Teaching ICT at Key Stage 4

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Key Stage 4 is defined as the education of pupils in years 10 and 11 (aged 14 - 16 years) and is characterised by having a small range of compulsory subjects of the National Curriculum and pupils being given choices from a limited number of options. Most subjects are taught through courses that are summatively assessed by examination and/or coursework. The courses, examinations and awards are validated by the Qualifications and Curriculum Authority (QCA) and are structured within the National Qualifications Framework (NQF).

The 14-19 Agenda is having a significant influence upon the nature of the curriculum in many schools. There is also the influence of the introduction of Functional Skills in literacy, numeracy and ICT. The National Curriculum can be provided through activities taking place across the curriculum (ICTAC).

The nature of pupils' experience at key stage 4 is consequently varied within and between schools. Consequently, trainees may experience a range of provision (or none at all!) at key stage 4.

Good starting points:

14-19 Strategy http://www.dcsf.gov.uk/14-19

Functional Skills http://www.qca.org.uk/qca_6062.aspx

ICTAC
http://nationalstrategies.standards.dcsf.gov.uk/secondary/keystage3/all/respub/ictac

National Curriculum ICT http://curriculum.qca.org.uk/key-stages-3-and-4

National Qualifications Framework
http://www.qca.org.uk/libraryAssets/media/qca-06-2298-nqf-web.pdf

QCA http://www.qca.org.uk

QCF http://www.qca.org.uk/qca_8150.aspx

TeacherNet http://publications.teachernet.gov.uk

The following pages include:

Popular examinations and qualifications in ICT

Other qualifications and awards

The National Curriculum for ICT

Examinations and qualifications in ICT

Trainees maybe expected to contribute to lessons and modules of work leading to the following qualifications:

- GCSE in ICT and Applied ICT
- GNVQ
- DiDA, CiDA, AiDA (Digital Applications)
- National Certificates (OCR)
- NVQ
- Functional Skills
- Other qualifications in ICT at key stage 4

Details of courses and qualifications are available at the QCA Qualifications website and the Examination Board websites (see below - awarding bodies)

There is a very useful glossary of terms at http://www.direct.gov.uk/en/EducationAndLearning/QualificationsExplained

The following summary lists popular options:

GCSE ICT (Short Course - recognised as half a full GCSE)
GCSE ICT (Full Course - recognised as a full GCSE

Specification requirements:

- Apply knowledge skills and understanding of ICT to a range of situations
- Analyse, design, implement, test, evaluate and document ICT systems for use by others and develop understanding of the wider applications and effects of ICT.
- Reflect critically on the way they and others use ICT
- Discuss and review the impact of ICT applications in the wider world

- Consider the social, economic, political, legal, ethical and moral issues and security needs for data which surround the increasing use of ICT

GCSE in Applied ICT (Double Award)

Specification requirements:

- Capability in applying ICT purposefully and effectively in vocational contexts
- Ability to work independently to analyse need and to design, implement, test, evaluate and document ICT systems for use by others in vocational contexts
- Applied knowledge and understanding of the role and significance of ICT systems and methods in business, industry, the public sector and society
- Ability to reflect critically on their own use of ICT and on the way other individuals and organisations use ICT, including the social, economic, political, legal, ethical, moral and environmental issues and security needs for information.

OCR Nationals

The OCR Nationals are an exam-free alternative to GCSEs aiming for a more engaging, practical approach to learning and assessment. They are presented at Level 1, 2 and 3 and there is a pathway of study through a number of vocational areas including ICT. The OCR Level 1 Nationals are aimed primarily at 14-16 year olds and include a range of ICT themes and generic activities in the areas of team working, career planning, communication and problem solving.

At level 2 they are structured to enable schools to offer the GCSE equivalent of 1, 2, 3 or 4 passes at A*-C with a suggested guided learning time (teacher-led classroom activity) of 90 hours per GCSE equivalent.

