticated ways as they move up through the levels.

- At Level 1 students need to be able to use the basic commands within software packages to handle simple information and achieve straightforward tasks, eg writing a letter, finding the total cost of an order, working safely, etc.

- At Level 2 students need to be able to select from a range of packages and commands in an appropriate way to complete a more demanding task, eg carrying out effective searches, writing a report for their course, investigating the impact of varying the rates of inflation, etc.

- By Level 3 students should be 'driving' the software themselves. They will be able to plan their way through longer-term tasks, select and apply appropriate software, and use that software in non-routine ways. Tasks might include a research project (eg preparation of a major piece of coursework), the use of a database in a data-management task, or the use of a spreadsheet to develop and monitor a personal fitness plan, etc.

Summary of Part B of ICT key skill Levels 1–3

Level 1	**Overall, through two or more activities you must:** ■ include at least one ICT based information source ■ include at least one non ICT based information source ■ use at least one example of text, one example of image and one example of number ■ present evidence of purposeful use of e-mail.	**ICT1.1** Find and select relevant information.	**ICT1.2** Enter and develop information to suit the task.	**ICT1.3** Develop the presentation so that the final output is accurate and fit for purpose.
Level 2	**Overall, through two or more activities you must:** ■ include at least one ICT based information source ■ include at least one non ICT based information source ■ use at least one example of text, one example of image and one example of number ■ present evidence of purposeful use of e-mail.	**ICT2.1** Search for and select information to meet your needs. Use different information sources for each activity and multiple search criteria in at least one case.	**ICT2.2** Enter and develop the information and derive new information.	**ICT2.3** Present combined information such as text with image, text with number, image with number.
Level 3	Show that you can **plan** and carry through a number of different tasks, one of which must be a major task covering ICT3.1, ICT3.2 and ICT3.3. Each component, ICT3.1, ICT3.2 and ICT3.3, must be covered at least twice, and ICT3.3 must be covered for at least two different audiences. Smaller tasks may be used to ensure each component is covered. **Overall through at least two activities you must:** ■ include at least one ICT based information source ■ include at least one non ICT based information source ■ use at least one example of text, one example of image and one example of number ■ use one example of combined information such as text and number, or image and number or text and image ■ present evidence of purposeful use of e-mail; one of these e-mails must have an attachment related to the task.	**ICT3.1** Search for information, using different sources, and multiple search criteria in at least one case.	**ICT3.2** Enter and develop the information and derive new information.	**ICT3.3** Present combined information such as text with image, text with number, image with number.

Examples of suitable tasks and purposes

Level 1

- completing an assignment for a GCSE, GNVQ or NVQ course

- designing and producing a poster to advertise an event

Level 2

- carrying out coursework for a GCSE, GNVQ, A-level in a vocational subject, AS, etc.

- producing a handout on Health and Safety to be given to visitors

- costing a group activity (holiday, outing, field trip, etc.)

Level 3

- carrying out coursework for an A-level in a vocational subject, AS, etc.

- exploring options for HE or employment

- exploring the costs involved in buying and running a car

SECTION 2   # How are ICT key skills assessed?

The main emphasis of this booklet is on good practice in teaching and learning ICT. However, you need to understand the nature of the assessment for which your students are preparing.

Internal assessment – portfolio building

The major component of key skills assessment is the portfolio of evidence that demonstrates that the candidate can use and apply their skills purposefully and in a relevant context. The range of skills and the number of times that they must be demonstrated, and to what standard, is set down in Part B of the standard.

> **At each level, the key skill standard requires that students produce portfolio work relating to at least two activities.**

> *'ICT and Communication require the use of images in presenting information. Whatever form the image takes, its effectiveness will be determined by whether it is fit for purpose and has been used to aid understanding of the written or spoken text.'*
>
> QCA Guidance, page 27

The KSSP *Good practice guide: Developing and managing portfolios* gives general advice on portfolio-building, but there are some points that are specific to ICT. At all levels, ICT portfolios must:

- include examples of text, images and numbers

- give evidence of applying ICT skills through two or more activities. At Level 3, one of these must be a major task covering all the evidence components and assessment criteria. (For more details, see the QCA Guidance.)

- include evidence of the process of development as well as the finished work. The assessment criteria describe this process. This evidence might be in the form of draft or rough work, notes, annotations, highlighting or alterations. Alternatively, the evidence might be a signed statement from the person who has witnessed the process; the statement must provide sufficient detail.

Each piece of evidence should include an assignment brief or task that states what the student set out to do, the purpose, the audience and the expected outcome, and be authenticated by an assessor or supervisor (QCA Guidance, page 20).

Where can evidence come from?

Students can generate portfolio evidence from a wide variety of sources.

Main courses of study

Many GCSE, AS and vocational courses naturally contain tasks and assignments that are ideal for generating ICT portfolio evidence. Any context in which students gather information, develop it, and use it to prepare a document or presentation has the potential for students to demonstrate their ICT skills.

> **Advice on writing assignments that integrate ICT key skills can be found in the KSSP *Good practice guide: Writing assignments*.**

Enrichment and extra-curricular activities

Many students are involved in clubs and activities in addition to their main courses, for example:

- Duke of Edinburgh's Award Scheme
- Young Enterprise
- ASDAN
- sports clubs
- stage productions
- art shows.

Students can generate evidence from any of these activities and can learn that key skills are valuable in all areas of life.

Passions

Some students are really passionate about something – global warming, horses, Arsenal – it really doesn't matter what. This passion can be harnessed as a motivator to produce a relevant and meaningful portfolio of evidence.

Other aims and goals

Most students will have aspirations beyond their current programme – to go to university, to set up a business, to take a gap year in Outer Mongolia – it doesn't matter what it is. To achieve their goal they need to do research, make informed decisions, etc. These are excellent opportunities to generate high-quality evidence not only for ICT, but for all the six key skills.

> **The more relevant and important the task is to the student, the more likely they are to complete it and to complete it well.**

Figure 1   Sources of key skills evidence
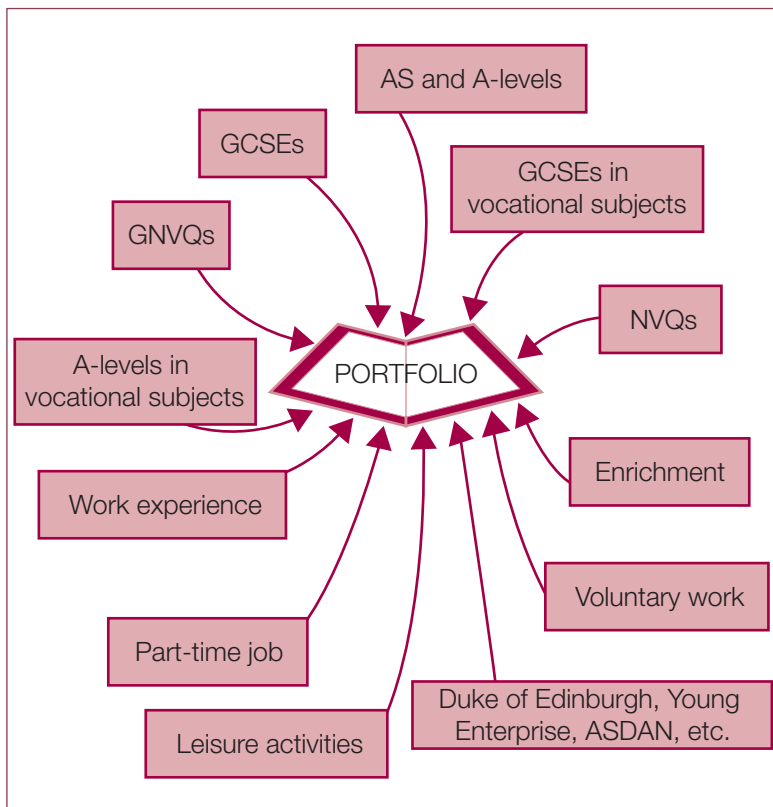
External assessment

This takes the form of externally set and marked tests.

QCA currently offers twelve scheduled test dates a year at Levels 1 and 2 and six at Level 3. Individual awarding bodies do not have to offer all these opportunities.

Awarding bodies offer on-demand assessment for key skills at Levels 1 and 2. The system allows centres to offer the tests outside the regularly scheduled test dates. Awarding bodies also offer or are working to develop systems for on-screen delivery of the tests at Levels 1 and 2.

For details of these arrangements, you should contact your awarding body.

At Levels 1 and 2 the test is in the form of a multiple-choice paper with 40 questions. Candidates are allowed one hour. The questions focus on Part A of the standard, ie the candidate's underpinning knowledge of ICT. Any aspect of Part A can be tested.

At Level 3, the test is taken on a computer and puts more emphasis on application. Candidates are allowed ninety minutes. The question paper is in the form of a sequence of tasks based on a context. Data files about the context are released by QCA in advance of the test and can be downloaded for candidates to practise manipulating and working with them.

Some past papers, with mark schemes, are available from the QCA or awarding body websites (see Appendix 5 for addresses). Your awarding body will also publish a Chief Examiner's Report on each test. These reports provide useful advice on pitfalls to avoid when preparing for and taking key skills tests.

Students should be confident in their skills before they are entered for the test. They will also need to do at least a couple of practice papers so that they are fully prepared. At Level 3 they must practise with the pre-supplied data files in advance of the test.

