Core Skills Framework: an introduction

Information and Communication Technology

Valid from: August 2013
Publication code: 4686

Published by the Scottish Qualifications Authority,
The Optima Building, 58 Robertson Street, Glasgow, G2 8DQ, and
Ironmills Road, Dalkeith, Midlothian, EH22 1LE

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Introduction

Core Skills enable people to put their knowledge, skills and understanding into action flexibly, adapting them to new situations. Core Skills apply to a wide range of contexts in education and training, in life, and in work. They underpin and promote the development of learning and study skills, and provide a foundation for lifelong learning and personal development.

The importance of Core Skills is widely recognised in employment and education. Lifelong learning that builds on people's Core Skills is essential if individuals are to fulfil their personal needs and meet the needs of society. In the workplace, employees at every level are increasingly expected to take responsibility for the quality of the products and services they produce or provide. Individuals who can analyse and solve problems, communicate well, use information technology, and work with others effectively, are well-equipped to assume the active, flexible and responsible roles that modern workplaces need.

A wide variety of skills and qualities are developed and used in education and training, in work and in life. Some of these are 'core' to personal development and performance.

First, there are skills for **tackling issues and problems**. These skills include being able to:

- think critically and creatively
- analyse situations and suggest courses of action
- plan and organise what is involved and carry it through to completion
- reflect on what has been done and draw conclusions for the future

Second, there are skills that are vital in enabling individuals to function effectively. **Communication**, both orally and in writing, is essential for clarifying your own thoughts, for relating to others, and for learning and working. The **numerical skills** involved in processing, interpreting, and communicating information can help you to understand, predict, and solve many types of problem. Skills in **using information and communication technology** are increasingly essential for obtaining and analysing information, for organising your ideas, and for communicating and working with others. And being able to **work with others** means having interpersonal skills that help you to co-operate with others in personal, learning and working situations to identify and achieve your shared goals.

The Core Skills

Each Core Skill, and its components, can be assessed at SCQF levels 2–6. This section gives you a brief description of each component, and describes the range of activities that its assessment will involve at the different levels.

Core Skill: Problem Solving

The three components of this skill are the stages involved in tackling issues and problems in personal, social, and work contexts. They are often used in sequence, and repeatedly. Each component can also be a focus of activity in its own right.

Component: Critical Thinking

Critical Thinking is about using analysis and reasoning to make decisions and to create or suggest ideas, courses of action, and strategies. Attainment levels range from:

- working in situations that involve a few, easily-identified factors set in familiar contexts

to:

- working in more complex situations that require a greater degree of analysis before approaches can be devised

Component: Planning and Organising

Planning and Organising is the ability to plan a task, taking account of available resources, and to manage the task to completion. Attainment levels range from:

- creating plans involving a small number of steps and using familiar resources

to:

- efficient management of a more complex plan, which may include a review of strategy and a degree of research in identifying the resources to be used to deal with difficulties

Component: Reviewing and Evaluating

Reviewing and Evaluating is the ability to reflect on and review the process of tackling issues and problems, to evaluate the outcomes, and to identify where alternative strategies might have been used. Attainment levels range from:

- identifying a strength and weakness in a strategy

to:

- identifying and gathering evaluation evidence, evaluating strategies, and making appropriate recommendations

Core Skill: Communication

Communication skills underpin almost all personal, social, learning, and working activity. They are essential in clarifying your thoughts, in interacting and conversing effectively with others, and in conveying information, feelings, and opinions.

Component: Oral Communication

Oral Communication means being able to take part in discussions and make presentations, interacting with your audience as appropriate. Attainment levels range from:

- conveying basic information and opinions through short, informal communications on familiar topics

to:

- presenting and analysing complex information and issues through more sustained discussions or presentations on complex topics, as well as listening and responding to what others say

Component: Written Communication

Written Communication is the ability to write and respond to writing (reading). Attainment levels range from:

- dealing with brief communications expressing a few basic ideas or pieces of information about familiar topics

to:

- dealing with communications which analyse and explore complex information and issues

Core Skill: Numeracy

To cope with the demands of everyday life, including work and study, people need to be comfortable with numbers and with graphs, symbols, diagrams, and calculators. The skills needed for this involved interpreting, processing, and communicating, quantifiable and spatial information.

