EDEXCEL FUNCTIONAL SKILLS PILOT

TEACHER'S NOTES
ICT Levels 1 and 2

Chapter 4
Using ICT-based information

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TEACHER'S NOTES

ICT Levels 1 and 2

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Draft for pilot centres

Chapter 1: Using ICT systems
Chapter 2: Safety and security
Chapter 3: Find and select information
Chapter 4: Using ICT-based information
Chapter 5: Entering, developing and combining information (part A)
Chapter 6: Entering, developing and combining information (part B)
Chapter 7: Presenting information
Chapter 8: Communicating using ICT
Chapter 9: Test preparation

How to use the Functional ICT materials

These materials have been developed to help learners acquire the skills that are outlined in the QCA Functional Skills Standards for ICT under the three skills areas of 'Use ICT systems', 'Find and select information', 'Develop, present and communicate information'.

The structure of the materials

The chapters follow the sequence of the standards, with each chapter divided into sections matching the coverage of the standard or standards indicated. The standards are given at the start of each chapter, using the wording from the official document on the teacher pages and an adapted version, more appropriate to learners' needs, on the learner pages.

This structure should not be taken as a recommended teaching framework but merely as the method deemed most appropriate to demonstrate complete coverage of the standards. It is expected that teachers will organise their teaching sessions according to the needs, level of experience and interest of their learners, and the contexts in which they are working.

It should also not be assumed that material included here will form part of the functional skills assessment: by its very nature, the assessment will cover only part of the standards.

Level differentiation

The learner's materials are for learners working at Levels 1 and 2, and the content and activities are designed to be accessible to Level 1 learners. No attempt has been made to differentiate between the two levels in the pages of the learner's materials. The teacher's notes, however, use bold text (presented in a tinted box) to identify those activities and teaching points that are intended for Level 2 learners. The basis of the design of the materials is that, as in the standards, differentiation will be as much by outcome as by activity. The other key level differentiators – complexity, familiarity, technical demand and independence – are reflected in the tasks, which are designed to show the progression that is a feature of the standards:

At Level 1, learners would be expected to:
• identify the ICT requirements needed to solve a straightforward task and apply their knowledge and understanding to produce an appropriate solution (complexity)
• apply their knowledge and skills within a non-routine but familiar context (familiarity)
• apply a range of techniques in a number of applications to produce an appropriate outcome (technical demand)
• solve problems that are essentially instructor/tutor guided, demonstrating the confidence to make informed choices and knowing when to seek guidance (independence)

At Level 2, learners would be expected to:
• analyse multi-step tasks and separate the components, identifying the relevant ICT requirements and applying their knowledge and understanding to produce an appropriate solution (complexity)
• apply their knowledge, skills and understanding within non-routine and non-familiar contexts (familiarity)
• demonstrate the application of a wide range of techniques across several applications to produce an appropriate outcome (technical demand)
• solve problems independently, overcoming challenges to produce successful outcomes (independence)

This differentiation between levels requires the teacher to provide more guidance at Level 1 than at Level 2. With Level 1 learners, for example, teachers may choose to use a simplified task to allow a learner to practise the skill within their prior experience, whereas they may choose to enhance the challenge for Level 2 learners by using a more complex task that matches the learner's experience (more specific suggestions for differentiation are contained in the teacher's notes).

The activities have been developed with this varying guidance in mind, so that later activities in each section are expected to be undertaken with less teacher support. The expectation is, though, that all learners will be engaged in the learning process through discussion and social interaction.

The elements of the chapter

The chapters follow the standards and are divided into sections broadly corresponding to the coverage of those standards. Within each section there are two main sub-sections: 'Learn the skill', which provides information and facts for discussion and exploration; 'Develop the skill', which provides activities to practise the skills, test understanding and extend knowledge. The pages of the learner materials also direct the learner to additional electronic resources in the form of 'skills demonstrations' (captivates) and 'assets'.