Proxies and exemptions

QCA has issued a list of qualifications that can be used as proxies and exemptions for all or part of each key skills qualification. As this list can change from time to time, it is essential that you have the most up-to-date information, which is available on the QCA website.

Guidance for preparing students for the key skills tests is available in the KSSP *Good practice guide: Preparing for the tests*.

The key skills test specifications are available on the QCA website: www.qca.org.uk/keyskills.

SECTION 3   # Where to start?

The next few pages provide a 'survival kit' to help get you through the first weeks of your course.

Before you meet the students

You will need to answer some basic questions about the students before you meet them.

What other courses are the students taking?

Students will learn more quickly if they can see the relevance of the ICT skills they are learning to the rest of their course and experience. The more you can relate your ICT lessons to students' other subjects, the more interested and cooperative they will be.

What is the target level for the group?

Is there an expectation that students will all achieve at least a minimum level (eg the government benchmark of Level 2 for all 19 year olds), or is the group made up of individuals with individual goals?

Have the students already had any formal ICT instruction?

Most students will have had some previous experience of ICT. They might already have obtained formal qualifications in ICT, or developed some skills as part of their pre-16 ICT study. However, each new subject and situation demands that new ICT skills are learned and others refined.

Auditing your own ICT skills and development needs

You will need to check your own levels of competence and confidence in the ICT skills that your students will be learning.

What ICT skills do you currently have?

A good way of checking this is to start with the QCA standards for ICT at each level and identify the skills that you will need. Have you used these skills in your own work? Do you feel comfortable about teaching others how to use them?

> **Self-assessment checklists for ICT key skills Levels 1–3 are included in Appendix 1.**

Another way to get a feel for your own level is to try the ICT Level 2 test. Past papers are available on the QCA website and on the websites of most awarding bodies. Mark schemes are available for some of the tests, so you don't have to show anybody else your answers! You could also analyse your responses by referring to the Chief Examiners' reports, which are available from awarding bodies. These reports can be downloaded from their websites (see Appendix 5 for addresses).

What about the wider issues identified in the standards?

Are you aware of data protection, copyright law, health and safety risks and other wider issues of using ICT? Knowing how to use ICT appropriately is just as important as learning the underpinning skills. Students must learn to use the technology responsibly as well as safely.

Some internet sites with useful information on these topics are:

■ **www.becta.org.uk**

■ **www.dti.gov.uk**

■ **www.hse.gov.uk**

■ **www.jisc.ac.uk**

■ **www.cla.co.uk**.

See also pages 13–14.

How confident are you in your own ability to discriminate between internet sites and to select authoritative ones? Skills like these are harder to assess but they are just as important. Without them, your students will not be able to assemble acceptable portfolios of evidence.

Things to look for in authoritative websites:

■ **is the information up-to-date?**

■ **are reliable sources of information used?**

■ **is the information free from bias?**

Once you have identified your ICT strengths and weaknesses, you will need to think about how to develop your skills.

It is not the aim of this guide to develop your ICT skills, but in Section 6 (pages 30–32) you will find some suggestions for where you might find help.

However, your urgent priority is to survive the first few weeks. That is where this guide will help.

What resources do you have?

What are the minimum requirements for the delivery of ICT key skills?

You will need to have regular access to some computers. You do not need one computer per student, nor do you need all the computers arranged around the edge of the room so that all you can see is the back of students' heads. One of the best ways of learning is through discussion and sharing.

You do not need to hold all ICT lessons in a computer suite. Students need time to think about the wider issues and implications of using ICT – eg comparing systems, copyright, confidentiality, and health and safety – and these can be taught without access to computers. Indeed, these topics and lessons may be better suited to a more traditional learning environment.

How much computer equipment will be available?

Students can work in groups of two or three to a computer during the early stages of the course or a new project. However, there is always the danger that one or two dominant individuals will try to take over the mouse and keyboard, while other students sit back and let someone else do the work. Students need to work independently so that you can respond to their particular learning requirements and assess their work.

At Level 3, students will be on their own for the test. At some point, therefore, they will need adequate access to individual machines but this does not always have to be during your taught session. More and more students have access to computers at home or through their local library (although this is far from universal). Many schools and colleges provide computers that are freely available to individual students in a workshop environment. This can also help to improve equality of opportunity.

What software is available?

You will need access to software packages for word processing, databases and spreadsheets. You will also find it helpful to have access to a graphics package, but this is not essential.

The key skill standards are not specific about which software packages should be used. Students can develop their skills and generate portfolio evidence in a wide variety of contexts and using a range of software and hardware.

> The KSSP publication *Good practice guide: Using IT in delivering key skills* includes useful guidance and suggestions for making the most of ICT resources.

You will need:

- **computers**
- **printers**
- **internet access**
- **e-mail access (essential at all levels)**
- **a scanner (this is not essential but will be useful).**

You will need to know:

- **what is networked and what isn't**
- **what operating system is being used**
- **which software packages are on which machines**
- **logon and password arrangements**
- **file-management arrangements (so that you can troubleshoot when required).**

The tests at Levels 1 and 2 are paper-based and the questions apply to all software and operating systems. In the Level 3 tests, candidates work on computers and produce printouts for assessment. These tests are written using Microsoft software but are tested on at least four different software packages. There is no restriction on what software candidates can use. However, there is a strong bias towards Microsoft operating systems and the Office suite of programmes. If you are using Macs or UNIX systems, or even if you are using older PCs, this is an issue that you will have to consider.

It is not unusual for different suites of computers to have different versions and types of software. You need to check these very carefully; you might even have different packages on the machines in one teaching room.

How often will you see the group and for how long?

Students will need time to practise their developing skills and time for reflection and sharing with their peers. They will also need continual reinforcement. Most students will forget a skill learnt in a lesson unless it is revised and reinforced within a reasonably short time. The amount of time devoted to ICT key skills lessons may be outside your control but it should reflect the level and abilities of your students. Many schools and colleges timetable ICT key skills lessons for between one and one-and-a-half hours per week throughout the year.

If lessons are timetabled once a week, students should remember at least some of the previous week's learning. If the gap is longer than a week between sessions, you will be constantly re-teaching skills.

Ideally students should have the opportunity to reinforce their learning by applying it between ICT lessons. If all subject teachers have a working knowledge of the ICT key skills standards, they will be able to provide relevant opportunities for students to practise and apply their ICT key skills nearly every day.

Will you have technician support?

There are few things more de-motivating for a student than a network crash just as they are getting somewhere. If a technician is not immediately available, you will need to plan back-up activities to use in emergencies.

Technician support will also be essential in conjunction with the Level 3 ICT key skills tests.

What support material and other resources are available?

As well as the key skills standards and Guidance available from QCA or from your awarding body, there is a wide range of support material available from the Key Skills Support Programme, awarding bodies and commercial publishers. Find out what is already available within your centre or in your LEA.

The Key Skills Support Programme provides many forms of support (see back cover). All state-funded schools with sixth forms and FE colleges in England are entitled to one free copy of KSSP publications and support materials. A list of publications can be found on the KSSP website: www.keyskillssupport.net.

Tips for evaluating resources for ICT

■ *Are they appropriate to the key skill? Do they match the requirements of the standards?*

■ *Are they pitched at the level that your students are working at?*

■ *If they are used to generate evidence, will the evidence meet the requirements of the key skill standard?*

■ *Is the activity likely to interest students?*

■ *Is the material accurate and up-to-date?*

■ *Is the level of language and complexity appropriate to your students?*

■ *Does the material use 'plain English'?*

■ *Is the software used compatible with your operating system and the capacity of your computers?*

Adapted from: *Using and developing key skills assignments – guide to good practice*, KSSP Learning for Work

The KSSP Reviewed Resources index is a searchable database that lists several hundred key skills resources, together with short reviews written by key skills practitioners.

The Shared Resources index is a database of teaching and learning materials developed in schools and colleges throughout the UK. Many of these can be downloaded for use in your centre. You can use them as they are, or adapt them to your own situation. The Shared Resources index also provides links to a range of other learning resources on the internet. New entries are added to both these indexes at regular intervals so it is worth checking them regularly.

Some awarding bodies have examples of completed and assessed ICT key skills portfolios (see Appendix 5 for contact details). QCA has produced a set of exemplar portfolios which give examples of students' work that reaches the standard at each level.

What is your budget?

Even if you do not have a budget of your own, there may be a budget you can use. There are many commercial publications available to support the delivery of ICT key skills, but they vary in quality. Don't rush into buying anything, however desperate you are.

- Try to find someone who is already using a particular publication, and talk to them about it.

- Ask for a copy on approval, inspection, or sale-or-return.

- Search the Reviewed Resources index on the KSSP website to see if the publication is included.

Always compare the contents of any materials with Part A and Part B (the underpinning skills and the portfolio requirements) of the key skills standards, including the amplification provided in the QCA Guidance.

Software

BECTA (British Educational Communications and Technology Agency) manages an online database, BESD, that contains information about software available for all levels from pre-school to further education. It can be accessed on http://besd.becta.org.uk.

There is a wealth of material available online via the internet. However, before committing yourself to this source, make sure that you have a reliable connection, including time for downloading.

Online ICT packages can provide a valuable additional resource but they may be expensive. Always preview them before buying. For example, direct-ed.com (www.direct-ed.com) provides online assessment and tutorials for ICT, as well as Communication and Application of Number.