- National First Award 1 GCSE (A* - C)
- National Award 2 GCSEs (A* - C)
- National First Certificate 3 GCSEs (A* - C)
- National Certificate 4 GCSEs (A* - C)

The level 3 awards are presented as Certificate, Diploma and Extended Diploma and are equivalent to 1, 2 or 3 A levels respectively with an indicative "guided learning hours" of 360 per A level equivalent.

GNVQ – alternatives and successors

GNVQ Part One last award 2004 and superseded with revision by Applied GCSE (double award)

ICT GNVQ – removed from 2007

Post-16 VCE redesigned as GCE in Applied ICT (from 2005)

Digital Applications

From 2005 the GNVQ equivalent awards are in Digital Applications provided by Edexcel with 3 options (outlined below) AiDA, CiDA and DiDA.

DiDA was produced as a replacement for GNVQ ICT. The majority of the students who took GNVQ ICT were aged 14-16 with most completing the course over two years in Years 10 and 11 or in a growing number of cases where schools move Key Stage 4 teaching into Year 9, over three years. The Diploma award (DiDA) has 4 GCSE sized units (equivalent to a GCSE both in terms of worth and in the amount of time and resources it needs). It is normal for a GCSE to be given about 10% of curriculum time (approximately two hours a week) in Years 10 and 11. Unit 1 covers material that is generic to all units such as project planning, e-portfolio building, and prototyping and is compulsory as all other units build upon it. On successful completion of that unit students can claim the Award in Digital Applications (1 GCSE) and then can "top up" their portfolios to achieve the larger qualifications. Students do not have to have to have passed Unit 1 before moving on and subsequent units can be studied in any order. The Certificate CiDA (2 GCSEs) is Unit 1 plus one other unit requiring 3 to 4 hours a week over 2 years. The Diploma DiDA (4 GCSEs) is Unit 1 plus three other units requiring 5-6 hours a week over 2 years or 12 hours a week for one year.

Post-16 Opportunities in ICT related subjects

Between 2003 and 2005 enrolments for the full course GCSE ICT and the short course GCSE increased by nearly a fifth with female candidates outnumbering male candidates on the short courses. However, in post-16 education the numbers of students electing to follow courses for GCE A and AS in ICT and in Computing continue to fall. This fall is particularly noticeable in GCE Computing (27% decrease over 2 years). The pass rates (candidates gaining A–E) rose by 1.1 per cent for A level ICT and 2 per cent for A level Computing from between 2003–05 figures. (This contrasts with the falling pass rate in the GCSE courses.)

QCA is responsible for the AS and A level subject criteria that set out the knowledge, understanding, skills and assessment objectives common to all AS and A level specifications in a given subject. They provide the framework within which the awarding body creates the detail of the specification. These subject criteria are intended to help ensure consistent and comparable standards in the same subject across the awarding bodies.

Awarding Bodies

The organisations that can provide examinations and qualifications are called "awarding bodies".

AQA (Assessment and Qualifications Alliance) http://www.aqa.org.uk

Edexcel Foundation http://www.edexcel.org.uk

OCR (Oxford, Cambridge and RSA Examinations)
http://www.ocr.org.uk

WJEC (Welsh Joint Education Committee) http://www.wjec.co.uk

CCEA (Council for the Curriculum, Examinations and Assessment)
http://www.ccea.org.uk

Joint Council for Qualifications http://www.jcq.org.uk

Vendor Awards

Microsoft, Cisco and Macromedia, for example, provide a range of user qualifications. They are not standalone within National Qualifications Framework but because they are being used by many schools are seen to be an acceptable assessments and qualifications. They can be integrated with other awards so adding extra value to the students' examination portfolio, perhaps meeting local needs.