Component: Using Graphical Information

This is the ability to interpret and communicate quantifiable information that is given in writing, diagrams, or pictures. Attainment levels range from:

- working in familiar contexts with simple, specified tables, graphs and shapes

to:

- working in more abstract contexts and with more complex graphical information which may require some analysis, and where decisions have to be made on effective ways to communicate the information

Component: Using Number

This is the ability to apply numerical and other relevant mathematical and statistical skills. Attainment levels range from:

- working confidently with basic numbers in everyday contexts

to:

- working confidently with more complex numerical concepts and techniques in more abstract contexts

Core Skill: Information and Communication Technology

Information and Communication Technology is concerned with the electronic collection, organisation, analysis, presentation, and communication of information. It encompasses all media types and formats as well as all relevant tools.

The Core Skill focuses on the ability to use information and communication technology to process information in a variety of ways which will be necessary for further learning in work and in the home. It is not about developing IT specialists who will act as first-line support for others or install specialist systems.

This is a rapidly progressing area. While the standards and examples given provide a snapshot for 2013, the framework has been designed to be flexible enough to accommodate any further digital skills deemed essential for everyday use.

Component: Accessing Information

This is the ability to use information and communication technology to support a range of information-accessing activities. Attainment levels range from:

- accessing basic information and communication technology to perform simple processing of familiar data and to select information from a local database or a simple internet search

to:

- making effective, responsible, and secure use of information and communication technology, using application software in a context requiring some analysis and evaluation, and retrieving information from a range of sources

Component: Providing/Creating Information

This is the ability to use information and communication technology to provide, create, and process information. Attainment levels range from:

- using familiar application software to carry out very simple processing tasks and providing/creating very simple information technology

to:

- using a range of information and communication technology in unfamiliar contexts, observing security procedures and the needs of other users. Evaluating and sharing information

Core Skill: Working with Others

The fact that Working with Others is a Core Skill emphasises the importance of co-operation and teamwork in social, learning, and working situations. Working with Others has two components: Working Co-operatively with Others, and Reviewing Co-operative Contribution.

While achieving a shared goal is the main focus, co-operation with others should be developed through all stages of any collaboration.

Reviewing your own contribution and learning through reflection also has a wider application to personal development.

Component: Working Co-operatively with Others

This is about using interpersonal skills appropriately, to recognise and value the roles of other people, taking responsibility for your own contribution, and supporting co-operative working in appropriate ways. Attainment levels range from:

- identifying, with support, your own role and the roles of other people, and helping to achieve a shared goal

to:

- analysing the roles and behaviour of others and adapting your own behaviour to deal with the complexity of changing and challenging dynamics

Component: Reviewing Co-operative Contribution

This is the ability to discuss the process of working co-operatively with other people, reflecting on and reviewing the collaboration. This might include commenting or resolving issues and handling other people's behaviour.

Learners should evaluate the outcomes, identify the value of their own contribution, and reflect on any personal learning and development that may be needed to enhance their contribution to future collaborative work.

Attainment levels range from:

- identifying a strength and weakness in the way you helped achieve things together, suggesting how your own contribution could be strengthened in the future

to:

- identifying and gathering evidence, critically evaluating your own contribution, and making appropriate recommendations about future learning and contributions

Core Skills certification

Since 1999, candidates for SQA qualifications have been able to show what they have achieved in Core Skills.

Candidates with Standard Grades will already have a Core Skills profile. Also, many candidates undertaking key National Courses, supporting Curriculum for Excellence, should get a Core Skills profile.The Core Skills Profile is reviewed each time they achieve a new SQA qualification. There is no need for candidates to achieve all Core Skills, or to complete a Group Award. Their profile will report their Core Skills achievements by component — so Core Skills certification is available to those who do not complete a whole Core Skill.