Online ICT training programmes can also be explored. Search engines such as Lycos (www.lycos.com), Google (www.google.com) and Yahoo (www.yahoo.com) have online help and tutorial packages for using their services. Lycos offers a web-developer tutorial, called WebMonkey (www.hotwired.lycos.com/webmonkey) for use by beginners and advanced web designers.

Another source of ICT packages are freeware or shareware sites. For example, Purdue Writing has free handouts on a range of instructional topics. LearnDirect has a section on 'free stuff and tasters' (www.learndirect.co.uk). The Washington State University Online writing laboratory has excellent information on citations, plagarism, evaluating quality on the net and style guides (http://owl.wsu.edu/references.asp).

Internet searches will help you and your students locate other sources of free and shared materials and resources.

Commercial companies often have free information that can be used for ICT key skills. For example, www.presentations.com includes informative articles and 'how to' pages on creating presentations using templates and scripts, and on delivering and preparing the room for presentations. Microsoft (www.microsoft.com/education) provides pages on creating a document, using revision control, using comments and enhancing collaboration through web discussions. The Family internet has a series of articles on Internet safety http://familyinternet.about.com.

The range and quality of resources on the internet continues to expand on a daily basis. Some of these will be brilliant resources that you will bookmark and use regularly. Others (including some of the above) may become outdated or unavailable. In any event, you will need to evaluate these resources to ensure that they map directly to Part A of the ICT key skills standards.

Before you buy anything, check that someone else in the centre hasn't bought it already!

And finally: who's paying for the photocopying and printing? Remember, the more you print, the more printer cartridges and/or toner drums you will need, and they are not cheap.

All these internet addresses were correct at the time of writing but can change at any time and without warning.

SECTION 4   **The first few lessons**

The aims of the first few lessons are:

- to gauge where your students are in relation to the ICT key skills levels

- to identify their goals in using and applying ICT key skills

- to gather enough information to enable you to plan how to help them achieve their goals

- to explore with the students what key skills are and how they support achievement in other areas

- to gain students' interest and confidence in the subject by undertaking a task that is fun, relevant and motivating.

> ### *Warning*
>
> **Too many ICT courses crash in the first few lessons because they adopt a dry and/or theoretical and/or teacher-centred approach. Make sure that your first few lessons are student-centred, active and practical.**

Initial assessment

When you first meet the students you will need to find out what they can do in ICT, and what they think they can do (the mis-match between these can be great!). You may wish to use the same self-assessment checklists with your students as you have used for yourself (see Appendix 1).

Some students will insist that they don't need to develop or practise their ICT skills – they 'can do all that'. Sometimes they can. More often such students can word process (at least the basics) and they may have some spreadsheet or programme-specific skills (eg CAD/CAM in engineering, MIDI technology in music, website design, etc.). However, very few will have developed the full range of skills needed to meet the ICT key skills requirements and even fewer will have evidence in a form suited to the portfolio, let alone be in a position to take the tests.

The first practical tasks

When your students have completed the self-assessment, you can ask them to complete a simple task. This should relate very clearly to students' other courses and show how ICT skills can contribute to their main programme. You will probably have a mixed group covering a range of subjects and courses, so you will need a range of tasks to ensure that every student is doing something relevant. If students perceive this first task as irrelevant, many will very quickly lose interest in ICT.

As part of your preparation, ask your subject-specialist colleagues for suggestions for simple ICT-based tasks that are relevant to their subject. You won't get an answer from everyone, but you should get enough to cover most of your students' needs.

The first task should contain elements that can be achieved by virtually all students. More complex demands can be made in the latter parts of the task in order to allow differentiation of students' abilities. Examples of suitable tasks are given in Appendix 2.

Introducing the ICT key skill

Having audited the students' skills and captured their initial interest, you will need to introduce them to the key skills standards and make explicit the links between the key skills and those required in their other courses.

Your aim is twofold:

- to show how the various key skills reinforce each other
- to show how these skills, particularly ICT, will help them to achieve in other areas.

One way of demonstrating this is shown in Figure 2. All courses require students to find things out, discuss and/or give a talk, and present the results of their work. Figure 2a illustrates this process. Figure 2b shows how ICT at Level 2 can contribute to this process. Figure 2c shows how Communication at Level 2 contributes to the same process.

A similar diagram can be produced for Level 1 or for Level 3. If appropriate, you could demonstrate the links with the other key skills.

Remember: the more students understand how key skills can support their other goals, the more motivated they will become, and the easier your task will be.

Figure 2   The links between key skills

Figure 2a

Almost all courses require students to do some finding out and then either write about it or give a talk.
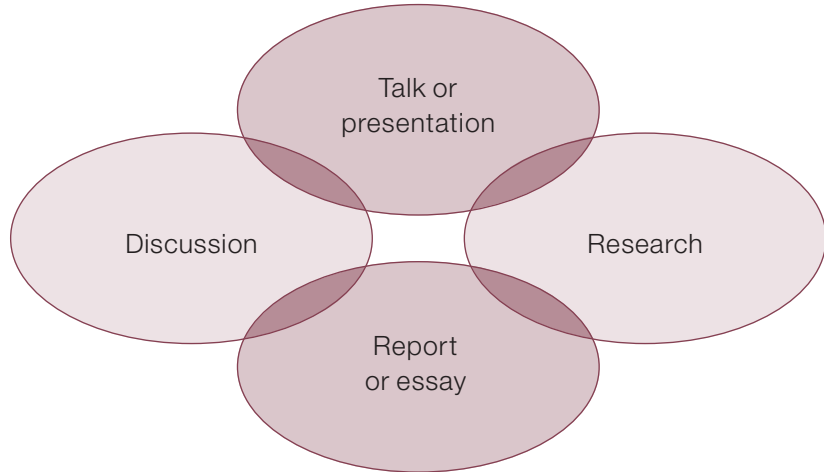

Figure 2b

As students apply their ICT skills to these tasks, they can generate portfolio evidence for the ICT key skill.
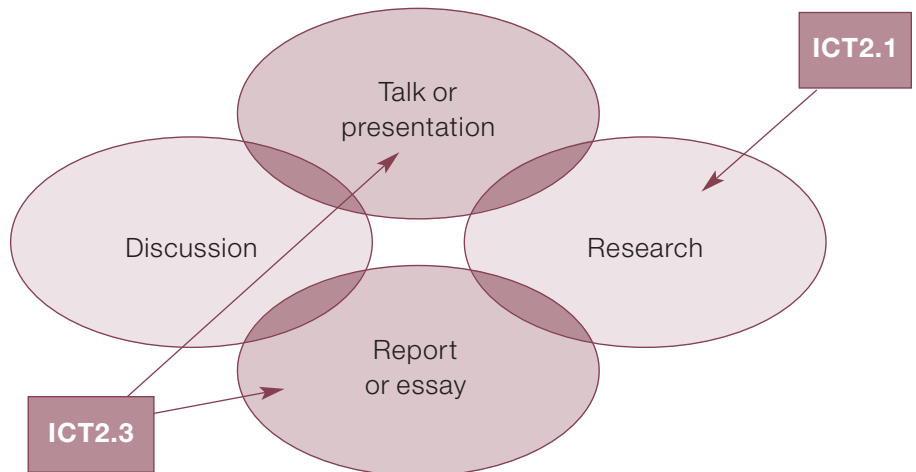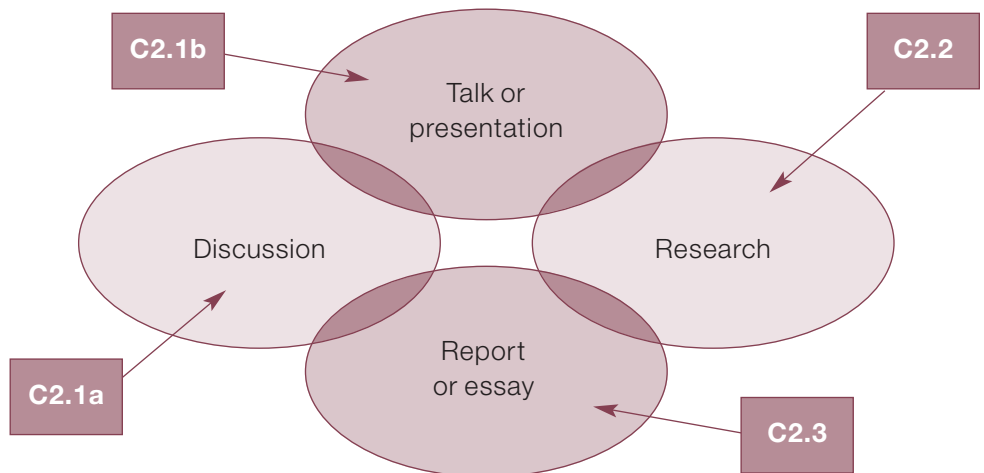

Figure 2c

As students complete the assignment and apply their communication skills to these tasks they can also generate portfolio evidence for the Communication key skill.

SECTION 5   Developing a scheme of work

Much of the delight and the frustration in ICT key skills relates to the wide variation in the ICT skills and experience that students will bring to your class. Any scheme of work will need to take this variation into account and allow for differentiation in activities and rate of progress. You will need to ask yourself the following questions:

- what do your students already know? (ie what level are they working at?)

- what do they need to know? (ie what level are they working towards?)

- where else will they have opportunities to practise and apply their skills?

- what proxies and/or exemptions do they have (see page 6)?