British Computer Society

BCS IT User Certificate Level 2 (inc ECDL) http://www.bcsituser.org

The BCS IT User Certificate is a level 2 qualification that incorporates the European Computer Driving Licence (ECDL) qualification with the addition of an eighth module. It maps to IT Key Skills Level 2 Information and courseware written specifically for educators and students and can be found at http://www.educatorsecdl.com

Business & Technology Education Council (BTEC)

BTEC Intermediate Award in ICT
http://www.london-learning.com/section/prod_online_award_in_itc.htm

This interactive online course allows students and adults to learn at their own pace how to correctly apply skills in Microsoft Office applications in an education context.

The BTEC Intermediate Award in ICT (online) is designed particularly to meet the needs of senior school pupils age 13-14 in International and Independent Schools and Colleges. The interactive course equips individuals with the knowledge, understanding and practical skills required for future success in advanced secondary education, future

employment, or for entry to a BTEC National or A/AS level in Information Technology or related title.

International Baccalaureate Organization (IBO) http://www.ibo.org

The International Baccalaureate Organization Diploma Programme, created in 1968, is a pre-university course of study that leads to examinations. It is designed for secondary school students aged 16 to 19. In December 2003 QCA published a report comparing standards in A levels with the International Baccalaureate (IB). (Report on Comparability between GCE and International Baccalaureate Examinations). The findings 'broadly, were that A level and IB examinations were comparable in the demands they placed on candidates at the level of the individual subject.
http://www.qca.org.uk/2586_6368.html

Federation of Awarding Bodies (FAB) http://www.awarding.org.uk

Federation of Awarding Bodies is a membership body representing organisations that award vocational qualifications in the UK. They aim to provide a vocational qualification system that meets the differing needs of candidates, employers, education and training providers.

National Curriculum for ICT

This section contains an outline of the National Curriculum for ICT at key stage 4. It was first published by QCA in 2007 and comes into force in schools from September 2008. The claim is that the new National Curriculum will provide:

- Greater flexibility and coherence
- New focus on aims and skills
- Greater personalisation through assessment and qualifications
- Greater coherence through a common structure across all subjects

Greater flexibility and coherence is achieved through tailoring learning to the learners' needs by having less prescribed subject content. Pupils will still be taught essential subject knowledge but the new curriculum balances subject knowledge with the key concepts and processes that underlie the discipline of each subject.

The revised programmes of study for all subjects share a common format which includes:

- an importance statement – why the subject matters.
- key concepts – identifies the big ideas that underpin the subject
- key processes – identifies the essential skills of the subject
- range and content – outlines the breadth of subject matter

The curriculum is described in terms of knowledge, concepts and skills. A further section identifies opportunities to enhance and enrich learning, including making links to the wider curriculum such as enterprise, creativity, and cultural understanding and diversity.

What has changed and why is summarised in the document http://curriculum.qca.org.uk/uploads/overview_doc_tcm8-1839.pdf

The complete programme of study for ICT key stage 4 is available from http://curriculum.qca.org.uk/uploads/QCA-07-3336-p_ICT_KS4_tcm8-401.pdf

The importance of information and communication technology is...

The increasing use of technology in all aspects of society makes confident, creative and productive use of ICT an essential skill for life. ICT capability encompasses not only the mastery of technical skills and techniques, but also the understanding to apply these skills purposefully, safely and responsibly in learning, everyday life and employment. ICT capability is fundamental to participation and engagement in modern society.

ICT can be used to find, develop, analyse and present information, as well as to model situations and solve problems. ICT enables rapid access to ideas and experiences from a wide range of people, communities and cultures, and allows pupils to collaborate and exchange information on a wide scale. ICT acts as a powerful force for change in society and citizens should have an understanding of the social, ethical, legal and economic implications of its use, including how to use ICT safely and responsibly. Increased capability in the use of ICT supports initiative and independent learning, as pupils are able to make informed judgements about when and where to use ICT to enhance their learning and the quality of their work.

References

14-19 Strategy http://www.dcsf.gov.uk/14-19

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Joint Council for Qualifications http://www.jcq.org.uk

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