With increasing emphasis being placed on Core Skills in education (including higher education), training, and employment, it is important that candidates are given the opportunity to be credited for what they can do.

Candidates can achieve Core Skills through:

- any Unit, Course or Award which has been audited against the Core Skills framework and validated as fully covering one or more Core Skills component
- named Core Skills Units

In the former case, certification will be automatic. Candidates will not need to enter for the Core Skills component — the entry on the Core Skills profile will be generated automatically by SQA when they achieve the relevant Unit, Course or Award.

Named Core Skills Units are available for use by schools, colleges, higher education institutions, and training providers, and in the workplace.

The purpose of this document

The remainder of this document provides detailed technical specifications for each Core Skill for use by those designing programmes of learning and teaching in Scotland. This document should support practitioners in the teaching and learning of Core Skills, this does not always have to be tied to certification. It can also be used for auditing Units, Courses, Awards, assessment programmes, and Group Awards, and by SQA staff.

The document gives definitions of the Core Skills at each level and the specific skills in each. It also gives details of how the skills could be applied by the candidate. The further information section should be interpreted in the context of the Unit/Course. The section is not a list of mandatory requirements. It gives examples of how a candidate can show the development of the specific skills.

Accessing Information SCQF 2

General skill

Use ICT within very simple tasks with assistance if required to access information.

Specific skills

The candidate must:

- use a familiar application software to carry out very simple accessing tasks
- carry out very simple searches for information using ICT

Further information

The candidate can show this through:

- recognising and using features of an ICT interface — eg icons, menus, option buttons
- loading and accessing a file from hard disk or removable media or online storage — eg internal/external drive, memory stick/card, web/cloud-based storage, mobile phone
- saving a file
- retrieving easily accessed information for a given purpose
- finding information in a file using a single criteria — eg a key term, field, file name
- using (if appropriate) a log-in name, password and/or PIN

Examples of tasks might include:

- using a cash-point machine to dispense cash or a statement
- using a touch-screen to locate travel information
- carrying out a very simple internet search
- showing others pictures from a mobile/smart phone
- accessing voicemail message on mobile device

Accessing Information SCQF 3

General skill

Use ICT within simple tasks, to access information.

Specific skills

The candidate must:

- use appropriate application software for simple accessing tasks
- carry out simple searches for information using ICT

Further information

The candidate can show this through:

- use menus to choose operations eg icons, apps, option buttons
- save a file to the hard drive from removable media/online storage
- name and save a file
- locate information using one criterion. Information may be textual, numerical, graphical, video, audio
- observe and apply common ICT security measures — eg by keeping own log-in and password secure, and recognising online security

Examples of tasks might include:

- carrying out a simple internet search for local information
- searching a customer database for a specific name
- logging-on and operating e-mail at work or at home or on the move
- accessing an existing online account in order to carry out a transaction
- sorting and organising music files (MP3s) on a computing device

Accessing Information SCQF 4

General skill

Use ICT effectively to access information within a range of straightforward tasks.

Specific skills

The candidate must:

- make effective use of a computing system
- carry out straightforward searches, or one sustained search, for information using appropriate ict
- select the relevant information from these searches

Further information

The candidate can show this through:

- find and launch application software relevant to given tasks
- use straightforward techniques to assist in a search — eg search within results, quotation marks, 'find' tools
- carry out straightforward searches for information, using a range of sources/criteria (eg internet, intranet, local files) or a sustained search using one source and a range of criteria
- select relevant information from searches observe and apply common ICT security practices when handling information and act accordingly

Examples of tasks might include:

- using the internet to find information to plan a community group trip
- searching an e-mail account for a specific attachment
- finding an online banking service that meets needs
- using a search engine to find and select a soundtrack for a project
- entering information on GPS/online maps to locate destination

Accessing Information SCQF 5

General skill

Use ICT independently, effectively, and responsibly to access information within a range of tasks.