ICT key skills lessons will need to:
- **develop students' underpinning ICT key skills (Part A)**
- **support students as they complete activities that provide evidence for the ICT key skills portfolio (Part B)**
- **prepare students for their ICT key skills test.**

Figure 3, on pages 20–21, provides a sample ICT key skills scheme of work for a year. Note that it takes students through the **find**, **develop** and **present** process (see page vi) in the first few weeks, then revisits this cycle in detail throughout the rest of the year. Some students will be able to complete their ICT key skill in one year; others may require a longer period to develop, practise and demonstrate their skills.

This scheme of work assumes that students will have weekly timetabled sessions of 1–1.5 hours throughout the year (based on current average time allotments in post-16 education). This is of course only one model for delivering ICT key skills. Other curriculum models may be used – such as carousel, or integrated, or through workshops. You can adapt this scheme of work to these other contexts. Pages 23–29 provide more detail about how to deliver this scheme of work. You will need to tailor it to suit the level at which you are working. You may also need to tailor the scheme of work to comply with awarding body deadlines for portfolio submission and for your centre's target test dates.

The content of each lesson will need to be differentiated according to the needs of the students, which you will have identified from the initial ICT assessments. For example, a lesson on using the internet to search for information could be based on ICT Level 2 (ie searching using two or more criteria). But some students would use only basic key words and 'wild cards' (ICT Level 1), while others may use advanced search techniques including relational operators and logical criteria (ICT Level 3).

Each lesson should include time for:

- formal instruction
- practising skills
- applying skills for a purpose.

So, in the internet example, the first part of the lesson would include a discussion of the internet, followed by basic instruction on search techniques for those who have never used the internet before. Then set some search tasks and let students 'have a go'. Follow this with a discussion of search techniques and the need to narrow the search criteria.

Ask students to write down the search criteria they would use for some specific questions and then encourage them to see if the criteria work. The rest of the lesson should consolidate learning through activities that ask students to plan and conduct searches on specific topics. Finally, encourage students to apply their new skills to their main subject studies.

Outline for a lesson on using the internet

Start with a brainstorm.

- **What is the internet (the worldwide web)?**

- **Do we need it?**

- **Who uses it and what do they use it for?**

- **Do you ever use the internet? If so, how, and does it work?**

Next, for students who know little or nothing about the internet, explain the basic principles of internet searching (ie using search engines and setting simple search criteria).

Next, set an obscure but interesting challenge, for example:

- **what is the incubation period of a peacock egg?**

- **what were the weather conditions during the Battle of Bosworth Field?**

- **what does the fertilisation of a human ovum look like?**

You could give students a choice, but they will often enjoy working in groups and competing to see who gets the answer to a question first.

When students have found the answers (or become bored with their inability to do so), start a discussion. If there is a 'winner', they should answer the following questions first.

- **How did you search for this information?**

- **Did you plan? Could you have planned better?**

- **Did you find out anything else on the way? (For some people, serendipity is one of the main pleasures of the internet.)**

- **What search engine/s did you use?**

Figure 3 Sample ICT key skills scheme of work

Week	Activity	Comments
TERM 1		
1–3	introduction to ICT key skills; diagnostic assessment	■ importance of key skills; links between ICT key skills and other key skills ■ use self-assessment, diagnostic-assessment and contextualised-assessment techniques ■ use results to suggest key skill level and identify gaps in knowledge
4–5	finding information	■ developing your search plan ■ using internet searches, database queries ■ evaluating and selecting appropriate information
6–7	developing information	■ entering text, numbers, images ■ using, setting or customising templates ■ exploring information
8–9	presenting information	■ layouts, styles and presentation techniques
10	other ICT topics	■ using error reports ■ saving files ■ file management; setting up directories, folders, etc.
11–12	end of term review; progress review; plan activity 1	■ analyse key skill ICT standards and guidance for portfolio development ■ confirm key skills levels and targets ■ set date for test (if appropriate) ■ develop plan for evidencing ICT key skills (using IOLP guidelines?) (NB at all levels, evidence is needed for two different activities.) ■ select activity/assignment from course/subject (or use generic assignments) ■ review work and progress to date
TERM 2		
13–14	begin activity 1; internet and e-mail	■ (tutor checks/verifies assignment brief) ■ confirm/develop list of evidence required ■ using search engines to find information ■ evaluating evidence and checking accuracy ■ using e-mail ■ e-mail etiquette

Weeks	Topic	Details
15–16	databases; progress review	▪ using databases to find, develop and explore information ▪ review progress on assignments/activities, annotating drafts as appropriate
17–18	spreadsheets	▪ using spreadsheets to develop and explore numeric information
19–20	word processing	▪ using templates and styles to develop your presentation
21–22	end-of-term review	▪ submit activity 1 for ICT portfolio of evidence ▪ provide feedback – if the evidence is not sufficient, give the student constructive feedback
23–24	plan and start activity 2	▪ this must provide evidence for the second activity ▪ use IOLP to plan the activity/assignment brief
TERM 3		
25–26	test revision (test will probably be taken outside lesson)	▪ throughout this term, students should revise their ICT key skills, and practise their test techniques ▪ see *Good practice guide: Preparing for the tests*, available from the Key Skills Support Programme
27–28	other ICT issues; progress review	▪ study other ICT issues appropriate to the level being studied (see Part A), including, for example, viruses, copyright, confidentiality, health and safety, safe working practices ▪ review progress of activity 2
29–31	complete portfolio development	▪ complete second activity ▪ prepare cover sheet, index and tracking sheets ▪ submit portfolio for assessment and internal verification
32–36	moving forward with ICT key skills	▪ if portfolio is incomplete, or test not yet passed, set plans for completion during the next year ▪ if the student has achieved the ICT key skill at the target level, discuss potential projects and training needs for next higher level ▪ consolidate learning through introducing skills required for next level, providing revision/added ICT key skill assignments as needed

More challenges

Ask students to write down the search criteria needed to find answers to the following questions (answers in brackets):

■ What date was George W Bush born? (6 July 1946)

■ What is the weight of a female cheetah? (38 kg)

■ How many seats did the Green parties have in the European Parliament immediately after the 2004 election? (38)

Obviously, you can set any question you like, but be sure to vary the type of question to match students' subjects and interests, and make sure that all the questions can be answered in a reasonable amount of time.

Offer a prize to the winning team (ie the first to get the answer/s).

Many search engine sites offer detailed information on searching the internet and using search criteria. Yahoo has a clear section on this (www.yahoo.com) as does Google (www.google.com/help).

Finally, ask each student to write down a question that they need to answer for one of their main subjects. Encourage them to practise and apply their internet searching skills by using the learning resource centre, school or college intranet and internet sites, along with self-study materials, to answer this question before the next ICT lesson, and to bring their answer to that lesson.

Term 1

Aims:

- **to introduce ICT key skills**
- **to learn what ICT skills students have**
- **to learn what ICT skills they will need to succeed in their subjects.**

Other aims are:

- to demonstrate to students that ICT key skills are not just about using software packages but that they are about using ICT to solve real-life situations and problems
- to demonstrate the links between the ICT, Communication and Application of Number key skills
- to begin to develop evidence for students' ICT key skills portfolio.

The first part of the term will be used to assess students' ICT knowledge, understanding and skills in relation to the ICT key skills standards.

There are relatively few diagnostic instruments available at present to assess ICT key skills. However, you may find the ECDL (European Computer Driving Licence) material helpful, and a websearch will produce two or three possibilities from commercial sources. You can use a self-assessment instrument, such as the ICT key skills checklist in Appendix 1, or you might get the students to take an ICT key skills test paper (available from your awarding body or on the QCA website: www.qca.org.uk/keyskills).

The Key Skills Support Programme has published a CD-ROM of practice tests for Information and Communication Technology, Application of Number, and Communication at Levels 1 and 2.

Some centres have avoided this early emphasis on testing and assessment by setting students an assignment that is designed to reveal the student's ability to apply their ICT skills in an independent fashion. Examples of such assignments can be found on the Shared Resources index on the KSSP website. It is important that the topic of this assignment should engage the students' interest.

The rest of the term will be spent looking briefly at the three main activities of ICT key skills: **finding**, **developing** and **presenting** information. You are not aiming to cover all the underpinning skills in Part A of the ICT key skill, but to give an overview by introducing each component of the skill and providing some opportunities for revising skills or learning new ones.

Each session should also include discussions that show the links between the components of ICT and the students' main subjects of study. The diagrams on page 17 show how the various units overlap and reinforce each other in the ICT and Communication key skills. Appendix 3 includes a more thorough analysis of these links at Level 2. A similar grid could be produced for Levels 1 and 3.

Example: a differentiated task for word processing

- Students work in groups of 3 or 4.

- Each group prepares one page for a newsletter. This could be about their course, the local football team, fashion, cars, or anything of interest to the students. The choice is wide open but make sure you engage the students in deciding what to do.

- One group (probably the most skilled) is responsible for collating the content of the newsletter, including the cover or title page. The skills that students already have, and those they develop during the task, will determine the complexity of each page and the format of the finished product.

- Alternatively, each group could produce a version of the complete newsletter, using the same content but creating different covers and page layouts.

Learning points will include:

- planning

- collecting and evaluating information

- inputting and keyboard skills

- use of fonts, columns, styles, layouts, templates, etc.

- cutting and pasting, importing, sizing, etc.

- headers, footers, page numbers, etc.

- combining documents

- sharing information (preferably by e-mail attachment)

- development of information and presentation

- proofreading and checking

- saving work and making backups.