⟩⟩ Captivates are screen-based skills demonstrations of points made in the text, which the learner can click on for instruction or information.

◉ Assets are files of information provided or stored digitally, which may include photographs, sound clips, databases, spreadsheets, etc. These may also include material learners will need to perform the activities (e.g. tables to complete).

These resources are available on the website, at the same point where these materials were available for downloading.

A note on resources and providing a safe working environment for learners

Any suggestion for software to be used with activities is not meant to be exclusive. It is understood that different centres will have different resources, and that some centres will allow learners only limited access to the internet, will not accept downloading and will allow learners only partial control over their work-station. The resources have been developed on the understanding of variations in resources, access and control, but there are still bound to be activities that present challenges for some centres. Where possible, suggestions for alternatives have been given in the teacher's notes; teachers are expected, in any case, to adapt activities for the use of their own favourite, or personally developed, resources.

These restrictions on internet browsing, downloading, and altering machine configurations may create difficulties on functional skills courses, where the standards require learners to actively engage in such tasks. One possible technical solution to this problem is to employ **virtual machine software**, which allows an instance of an operating system (usually Windows or Linux) to be run in a virtual environment that is isolated from the real machine. Changes made in the virtual machine have no effect on the real machine and can be completely discarded when the virtual machine is closed. Alternatively, a working state can be preserved in the virtual machine by taking a 'snapshot' before closing the virtual machine.

A virtual machine can be used to safely browse the internet, download and install software, and explore machine settings, with no risk to the real machine or associated network.

The best-known virtual machine products are Microsoft Virtual PC (currently free) and VMWare Workstation.

4 Using ICT-based information

(pages 2–7 in the learner materials)

Skills area	Skill	Coverage	Unit
	Level 2 in bold	**Level 2 in bold**	
B Find and select information	**B.1** access, search for, select and use ICT-based information and evaluate its fitness for purpose	**B.1.1** access, navigate and search internet sources of information purposefully and effectively	**A** World-wide-web
		B.1.2 use appropriate search techniques **and design queries** to locate and select relevant information	**B** Search techniques
		B.1.3 use **discrimination in selecting** information from a variety of sources and evaluate its match to requirements and fitness for purpose	**C** Evaluating information

A *World-wide-web*

Use the following information as the basis for discussing the world-wide-web. Help learners to understand the vocabulary associated with browsing the internet.

The *World-Wide-Web* is a system of internet servers that hold documents formatted in a language called *HTML* (*Hyper Text Markup Language*). A program known as a browser is needed to query the web. Each browser has a large database of web pages containing all the words on all the web pages it knows about. *Search engines* look for keywords in the body of a web page but also in fields such as title, keyword and description. These fields are known as *metatags*. Web pages are indexed and added to a search engine's database using software called *spiders* or *robots*. This is done on a weekly or two-weekly basis. The search engines 'index' (record word by word) all the words in a web page, as well as those in the website title and other metatag fields.

Every website has a unique address known as a URL (Uniform Resource Locator). For further information on web addresses go to:
www.bbc.co.uk/webwise/askbruce/articles/browse/webaddresses_1.shtml

Encourage learners to work through the skills demonstrations and to ask questions on any they feel unsure about.

Talk about using the internet safely, e.g. not giving out personal information when searching websites, not opening unknown attachments, only using log-in name or email address when sending an email and, if worried, asking for help or logging off if unsure. (See Chapter 2 for further ideas.)

Activities

A4: Go through the skills demonstrations and help learners to complete the *Test me* sections.

Give the learners time to explore and browse the internet to practise skills.

Search techniques

Explain purposes and give examples of search techniques in word documents. Talk about the use of operators. When browsing the internet, practise shortening a query into relevant keywords.

Go through some search hints and talk about the suggestions. Support learners in using these hints with their searches.

