Information and communication technology at Key Stage 4

Guidance for schools

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Welsh Assembly Government

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Audience

Teachers, headteachers and governing bodies of maintained schools in Wales; all funded non-maintained settings; colleges and other learning providers who work with 14 to 19-year-olds in Wales; local authorities; tutors in initial teacher training; and others with an interest in continuing professional development.

Overview

This document provides guidance about the entitlement of all learners aged 14–16 to develop and apply their information and communication technology skills and, where appropriate, have their achievements recognised by an accredited qualification. It includes suggestions for how this entitlement can be provided in a manageable way for schools.

Action required

To review options at Key Stage 4 for learners starting Year 10 in September 2010.

Further information

Enquiries about this guidance should be directed to:
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Can be obtained from:
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0870 242 3206 (Welsh medium)
Fax: 01767 375920
e-mail: dcells1@prolog.uk.com

Or by visiting the Welsh Assembly Government's website www.wales.gov.uk/educationandskills

Related documents

Skills framework for 3 to 19-year-olds in Wales; Essential Skills Wales standards for ICT; awarding body specifications for ICT qualifications

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Introduction

Learning Pathways 14–19 aims to ensure that all young people receive the right kind of learning provision to meet their needs and aspirations. It sets out to provide 'individually tailored learning pathways that meet learners' needs' at all ability levels, and to provide 'richer opportunities and experiences which will help learners develop the wider skills they need for life and work'.

One aspect of achieving those aims is the provision of appropriate courses and qualifications at 14–16 (Key Stage 4) that allow learners to develop and apply their ICT skills and have those skills recognised by an accredited qualification.

Many schools already offer a range of ICT courses and a high proportion of learners gain an ICT qualification during Key Stage 4. This guidance is intended to help schools ensure all learners are given the opportunity to develop and apply their ICT skills and have those skills recognised by a suitable external qualification during Key Stage 4.

The importance of ICT

The growing importance of ICT skills is well documented. The CBI report *Working on the Three R*s recognises '. . . the steadily growing significance of IT in so many aspects of working life'. The *Leitch Review of Skills Final Report: Prosperity for all in the global economy – world class skills* acknowledges 'Skills that were once seen as high level are increasingly seen as basic skills. The ability to use a computer is one of the most visible and widely used generic skills. The past few decades have seen a rapid expansion in the need for IT skills across all occupations and sectors'. The *Digital Britain Final Report* recognises that ICT skills are not just for work, stating that 'In an increasingly ICT-mediated society, digital life skills underpin both employability and social inclusion'.

The Report to the Welsh Assembly Government, *Review of the school curriculum and assessment arrangements 5–16* (ACCAC, 2004), formed the basis of the revised curriculum which was implemented from 2008 in schools in Wales. The report followed an extensive programme of monitoring and review of the school curriculum and assessment arrangements.

A key message in the report was the importance of developing a learner-centred, skills-focussed curriculum, relevant to the twenty-first century and inclusive of all learners. At Key Stage 4, the message was that the curriculum should ' . . . place more emphasis on the needs of the learner in developing skills essential for life, for work and for further learning'.

The review showed that schools felt the statutory curriculum had an important part to play in the development of ICT skills. Teachers felt that adding an entitlement to ICT at Key Stage 4 would help ensure that learners could develop and apply their ICT skills up to age 16. It would also be consistent with the inclusion of ICT as a key skill in Learning Pathways 14–19 and the Core of the Welsh Baccalaureate Qualification (WBQ).

As a consequence, the report recommended that schools should provide an opportunity for all learners to develop and apply their ICT skills during 14–16, and, where appropriate, for learners to have those skills recognised during Key Stage 4 by an accredited qualification.