Remind students that many courses, GCSE, A-level and vocational, include tasks that call for these skills.

Example: collecting and evaluating information

- Where can we get information on this topic?
- How can we judge its accuracy and authenticity ('truth')?
- How do we use the internet?
- How do we design multiple search criteria (for Levels 2 and 3)?

Example: databases

- What are they?
- How do they work?
- Why use them?
- How do we use sorts, filters, reports, etc. (Levels 2 and 3)?
- Why not just use a spreadsheet?
- What are relational databases (Level 3)?

Example: wider issues

- The benefits, disadvantages and implications of using ICT.
- Comparing ICT with other methods of working.
- Working safely with computers.
- Minimising health risks.
- The importance and use of error reporting.
- Protecting against viruses (Levels 2 and 3).
- Confidentiality and data protection issues (Levels 2 and 3).
- Copyright issues (Levels 2 and 3).

The last two weeks of term 1 are used to take an in-depth look at the exact requirements of ICT key skills and to explore the links between ICT key skills and each student's main course of study, career goals and interests. By now, you will know enough about each student's skills to be able to guide them towards a specific ICT key skills level. Students should have enough knowledge of their ICT key skills needs and aspirations to identify potential activities and projects to use for developing a portfolio of evidence.

At the end of term 1, students should plan an ICT key skills assignment or project. Ideally, the topic for this project will be derived from opportunities that occur naturally in their main subject and the assignment will be developed in association with the main subject teacher. Failing this, contextualised assignments based on students' interests may be used.

The KSSP *Good practice guide: Writing assignments* gives advice on writing assignment briefs.

The Key Skills Support Programme has produced a CD-ROM of assignments that integrate key skills, including ICT at Level 2 and/or Level 3, into thirteen AS and A-level subjects. They include topics such as: *Artists' journeys* (Art and Design), *Bugs and food production* (Biology), *Hot earth or hot air* (General Studies), *Sports and mass participation* (Sport and Physical Education), and *The iodine clock* (Chemistry). See Appendix 2 for more details.

KSSP has produced similar CD-ROMs of assignments for a range of National Diplomas and for GCSEs in vocational subjects. Go to 'Publications' on the KSSP website for details.

Term 2

Aims:

- **to complete one piece of evidence for the ICT key skills portfolio**

- **to develop underpinning ICT key skills.**

Experience shows that students need to begin to gather evidence for their portfolio early in their course. This evidence provides meaning and purpose to ICT key skills. Through the process of applying key skills to a meaningful situation, students learn to become more independent and to see the links between key skills and other aspects of their lives. As they begin to develop their ICT key skills evidence, they will need specific and targeted instruction, using different types of software packages to generate the information they need to **find**, **develop** and **present**. As students explore different ways to prepare and present the results of their work, their learning becomes deeper and their interests more varied.

During term 2, lessons should be subdivided to provide some time for directive teaching on specific topics and skills, and some time for students to work on their ICT key skills activity.

All ICT portfolio work for the first activity should be completed and assessed by the end of term 2. You will also need to discuss arrangements for internal verification of the evidence at this time. Your key skills coordinator can advise you on this task.

Students should plan their second key skills activity and begin to develop their evidence checklist before the end of term 2. Some students may be ready to prepare for their key skills test. Test issues should be discussed with your key skills coordinator.

Some learning is best done away from machines.

Example: layout and style

- **Compare different styles. Do they work? Why?**

- **Fitness for purpose, audience, etc.**

- **Using styles to make documents more accessible and to promote equal opportunities.**

- **Rules: when do we have to follow a set of rules? (This can be directly related to other courses.)**

- **Templates (Level 3).**

Introducing databases

The aims of this lesson are:

- **to introduce the concept of databases (which existed long before computers)**

- **to cover some of the underpinning knowledge for the understanding of databases.**

You will need:

- **an index card/sheet of paper for each student**

- **an OHP acetate showing the information to be put on the card, as listed in Figure 4 (below).**

1 **Ask each student to complete the data for the fields listed on the OHT.**

2 **Explain that each card is a form and that each student represents one record in a database.**

3 **Ask questions to query the data (eg Who had a holiday in Europe? Who's got size 8 shoes?). Students can answer only if the data is on their record.**

4 **Ask questions to prompt discussion (eg if a student wrote 'France' as their holiday destination, will this show up in a database query for Europe?). This will introduce the need for planning and making sure that the data entered is in a usable format. The omission of addresses and telephone numbers from the list introduces confidentiality and the Data Protection Act.**

5 **Check that students understand all the words in bold above.**

6 **If students are already familiar with databases and spreadsheets, ask:**

- **could we have done this with a spreadsheet?**

- **if so, why bother with databases?**

Figure 4 The Living Database

On the card provided, record the following data:

given/preferred name

family name

town where living

subject/s studied

shoe size

last holiday destination

last film seen

favourite colour

'best ever' present

Term 3

Aims:

- **to complete ICT key skills activity 2**
- **to prepare for and pass the ICT key skills test**
- **to submit completed ICT key skills portfolios.**

By the beginning of this term, students should be familiar with the portfolio evidence requirements and be aware of the time needed to complete a portfolio assignment. They should be ready to complete their ICT key skills portfolio by carrying out their second activity. They should have the confidence and the experience to work more independently. Indeed, at Level 3, students should be leading the way in planning and implementing their ICT key skill activities while you act as a facilitator and mentor.

Students will need to prepare a contents page, an index and tracking sheets for their portfolio. If they are cross-referencing their evidence to their coursework, they will need to complete centre documentation for the external standards moderator. You will need to check portfolio submission dates with your awarding body. All the work in the portfolio must:

- be confirmed by the subject tutor as being fit for purpose
- be authenticated (QCA Guidance, page 20)
- be assessed to confirm that it meets the ICT key skills evidence requirements at the appropriate level
- be internally verified (if the portfolio is included in the internal verification sample at your centre)
- be externally moderated (if the awarding body's moderator calls for it to be included in the sample).

Students should understand the assessment process, so that they can prepare their portfolio properly.

You may find it helpful to give students a copy of the leaflet *Managing your key skills portfolio* which is available on the KSSP website: www.keyskillssupport.net.

The second major task in term 3 is for students to prepare for and sit their ICT key skills test. Some students may be exempt from this test; others may prefer to sit it earlier in the year. Each centre will make its own decision regarding test dates and whether to access on-demand tests at Levels 1 and 2.

For advice on preparing candidates for the tests, see the KSSP *Good practice guide: Preparing for the tests*.

The last part of the term should be used to review progress, to prepare plans for the next year and to introduce students to the underpinning skills needed for their next key skills level. Key skills grow and become stronger through continuous use and continuous challenges. When students have achieved their key skills at one level, you should encourage them to work towards the next higher level.

SECTION 6   # Moving forward

Working together – with the other key skills

Once you have survived the first few weeks and you have time to gather your thoughts, you will realise that the ICT key skill does not work in isolation. You may be responsible just for ICT but the more that teachers and lecturers of the different key skills work together, the better the experience will be for the students, and therefore the better the chance of success.

The six key skills were designed as a suite of qualifications that complement and support each other. For example:

- using ICT almost always involves communication

- using ICT often involves working with others to achieve our objective, and most of us need to solve problems

- the ICT portfolio evidence must demonstrate that the candidate can use text, images and numbers, so it will often be directly related to the key skills of Communication and Application of Number.

All six key skills link together; they are interrelated (see Appendix 3).

Working together – with other subjects

The key skill standards are designed to support achievement across the curriculum. Applying ICT skills to other subject areas will greatly improve the quality of students' work and (a really good selling point) it will make the process of producing work faster and easier to manage.

By liaising with subject colleagues you can ensure that the examples and language you use in your ICT lessons are directly relevant to the students' primary goal(s). It takes time to build these relationships and to become familiar with the vocabulary of a range of subjects.

> **If you are delivering key skills to students of a subject you know nothing about, talk to them and learn from them. Generally they are only too pleased to show off their new knowledge.**

Working with other teachers – both of key skills and of main subjects – will make your life easier, as well as showing the students why ICT skills are important, and that's got to be a good thing.

Developing your own ICT skills

We started this book with a review of your own ICT skills. You will develop these skills as you work with your students.

Don't be afraid to learn ICT skills from your students. Some may have high-level skills in certain areas, and many will find things out along the way.

There are few 'right' answers in ICT; most tasks can be achieved in a number of different ways. Even those who make a living using ICT regularly learn new tricks by talking and sharing experiences.

If you want to extend your skills more formally (perhaps because you are going to be teaching a Level 3 group) there are many courses – at local centres, online, from CD-ROMs, etc. – that will teach you the underpinning and software-specific skills. Contact your local college or search the internet for courses you can use to develop your ICT skills. Some of these are self-teaching programmes; some are sponsored by software companies or awarding bodies. Try www.freeskills.com. Some teachers find CLAIT or ECDL (European Computer Driving Licence at www.ecdl.co.uk) helpful starting points.

You also need to develop the more abstract analytical and reflective skills of ICT. An ideal way to do this is to take an ICT qualification. You could work towards the ICT key skill, or you might undertake a professional qualification. Some awarding bodies offer a professional development qualification for key skills practitioners. These include units on teaching and assessing key skills along with one or more of the key skills units – usually at Levels 3 or 4. Contact your awarding body for details (see Appendix 5 for contact addresses).

Who can help?