Search hint	Why this is helpful
Use nouns and objects as keywords.	Words like 'why', 'how', 'and', 'run' are too variable in meaning to be useful.
Use four to eight words in a query.	Words that link closely narrows the search
Use OR to search on words.	This can increase coverage by up to 50%.
Combine keywords.	The search will be more focused.
Use quotes to denote phrases.	Finds documents where the exact phrase occurs.
Combine two or three ideas.	This narrows the search and targets it more accurately.
Put main subject first.	This helps to ensure that relevant pages are returned.

Activities

B2: Help learners improve their text searches by working through the 'Chocolate' document. The text for the file Chocolate.doc was obtained from the www.gutenberg.org website, a source of copyright-free books.

Level 2

B2: Extend the work on text searches with these two activities.
- The chapter numbers on page 3 of the document are wrong (they relate to the original print of the book). Copy the title of chapter 1 and paste it into the Find dialog. Find the page on which chapter 1 now begins. Edit the document to show the correct page number for the chapter. Repeat for each chapter in the document.
- Save the edited document with a new name.

Help learners to understand and use wildcards when searching for files.

Wildcards can be used to find words which have differences in spelling, or where the exact spelling is not known, usually ? or *. The ? wildcard is used in place of a single character. The * wildcard is used in place of a group of characters.

Further uses of wildcards:
- List files of one type only: for example, searching for ***.bmp** will list just the bitmap files.
- Use a common element in a group of files: for example, searching for **Invoice 385??.xls** will list all files with names from Invoice 38500.xls through to Invoice 38599.xls.
- Use part of a file name: for example, a search for ***Peter*.doc** will find all .doc type files with 'Peter' as part of the name.

Teachers might like to extend the work on wildcard text searches using the information on the Microsoft Word MVP FAQ site: http://word.mvps.org/FAQs/General/UsingWildcards.htm

C *Evaluating information*

Learners need to be aware of bias when they are looking for information. Talk about the differences between fact and opinion, giving examples. Discuss when the internet may *not* be the best place for information. How can learners check whether information on the web is reliable?

Useful information on evaluating web pages can be found at:
www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html
www.library.jhu.edu/researchhelp/general/evaluating/
www.support4learning.org.uk/reference/evaluating_web_sites___information.cfm

Additional information can be found at:

Britannica On-Line – Compiled by the Encyclopaedia's editors, it classifies, rates, and reviews websites. It has sections on Education, Health & Medicine, and Computers & the Internet.
www.ebig.com/

Discern – Discern is a questionnaire, similar to QUICK, developed by the University of Oxford's Division of Public Health & Primary Care.
www.discern.org.uk

Healthfinder TM – Launched in April 1997, this US government gateway aims to provide a quality guide to more than 500 consumer health information websites, including federal state and voluntary agencies, databases, online publications and support groups.
www.healthfinder.gov/

The Librarian's guide to Cyberspace for Parents and Kids – Compiled by the American Library Association, this lists sites recommended for primary age children; it also publishes its selection criteria.
www.ala.org/parentspage/greatsites/50.html

The National Association of Managers for Student Services – The main site provides information and support for students and staff in UK colleges, and has a section on evaluating websites and information.
www.namss.org.uk/evaluate.htm

National Grid for Learning – A collection of resources brought together by the UK government to help raise standards in education and to support lifelong learning.
www.ngfl.gov.uk/

Wired for Health – Provides relevant and appropriate health information for teachers and links to other sites on health issues. Also linked to the National Grid for Learning.
www.wiredforhealth.gov.uk

E-safety resources:
schools.becta.org.uk/index.php?section=is

www.becta.org.uk/page_documents/research/esafety.pdf

Information about online scams
www.oft.gov.uk/oft_at_work/consumer_initiatives/scams/

Level 2

Learners may be interested in going to the www.quick.org.uk/menu.htm website, which shows how to check information on websites. Ask learners to work through the questions in the checklist.

Ask learners to find out about the 'EU directive against fake product reviews and anonymous blog comments'.