Specific skills

The candidate must:

- Make effective, independent, and responsible use of ICT
- Carry out searches for information using a range of digital sources
- Evaluate results of a search strategy

Further information

The candidate can show this through:

- finding and launching appropriate application software to perform given tasks
- carrying out searches for information, within parameters, requiring some decisions about an effective strategy — eg taking account of time, cost, effective filtering of information
- searching for information within given parameters — eg date, format, level, filtering
- evaluating information
- keeping data secure — eg by using passwords, using malicious software protection, backing-up data, using encryption or other appropriate methods

Information obtained through the search strategy should be handled responsibly, eg sources should be referenced; content may need to be rejected, edited or paraphrased.

Examples of tasks might include:

- using a database and creating multiple filters to select information for use in a mail-shot
- searching a complex website for an unfamiliar product or service — eg searching for mobile phone tariffs
- using online searches to inform a school project on a given topic

Accessing Information SCQF 6

General skill

Use ICT independently to carry out complex searches across a range of tasks.

Specific skills

The candidate must:

- use a range of ICT devices, observing security procedures
- carry out complex searches for information
- evaluate reliability of information

Further information

The candidate can show this through:

- selecting and using appropriate application software to perform a range of tasks
- keeping data secure and well managed — eg by using passwords, using malicious software protection , backing-up data, maintaining personal file area, encryption
- carrying out complex searches for information within given parameters — eg date, format, level, relevance
- evaluating fitness for purpose of information obtained through search strategy

Complex searches will involve: choice of sources; order of searching; choice of keywords; use of search logic; application of search parameters; menu and open choice searching.
Information obtained through the search strategy should be handled responsibly, eg sources should be referenced; content may need to be rejected, edited or paraphrased.

Examples of tasks might include:

- searching multiple external and internal databases, which are unfamiliar and not uniform, to gather names and addresses of specific company directors to create a mailing list

Providing/Creating Information SCQF 2

General skill

Use ICT to perform very simple processing tasks with assistance if required.

Specific skills

The candidate must:

- carry out very simple tasks using ICT
- use a familiar application software to carry out very simple processing tasks
- provide/create very simple outputs using ICT

Further information

The candidate can show this through:

- recognising and using features of an ICT interface — eg icons, menus, option buttons, applications
- loading and accessing a file from hard disk, online storage or removable media — eg internal/external hard drive, memory stick /card, web/cloud-based storage
- saving a file
- entering, editing and outputting data in a given format in a software application
- presenting information in an appropriate mode — eg on screen display, print out, play digital file

When extracting and presenting information from a data source, candidates may use either a local or remote source that is familiar to them. The data source may be identified for candidates and may be one that they have helped to construct, such as a very simple database or help text. Information may be textual, numerical, graphical or audio.

Examples of tasks might include:

- using a touch-screen to locate travel information and purchasing a ticket
- carrying out a very simple web search and printing out the results
- designing a birthday card for a friend and printing it out
- putting the results of a science experiment into an electronic table
- using an online reservation system to book a table at a restaurant

Providing/Creating Information SCQF 3

General skill

Use ICT to perform simple processing tasks.

Specific skills

The candidate must:

- carry out simple processing tasks using ICT
- select and use appropriate application software to enter, locate, and process simple information

Further information

The candidate can show this through:

- using menus to choose operations
- copying/ transferring files to the hard drive from removable media/online storage, or vice versa
- copying/transferring and deleting files and folders
- naming and saving a file
- entering, editing, and outputting data using appropriate applications software
- presenting information in an appropriate mode — eg on screen display, print out, play digital file

When extracting and presenting information from a data source, candidates may use either a local or remote source that is familiar to them. The data source may be identified for candidates and may be one that they have helped to construct, such as a simple database or help text. Information may be textual, numerical, graphical, audio, etc.

Examples of tasks might include:

- word processing a formal letter using a template
- searching a customer database for a specific name and printing off the information
- loading a piece of music to a removable device — ie a smart phone for personal use
- using a self-service checkout to complete purchase transactions

Providing/Creating Information SCQF 4

General skill

Use ICT effectively to perform a range of straightforward processing tasks.