Within your centre

You probably have a key skills coordinator. Part of their job is to ensure quality of key skills provision across your centre. Ask about training, either in the centre or from an external provider.

Is there a key skills team? Do the key skills teachers/lecturers meet regularly? Is there a forum where you could meet subject teachers/lecturers? Is there a school or college intranet? Meetings are seldom popular but some mechanism for sharing experience and expertise is essential.

The KSSP has developed a CPD qualification 'Planning and delivering key skills', which can be delivered by centres in association with an accrediting university. For details, see the KSSP website www.keyskillssupport.net.

Key Skills Support Programme

As well as producing support publications
and materials, the KSSP runs a wide variety
of events and services including:

- training days
- conferences
- skill-specific courses
- support to centres.

Details of all these, and more,
can be found on the KSSP website:
www.keyskillssupport.net.

The KSSP also offers a helpline service.
No question too simple! The number
is 0870 872 8081.

See the back cover of this guide
for further information on the KSSP.

Appendix 1

Self-assessment of ICT skills for Level 1

Skills	Can do	Could explain to someone	Use often	Have used in the last week	Have used in the last month	Have used once or twice
Find information using CD-ROMs and/or the internet						
Enter text and numbers						
Cut/copy and paste						
Import images						
Move and resize images						
Use tabs						
Set line spacing, bullet points, etc.						
Select/change the page layout						
Change font						
Use spell check						
Proofread						
Use a spreadsheet						
Do sums in a spreadsheet						
Draw charts with spreadsheets						
Save						
Send and receive e-mail						

Self-assessment of ICT skills for Level 2

Skills	Can do	Could explain to someone	Use often	Have used in the last week	Have used in the last month	Have used once or twice
Find information using CD-ROMs and/or the internet						
Use AND, NOT, etc. in internet searches						
Use a scanner						
Use the keyboard to enter information						
Cut/copy and paste						
Use formats						
Use 'Import' for eg images						
Use tabs						
Set margins, headers, etc.						
Change the page layout						
Use a spreadsheet						
Use formulae in a spreadsheet						
Produce charts from spreadsheets						
Use cell references in a spreadsheet						
Search a database						
Change font						
Use spell check and proofread						
Save, using filenames						
Send and receive e-mail						

Self-assessment of ICT skills for Level 3

Skills	Can do	Could explain to someone	Use often	Have used in the last week	Have used in the last month	Have used once or twice
Find information using CD-ROMs and/or the internet						
Use multiple search criteria						
Validate database entries						
Use a scanner						
Send and receive e-mail with attachments						
Use mailmerge						
Use frames, tables, etc.						
Use 'Import'						
Use templates and styles						
Create contents list or index						
Set margins, headers, etc.						
Create subdirectories and subfolders						
Apply automatic referencing facilities						
Use a spreadsheet for modelling						
Use formulae in a spreadsheet						
Draw charts from spreadsheets						
Use conditional statements and logical operators						
Search a database						
Save using version numbers						

Appendix 2

Some first practical tasks

For all students

Brief the students as follows:

At various times in the next few years you will need to write a personal statement. This may be for a job application, for your UCAS form, for Gap Year sponsorship, etc.

It is never easy to write positively about yourself; either you don't put enough in and you sell yourself short or you end up sounding like a big-headed know-it-all.

Most of us leave things until the last minute, so you will probably end up rushing your personal statement and not doing yourself justice.

*Today I would like you to have a go at a first draft. We will keep this 'on file' and come back to it to refine and hone it until you sound like someone that they **really** need.*

For vocational students

All vocational courses include some work on health and safety. Ask students: 'What do you think the dangers, risks and hazards might be in your area of work?' You may need to brainstorm this a bit before they start thinking for themselves. The idea is just to get down a few ideas that you can save on file and use when this topic comes up later in your course. Students can them use ICT to research and report on health and safety issues identified in their brainstorm session. They can also collect and analyse risk-assessment data in their field and report on their findings.

For any service-based course

Write a short letter to a customer thanking them for their letter of complaint and promising to deal with it. Supply the student with the name and address and a topic of complaint (you could even give the students a letter). Ham it up as much as possible, within the bounds of taste, professional judgement, etc. Sample complaints may include:

- 'my hair turned green after you permed it'
- 'my roof blew off two days after you mended it'
- 'the jumper I bought is a metre long and has three arms'.

You will be able to think of plenty more.

For students on AS and A-level courses

Art and Design – Artists' journey

Artists and designers have used travel to experience new environments, develop perception or to change cultural and ethical standards. Students are invited to take an 'artistic journey' of their own. ICT may be used either for a 'virtual journey' or to conduct a thematic enquiry about their artistic journey and to prepare their final summative report, possibly using a multimedia format. (This also generates evidence for Communication.)

Human Biology – Bugs and food production: biotechnology

Students use ICT to investigate the application of biotechnology in food production. They prepare an ICT presentation on the uses of biotechnology in the production of a single food substance. (This also generates evidence for Communication.)

These AS and A-level examples, and many more, can be found in full, with assignment briefs and teacher guidance, in the CD-ROM *Key skills in A-levels* available from the Key Skills Support Programme.

Business Studies – Sales forecasting

Students can use ICT to conduct market research into a supermarket chain, or statistics relating to the whole industry, and to perform some market analysis via extrapolation techniques. The aim of this activity is to consolidate theoretical knowledge of sales forecasting techniques with a practical activity.

(This activity also generates evidence for Communication and for Application of Number.)

Physical Education – Fix! Corruption in sport

Students use ICT to research and report on corruption in high-level sport and how this affects prestigious events and/or individuals. (This also generates evidence for Communication.)

Chemistry – Acid-base equilibria

Students explore the relationship between the dissociation constant and pH for different acid-base equilibria. This knowledge is then consolidated through the use of ICT. (This also generates evidence for Application of Number.)

Appendix 3

Linking key skills at Level 2

The grid shows, in each row, how the components of each key skill relate to each other. This illustrates how evidence for more than one key skill can be generated in the context of a single assignment or activity.

	Communication	Application of Number	Information and Communication Technology
1		Carry out at least one activity that includes tasks for all three of N2.1, N2.2, N2.3.	
2	**2.1a** Take part in a group discussion.		
3	**2.1b** Give a talk of at least four minutes.	**2.3** …present your findings…	**2.3** Present combined information…
4	**2.2** Read … information from at least two documents…	**2.1** Interpret information…	**2.1** Search for and select information…
5			
6	**2.2** …summarise information from at least two documents…	**2.2** …carry out calculations… **2.3** Interpret the results…	**2.2** Enter and develop the information…
7	**2.3** Write … documents…	**2.3** …present your findings…	**2.3** Present combined information…
8			

Working with Others	Improving Own Learning and Performance	Problem Solving
Provide at least two examples of meeting the standard for WO2.1, WO2.2, WP2.3…	Provide at least two examples of meeting the standard for LP2.1, LP2.2, LP2.3…	Provide at least two examples of meeting the standard for PS2.1, PS2.2, PS2.3.
2.1 Plan work with others.	**2.1** Help set targets … and plan…	**2.1** Identify a problem … and identify different ways of tackling it.
2.2 Work cooperatively towards achieving the required objectives.	**2.2** Take responsibility … using your plan … help meet targets … improve your performance.	**2.2** Plan and try out at least one way…
2.3 Review your contributions and agree ways to improve…	**2.3** Review progress … provide evidence of your achievements.	**2.3** Check if … solved … identify ways to improve…

Appendix 4

Glossary

Note

The following abbreviations are used in this glossary.

Guidance; Comm, AoN, ICT
for *The key skills qualifications standards and guidance: communication, application of number, and information and communication technology; Levels 1–4 2004*.

Guidance; WWO, IOLP, PS
for *The key skills qualifications standards and guidance: working with others, improving own learning and performance, and problem solving; Levels 1–4 2004*.

Key skills policy and practice
for *Key skills policy and practice: your questions answered*.

Details of these publications are provided at the end of the glossary.

Accuracy

(a) *In Communication*

Accuracy in written communication 'includes the ability to punctuate, spell and apply the rules of grammar with accuracy at increasing levels of sophistication.' Part A of the standards prescribes the skills required at each level. At Level 1, 'one or two' spelling mistakes may be tolerated, 'as long as these are not repeated in the second document'. The same applies at Levels 2 and 3, but only 'providing meaning is still clear'. However, fitness for purpose is an important factor. (Guidance; Comm, AoN, ICT, page 29).

At all levels, learners must demonstrate the skill of proofreading, whether of hand-written or word-processed material.

(b) *In Application of Number*

The requirements for accuracy vary between the levels. For details on accuracy and checking, see Guidance; Comm, AoN, ICT: Level 1, pages 55–56; Level 2, page 60; Level 3, page 66.

Evidence of checking for accuracy is required at all levels. At Levels 1–3 'where there is a series of calculations of the same type, evidence of checking at least the first few of each type should be recorded for assessment purposes. For the remainder, accurate results should confirm that effective checking has taken place'. (Guidance; Comm, AoN, ICT, pages 55–56, 60, 66).