Ongoing dialogue since 2004 has emphasised the value of the broad range of ICT qualifications available, including awarding body-specific qualifications such as DiDA, OCR Nationals, CLAiT and ECDL. Other developments in Wales will see Key Skills replaced by Essential Skills Wales (ESW) from 2010. The Credit and Qualifications Framework for Wales will allow comparison of achievements from different activities and recognition of full and partial completion of qualifications. This guide is therefore based on the broad premise that learners should be entitled to develop and apply their ICT skills 14–16 and have these skills recognised during Key Stage 4 by a range of accredited qualifications. Schools should have the flexibility to determine which qualification is the most appropriate for individual learners.

The curriculum in Wales

The Welsh Assembly Government recognises the importance of ICT skills to every learner in Wales and the potential for ICT to enhance learning and achievement across the curriculum.

We want all learners in Wales to have the opportunity to develop their ICT skills. The revised curriculum in Wales is designed to develop learners' ICT skills to high levels and provide all learners with opportunities to develop and use those skills across the curriculum. The significance of ICT skills is reflected in the place these skills have within the curriculum.

- ICT skills are a key part of the *Skills framework for 3 to 19-year-olds in Wales.*
- Both the Foundation Phase (for 3 to 7-year-olds) and national curriculum (for 7 to 14-year-olds) include requirements for learners to develop and apply their ICT skills in ways that are holistic and integral across the curriculum.
- ICT skills are a key part of the Essential Skills Wales suite.
- For 14 to 19-year-olds, the Welsh Baccalaureate Qualification (WBQ) Core requirements include ICT skills.

What does entitlement mean in this context?

Entitlement is about:

- empowering learners for the future (for study, employment and as citizens in a digital age)
- learners having the opportunity to develop and apply their ICT skills during Key Stage 4
- schools having the flexibility to respond to individual learners' needs and interests in a manageable way
- learners following well-organised courses (timetabled or cross-curricular) with suitable resources (human as well as equipment)
- recognising and celebrating learners' achievements.

Entitlement is **not** about:

- restricting choices for schools or learners
- all Key Stage 4 learners in a school having to follow the same course

- implying a particular qualification is more appropriate than another for all learners
- reducing the time available for ICT to individual learners so that a minimum entitlement can be extended to all
- all learners having to follow a timetabled course of study for ICT during Key Stage 4.

It is important to note that in this context learners' entitlement to develop and apply their ICT skills relates specifically to Key Stage 4. Some schools enter learners for an accredited ICT qualification at the end of Key Stage 3. Providing the requirements of national curriculum ICT are met throughout Key Stage 3, schools have the flexibility to do this. However, an ICT qualification at the end of Key Stage 3 should not be seen as an end to a school's responsibility for developing ICT skills during Key Stage 4 and beyond.

Why now?

ICT is a rapidly changing subject area. This is reflected in recent developments to ensure learners in Wales have access to ICT courses and qualifications that are fit for the twenty-first century.

- The revised curriculum includes an amended Order for ICT with an emphasis on the development of skills.
- The Skills framework provides guidance about continuity and progression in ICT for learners 3–19 and recognises the importance of ICT across the curriculum.
- Learners starting Key Stage 4 in September 2010 will be the first to have followed the revised programme of study for ICT at Key Stage 3 (since September 2008).
- Revised specifications for GCSE ICT will be offered from September 2010.
- Essential Skills Wales qualifications will be offered from September 2010.

There are also broader issues to consider, including:

- the rapid increase in out-of-school ICT skills/experiences for many learners and the need for schools to take account of and build upon these
- the growing importance of media literacy to access, understand and create communications in everyday life

- the growing importance of e-safety, which cannot be achieved by technological solutions alone. There is an increasing need to promote the safe and responsible use of ICT to children and young people.

Which qualifications?

The importance of schools having the flexibility to tailor provision to individual learners' needs and interests cannot be overemphasised. This guide is written on the premise that qualifications between Entry 1 and Level 3 on the National Qualifications Framework address the needs of most Key Stage 4 learners. It is for schools to decide which is the most appropriate qualification/specification for individual learners.