Specific skills

The candidate must:

- make effective use of a computing system to process information
- carry out a range of straightforward tasks using familiar application software
- present information in a straightforward and appropriate format

Further information

The candidate can show this through:

- finding and using applications relevant to given tasks
- using straightforward computing utilities — eg file manager, print manager, control panels, settings
- naming and organising folders and sub-folders
- presenting information in an appropriate mode — eg on screen display, print out, play digital file

Work effectively — eg working to a reasonable timescale to meet the desired purpose and level of accuracy. When searching, extracting and presenting information from an electronic data source, candidates may use either a local or remote source — eg local database, CD-ROM, website. The data source should either be familiar to the candidate, or have a structure for searching which offers straightforward choices. Information may be textual, numerical, graphical, audio, etc.

Examples of tasks might include:

- setting up folders and sub-folders to store own assessments
- using the internet to find information to plan a community group trip and producing a poster
- calculating the cost of a children's party using spreadsheet software
- customising a PC desktop or mobile phone screen or tablet
- uploading and sharing of file on online forum

Providing/Creating Information SCQF 5

General skill

Use ICT independently, effectively, and responsibly to carry out a range of processing tasks.

Specific skills

The candidate must:

- make effective, independent, and responsible use of ICT
- carry out a range of processing tasks using ICT
- locate and integrate data from a range of sources
- evaluate information

Further information

The candidate can show this through:

- selecting and launching appropriate application software to perform tasks
- keeping data secure — eg by using passwords, using malicious software protection, backing-up data, encryption
- presenting information in an appropriate mode — eg on screen display, print out, play digital file
- evaluating information using criteria — eg source, currency, format, relevance

Effective and responsible use of hardware devices and software applications means for example, demonstrating due attention to other users. When extracting and presenting information from an electronic data source, candidates may use either local or remote data sources — eg CD-ROM/websites. The data source should require several straightforward choices, or have a less obvious structure, or more complex inter-relationships. Information may be textual, numerical, graphical, audio, etc. Candidates should be discerning in their choice of websites, having regard for factors such as reliability, currency, authority, bias, etc. When drawing on information sourced using ICT candidates should ensure appropriate and ethical use of that information.

Examples of tasks might include:

- preparing a presentation using appropriate software applications
- using a database to carry out an electronic mail-shot of a standard e-mail to clients
- selecting appropriate websites/data sources to research a current issue and presenting findings in an appropriate format including referencing
- creating a presentation with embedded hyperlinks acknowledging their source

Providing/Creating Information SCQF 6

General skill

Use ICT independently to carry out a range of processing tasks.

Specific skills

The candidate must:

- use a range of ICT devices, observing security procedures troubleshoot simple hardware or software problems
- make selective use of ICT
- evaluate information
- present findings in an appropriate format

Further information on the specific skills

The candidate can show this through:

- selecting and launching appropriate application software to perform complex tasks
- keeping data secure and well managed — eg by using passwords, using malicious software protection, backing-up data, maintaining personal file area, encryption, etc
- presenting information in an appropriate mode — eg on screen display, print out, play digital file
- evaluating information against chosen criteria
- using information ethically – eg referencing sources

Effective and responsible use of hardware devices and software applications, demonstrating due attention to other users. They should be aware of common hardware and software problems.

When extracting and presenting information from an electronic data source, candidates may use either local or remote data sources — eg local database, CD-ROM/websites. The data source should require several straightforward choices, or have a less obvious structure, or more complex inter-relationships. Information may be textual, numerical, graphical, audio, etc. Candidates should be discerning in their choice of websites/data sources, having regard for factors such as reliability, currency, authority, bias. When drawing on information sourced using ICT candidates should ensure appropriate and ethical use of that information.

Examples of tasks might include:

- using a software package to analyse the results of a survey
- calculating the increase in running costs of a small organisation in the light of salary increases
- using a software package to model alternative layouts of a workroom
- recording a video on a mobile device — eg a smart phone or tablet and uploading to video streaming services (eg YouTube) observing ethical practices (eg obtaining consent) and following security guidelines