Adult literacy and adult numeracy
QCA defines adult literacy and adult numeracy skills as 'the ability to read, write and speak in English/Welsh and to use mathematics at a level necessary to function at work and in society in general.' (Guidance; Comm, AoN, ICT, page 4). The standards for Adult Literacy and Adult Numeracy at Levels 1 and 2 (which are for learners aged 16+) are aligned to the standards for Communication and Application of Number key skills, respectively, at these levels. The key skills tests at Levels 1 and 2 in Communication and Application of Number also act as the tests for Adult Literacy and Numeracy. Candidates who gain the Adult Literacy and Adult Numeracy certificates by passing these tests can progress to achieving the full key skills qualifications if they wish. In order to meet the full requirements of the internal assessment component of the key skills qualifications, candidates have to develop a suitable portfolio of evidence. (Guidance; Comm, AoN, ICT, page 4). See also 'Basic skills'.

Advanced
Advanced level qualifications are at Level 3 of the National Qualifications Framework and include AS levels, A-levels, A-levels in vocational subjects, BTEC and OCR Nationals, NVQs at Level 3 and key skills at Level 3.

Assessment

(a) *Formative assessment*
This is part of the feedback that a teacher provides during a learning programme to help the learner reflect on and review their progress. It is often referred to as 'assessment **for** learning' in contrast to 'assessment **of** learning' or summative assessment. It has no direct effect on the student's final result. For more information, see www.qca.org.uk/ages3-14/66.html.

(b) *Summative assessment*
This is the assessment which determines whether a candidate has achieved a qualification and, if appropriate, with what grade.

Assessor
The person responsible for the initial judgment of a candidate's performance against defined standards expressed as assessment criteria or mark schemes.

Awarding body
There are 17 awarding bodies offering key skills qualifications, including the unitary awarding bodies in England (AQA, Edexcel, OCR) WJEC in Wales and CCEA in Northern Ireland. They are listed on the QCA website www.qca.org.uk/keyskills under 'Contacts'.

Basic skills
A set of literacy and numeracy skills and associated qualifications designed for use with adult learners and available at entry level and Levels 1 and 2 of the national qualifications framework. These skills are increasingly referred to as 'Skills for Life'. QCA has developed standards for an Information and Communication Technology skill for life. See also 'Adult literacy and adult numeracy'.

Chart
For the purpose of the Application of Number key skill, it is not necessary to distinguish between 'chart' and 'graph'. QCA defines these as 'a representation of the relationship between variables such as categories and frequency data, or x and y coordinates. Examples include: pie or bar chart, histogram, pictogram, frequency polygon, frequency chart or diagram, single or multiple line graph, scatter graph with or without line of best fit'. (Guidance; Comm, AoN, ICT, page 51). See also 'Diagram'.

Complex
For the Communication key skill at Level 3, complex subjects include those that deal with abstract or sensitive issues, and lines of enquiry dependent on clear reasoning. The subject matter, as well as having a number of strands, must also be challenging to the individual candidate in terms of the ideas it presents. (Guidance; Comm, AoN, ICT, pages 43–44). At Level 3, the candidate must write two different types of documents, each one giving different information about complex subjects.

For Application of Number at Level 3, the activity from which evidence is taken must be complex, requiring candidates to consider carefully the nature and sequence of tasks when planning how to obtain and use information to suit their purpose. (Guidance; Comm, AoN, ICT, page 68).

Diagnostic assessment
In the context of key skills, diagnostic assessment is the process which helps to identify the skill areas in which students are already competent and those in which they are in need of further development. See also 'Initial assessment'.

Diagram
QCA defines a diagram as any graphical method of representation other than a chart or graph where scale is or is not a factor. (Guidance; Comm, AoN, ICT, page 51). Examples include: scale drawing, plan or workshop drawing, circuit drawing, 3D representation, flow chart, critical path or network diagram, and organisation chart. See also 'Chart'.

Entry level
Entry level qualifications recognise basic knowledge and skills and the ability to apply learning in everyday situations under direct guidance and supervision. Key skills are not available at entry level.

Exemption
Key skills candidates can claim exemption from all or part of particular key skills qualifications (most commonly the external test) for up to three years from the date of the award of specific accredited proxy qualifications. See also 'Proxy qualifications'.

Expectation
The Secretary of State wishes to see key skill programmes offered to all post-16 learners. Where learners have not already achieved A*–C grades in GCSE English, Maths or Information and Communication Technology, their programmes should lead to the formal acquisition of the relevant key skills qualification/s at Level 2. Where young people are starting on advanced level programmes with the aim of pursuing a professional or higher level qualification post-19, then institutions should support them in gaining at least one relevant key skills qualification at Level 3. (Key skills policy and practice page 7).

Extended period
For the first three key skills at Level 4, an extended period of time is about three months.

External assessment

In England and Northern Ireland, the external assessment for the first three key skills takes the form of a test which samples from the whole standard at the appropriate level. The tests are externally set, taken under supervised conditions and externally marked. (Guidance; Comm, AoN, ICT, page 14). See also 'Tests'.

For the wider key skills from September 2004, candidates will be required to give satisfactory answers to questions asked by an assessor (eg tutor, trainer, supervisor). The assessor will select these questions (the 'Part A questions') from a list supplied by the awarding body, in order to confirm candidates' knowledge and understanding of areas of Part A where the assessor cannot infer this from the portfolio of evidence. Candidates' answers should be recorded in note form, or in an audio or video format. These notes or records should be available to standards moderators/verifiers if required. Candidates will also have to include in their portfolio a completed pro forma that will help structure and order the portfolio. The blank pro forma (or similar) will be supplied by the awarding body.

Fitness for purpose
Key skills portfolio evidence should be appropriate for the wider context and purpose for which it was produced. See also 'Purposeful'.

Foundation
Foundation level qualifications are at Level 1 of the National Qualifications Framework and include GCSEs at grade D to G, Foundation GNVQs, NVQs at Level 1 and key skills at Level 1.

Funding
Brief guidance on the funding of key skills and basic skills provision in schools, colleges and work-based training can be found in *Key skills policy and practice*.

Grading
There are no grades for key skills.

Graph
See 'Chart'.

Image

Information and Communication Technology and Communication both require the use of images. Examples include models, plans, sketches, diagrams, pictures, graphs and charts. Whatever form the image takes, it must be fit for purpose and must aid understanding of the written or spoken text.

At Levels 1 and 2 of Communication, candidates must use at least one image **either** to obtain information **or** to convey information in a discussion **or** a talk **or** a document they write. At Level 3, candidates must use an image or other support material in their presentation and at least once more – either to obtain information **or** to convey information in a document they write.

At Levels 1, 2 and 3 of Information and Communication Technology, candidates must use at least one example of an image (as well as examples of text and of number).

A table of text or numbers does not count as an image for Information and Communication Technology or for Communication. (Guidance; Comm, AoN, ICT, page 27).

Independent assessment
All qualifications in the National Qualifications Framework must include a form of independent assessment or an alternative approved by the regulatory authorities (QCA, ACCAC, CCEA). For key skills, this requirement is met by external assessment (qv).

Information
Where the standard for the key skill Information and Communication Technology, at every level, refers to 'information', this can take the form of text and/or images and/or numbers.

Initial assessment
In the context of key skills, initial assessment is the process of identifying the appropriate level at which a student should start their key skills learning programme. This may vary from one skill to another. See also 'Diagnostic assessment'.

Inspection
Brief guidance on Ofsted and ALI inspection of key skills provision in schools, colleges and work-based training can be found in *Key skills policy and practice*.

Intermediate
Intermediate level qualifications are at Level 2 of the National Qualifications Framework and include GCSE at grade A*–C, Intermediate GNVQs, NVQs at Level 2 and key skills at Level 2.

Internal assessment
Internal assessment of key skills is organised by the centre. It focuses on the requirements of Part B of the standards, is based on a portfolio of evidence, is internally assessed and externally moderated. (Guidance; Comm, AoN, ICT, page 14).

Internal verification
This is the process through which an identified person in a centre ensures that the standards of assessment in the centre are consistent both across the centre and with national standards. Key skills internal verifiers do not require particular qualifications but should be competent at the level of key skill that they are verifying. The awarding bodies offer training for internal verifiers. An internal verifier is often referred to as an 'IV'.

Interpersonal skills
Candidates for the wider key skills are encouraged to develop and apply their interpersonal skills eg skills in responding appropriately to others, offering support and encouragement, communicating their ideas and needs, accepting constructive feedback, helping to resolve conflict. (Guidance; WWO, IOLP, PS, pages 20, 40).
See also 'Process skills'.

Moderation
The process through which internal assessment is monitored by an awarding body to ensure that it is valid, reliable, fair and consistent with the required national standards. Each centre will be allocated a standards moderator for key skills. This role is sometimes referred to as external verifier.

National Qualifications Framework
The National Qualifications Framework was created by the 1997 Education Act and includes all external qualifications that are accredited by QCA (ACCAC in Wales and CCEA in Northern Ireland), plus degrees and other higher-level qualifications which are regulated by the universities and QAA. A revised version of the NQF comes into effect on 1 September 2004.

Objectives
The purposes for working together that are shared by the people involved in an activity for Working with Others. They may be set by a tutor, supervisor or project leader, or by members of the group or team, depending on the level. (Guidance; WWO, IOLP, PS, pages 22, 28, 34).

Portfolio
Key skills candidates have to organise and present evidence of how they have met the requirements of the standards, usually in a portfolio. This is usually a file of hard copy but may be an electronically based storage-and-retrieval system. (Guidance; Comm, AoN, ICT, page 14).

Problem
There is a problem when there is a need to bridge a gap between a current situation and a desired situation. (Guidance; WWO, IOLP, PS, pages 60–61, 65, 71).

Process skills
All the wider key skills standards include process skills eg skills in planning, target-setting, organising and carrying out activities and reviewing progress. These skills are the main focus of assessment. (Guidance; WWO, IOLP, PS, pages 20, 40). See also 'Interpersonal skills'.

Proxy qualifications
Proxy qualifications are qualifications that have been agreed to assess the same knowledge and skills as aspects of the key skills qualifications. Because of this overlap, key skills candidates can claim exemption from all or part of particular key skills qualifications (most commonly the external test) for up to three years from the date of the award of the specific proxy qualification. For a current list of proxy qualifications, see the QCA website www.qca.org.uk/keyskills. See also 'Relaxation'.

Purposeful
Key skills evidence must be generated in the context of a task or activity that satisfies some purpose in the student's work or leisure. Evidence that is collected simply to satisfy the requirements of the key skills portfolio is not purposeful and does not meet the assessment requirement.
See also 'Fitness for purpose'.

Qualification
All six key skills are qualifications and are included in the National Qualifications Framework (qv).

Relaxation
The relaxation ruling allows Foundation and Advanced Modern Apprentices who started on or after 1 September 2001, and who have achieved a grade A*–C GCSE in English and/or Maths within five years of the date of registration for the MA framework, to complete their frameworks without being required to take the Level 2 Communication and/or Application of Number key skills qualifications. This is distinct from the use of proxy qualifications (qv).

Specification
The complete description – including mandatory and optional aspects – of the content, the assessment arrangements and the performance requirements for a qualification. In the past, this has often been referred to as a 'syllabus'.
See also 'Standards'.

Standards
From September 2004, the key skills units (specifications) will be referred to as the 'key skills standards'.

Straightforward

(a) *Straightforward subjects* and materials are those that candidates commonly meet in the context in which they are working or studying. The content is put across in a direct way so that candidates can easily identify the information they need for their task. In Communication, sentence structures are simple and candidates will be familiar with the vocabulary.

(b) *Straightforward tasks* can be broken down into easily-managed steps and involve familiar resources and situations. (Guidance; WWO, IOLP, PS, page 23).

Targets
Targets are the steps for helping to achieve personal, learning and/or career goal. Targets should be Specific, Measurable, Achievable, Realistic, and Time-bound (SMART). (Guidance; WWO, IOLP, PS, pages 41, 48).

Tests
In England and Northern Ireland, assessment of the first three key skills includes a written test (see 'External assessment'). Details can be found on the QCA website www.qca.org.uk/keyskills. There are no written tests for the wider key skills. Increasingly, tests at Levels 1 and 2 are available on-screen and on-demand. The tests for Communication and for Application of Number at Levels 1 and 2 also act as the tests for Adult Literacy and Adult Numeracy at these levels. (Guidance; Comm, AoN, ICT, page 26).

Transferable
Key skills are transferable. This means simply that, once a student has developed a skill for the purpose of one context, they should be able to identify when and how to apply the same skill for another purpose in another context.

Witness statement
A statement signed by a competent person which confirms that the candidate has completed the activity in question at the required standard. A witness statement should not be the sole form of evidence. Assessors are responsible for judging the validity of witness statements. They are most likely to be used in Communication (Guidance; Comm, AoN, ICT, pages 33, 37, 43, 49), ICT (Guidance; Comm, AoN, ICT, pages 80, 84–85) and in the wider key skills.

Note

Copies of the following publications can be ordered from:
QCA Publications
PO Box 99
Sudbury
Suffolk CO10 2SN
Tel 01787 884444
Fax 01787 312950

The key skills qualifications standards and guidance: communication, application of number, and information and communication technology (ref. QCA/04/1272; price: £10)

The key skills qualifications standards and guidance: working with others, improving own learning and performance, and problem solving (ref. QCA/04/1294; price: £10)

Copies of *Key skills policy and practice: your questions answered* can be ordered free of charge from:
Department for Education and Skills
Key Skills Policy Team
Room E3c
Moorfoot
Sheffield S1 4PQ
Tel 0114 259 3759
key.skills@dfes.gsi.gov.uk

All three publications can be downloaded from the QCA website www.qca.org.uk/keyskills.

Appendix 5

Useful addresses

ACCAC (Qualifications, Curriculum and Assessment Authority for Wales)
Castle Buildings
Womanby Street
Cardiff CF10 1SX
Tel 029 2037 5400
www.ccw.org.uk

ALI (Adult Learning Inspectorate)
Spring Place
Coventry Business Park
Herald Avenue
Coventry CV5 6UD
Tel 0870 240 7744
www.ali.gov.uk

AQA (Assessment and Qualifications Alliance)
Devas Street
Manchester M15 6EX
Tel 0161 953 1180
Publications 0161 953 1170
www.aqa.org.uk

ASDAN (Award Scheme Development and Accreditation Network)
Wainbrook House
Hudds Vale Road
St George
Bristol BS5 7HY
Tel 0117 941 1126
Publications 0117 941 1448
www.asdan.co.uk

BSA (Basic Skills Agency)
Commonwealth House
1–19 New Oxford Street
London WC1A 1NU
Tel 020 7405 4017
Publications 0870 600 2400
www.basic-skills.co.uk

CCEA (Northern Ireland Council for the Curriculum, Examinations and Assessment)
Clarendon Dock
29 Clarendon Road
Belfast BT1 3BG
Tel 028 9026 1200
Publications 028 9026 1228
www.ccea.org.uk

City & Guilds
1 Giltspur Street
London EC1A 9DD
Tel 020 7294 2468
www.city-and-guilds.co.uk

DfES (Department for Education and Skills)
Key Skills Policy Team
Room E3c
Moorfoot
Sheffield S1 4PQ
Tel 0114 259 3759
Publications 0845 602 2260
www.dfes.gov.uk/keyskills

The Duke of Edinburgh's Award Scheme
Gulliver House
Madeira Walk
Windsor
Berkshire SL4 1EU
Tel 01753 727400
www.theaward.cix.co.uk

Edexcel
One90 High Holborn
London WC1V 7BH
Tel 0870 240 9800
Publications 01623 467467
www.edexcel.org.uk

Key Skills Support Programme
(LSDA)
Regent Arcade House
19–25 Argyll Street
London W1F 7LS
Helpline 0870 872 8081
kssp@LSDA.org.uk
www.keyskillssupport.net

Key Skills Support Programme
(Learning for Work)
The Cottage Office
Eightlands Road
Dewsbury
West Yorkshire WF13 2PF
Helpline 0845 602 3386
Publications 0117 971 9583
www.keyskillssupport.net

LSC (Learning and Skills Council)
Cheylesmore House
Quinton Road
Coventry CV1 2WT
Tel 0845 019 4170
www.lsc.gov.uk

LSDA (Learning and Skills Development Agency)
Regent Arcade House
19–25 Argyll Street
London W1F 7LS
Tel 020 7297 9000
Information Services 020 7297 9144
enquiries@LSDA.org.uk
www.LSDA.org.uk

OCR (Oxford Cambridge and RSA Examinations)
Coventry Office
Westwood Way
Coventry CV4 8JQ
Tel 024 7647 0033
Publications 0870 870 6622
www.ocr.org.uk

Ofsted
Alexandra House
33 Kingsway
London WC2B 6SE
Tel 020 7421 6800
Publications 0700 263 7833
www.ofsted.gov.uk

Outward Bound Trust
Watermillock
Penrith
Cumbria CA11 0JL
Tel 0870 5134 227
www.outwardbound-uk.org.uk

The Prince's Trust
18 Park Square East
London NW1 4LH
Tel 020 7543 1234
www.princes-trust.org.uk

QCA (Qualifications and Curriculum Authority)
83 Piccadilly
London W1J 8QA
Tel 020 7509 5555
Publications 01787 884444
www.qca.org.uk/keyskills

UCAS (Universities and Colleges Admissions Service)
Rosehill
New Barn Lane
Cheltenham GL52 3LZ
Tel 01242 222444
Publications 01242 544903
www.ucas.ac.uk

Young Enterprise
Peterley House
Peterley Road
Oxford OX4 2TZ
Tel 01865 776845
www.young-enterprise.org.uk

What is the Key Skills Support Programme?

This support programme for schools and colleges with post-16 provision is funded by the DfES and the European Social Fund. The Programme provides teachers, lecturers and managers with information, advice, materials and training.

What are the priorities of the Programme?

The priorities of the Programme are to:

- raise awareness and understanding of key skills
- produce materials on teaching and learning key skills
- provide practical advice, solutions, exemplars and models
- provide training at conferences, workshops, courses and regional sessions.

The Programme is run by a consortium led by LSDA with partners including AoC, BTL e-learning, CDELL and CfBT.

What services are available?

A dedicated Key Skills Helpline is available on 0870 872 8081 every weekday to answer questions on key skills and provide information updates. The website on www.keyskillssupport.net provides news and information on key skills developments, resources, publications, consultancy support, training and conferences, contacts and links. Newsletters are published each term and sent to all maintained schools with post-16 provision and colleges in England.

There are links with the awarding bodies and with the parallel support programme for trainers in work-based learning, managed by Learning for Work (Helpline 0845 602 3386).

How can I find out more?

- You can contact the Key Skills Helpline tel 0870 872 8081
- or e-mail kssp@LSDA.org.uk
- or visit the website www.keyskillssupport.net or the student website on www.keyskills4u.com

Key Skills
SUPPORT PROGRAMME

department for
education and skills

learning and skills development agency

EUROPEAN UNION
European Social Fund