National Qualifications Framework	Typical Key Stage 4 qualifications**
Level 3	AS Level
Level 2	GCSE C to A*, Essential Skills Wales Level 2***, NVQ 2
Level 1	GCSE G to D, Essential Skills Wales Level 1***, NVQ 1
Entry 3	Entry Level, Essential Skills Wales Entry Level 3***
Entry 2	Entry Level, Essential Skills Wales Entry Level 2***
Entry 1	Entry Level, Essential Skills Wales Entry Level 1***

** In addition to the generic qualifications listed, individual awarding bodies offer a range of specific ICT qualifications, some of which are shown in the appendix (page 24).

*** Essential Skills Wales ICT qualifications replace Key Skills ICT qualifications in Wales from 2010.

Key elements of successful provision

Although schools across Wales vary in terms of size, geographical location, resources and the communities they serve, there are key elements to successful ICT provision which apply to all.

- There is a commitment to the development of ICT skills across all staff, led by senior management.
- There is a recognition that as ICT is increasingly a part of everyday life outside of school, so it should be regarded as a normal part of life within school.
- There are high expectations of what learners can achieve – taking account of the ICT skills they are already acquiring outside school.
- A core of properly resourced teachers keen to ensure learners succeed in ICT creates a powerful impetus. The ability of this core team to give mutual support and generate better learning is difficult to overestimate.
- ICT skills are developed effectively pre-14, giving a strong foundation for further development during Key Stage 4 and beyond.
- A range of ICT qualifications are offered by the school so that individual learners' needs and interests can be accommodated.
- An appropriate amount of time is spent on the development of ICT skills during Key Stage 4, in line with awarding body guidelines for the courses involved.
- Teachers are up to date with the qualifications available – ICT qualifications have changed and are changing significantly[1].

[1] Since September 2008, AS and A level specifications have changed and Essential Skills Wales standards have been developed. Revised GCSEs come on stream in September 2010. The means of assessment have changed, with two-unit AS qualifications, increasing use of e-assessment and controlled assessments which set the rules for task setting, task taking and task marking replacing coursework at GCSE. Additionally there is a range of specialist provision offered by specific awarding bodies. All of these factors can influence choice for the learner, and teachers have to be up to date to make informed decisions.

ICT and learning in other subjects

School leaders have an important role in planning for and promoting the use of ICT across the curriculum.

In a well-planned scheme of work, integrating the use of ICT in other subjects in a relevant and realistic way offers opportunities to both enhance the learners' work in the subject concerned and develop their experience and skills in ICT. Use of ICT across the curriculum can encourage interactive and exploratory approaches to learning in other subjects and active rather than passive learning styles.

When learners are able to effectively use ICT across the curriculum, they maximise opportunities for transferring their ICT skills to new situations.

Learners can collate evidence for Essential Skills Wales portfolios from across the curriculum, as noted on page 11.

Inclusion

Schools should maximise the potential of ICT to include all learners and help them to make progress. For learners with more complex needs, ICT may be used to improve communication skills and access across the curriculum. The Department for Children, Education, Lifelong Learning and Skills (DCELLS) will be providing separate guidance on progression in ICT skills for this group of learners in spring 2010.

ICT can be motivating for learners of all abilities. Information can be accessed and presented through text, graphics or sound to suit the students' individual learning styles, strengths and interests. Assistive technologies can be used to help enable learners with access difficulties to overcome barriers. Physical, sensory and learning difficulties can be supported by the use of ICT.

The aim is for all Key Stage 4 learners to have their achievements recognised by an appropriate qualification. The table on page 7 lists qualifications which recognise achievement from Entry (Level) 1 to Level 3, illustrating the broad range available. Learning below national curriculum Level 1 can be recognised through unit accreditation.

Learners may also progress to a higher-level qualification beyond Key Stage 4, for example from Entry level in Year 11 to a Level 1/Level 2 qualification in Year 12 or 13. Equally, for those learners who are capable of more advanced work, an AS qualification in ICT may appropriately be taken at the end of Key Stage 4, as noted in the case study on page 19.

Challenges to increasing provision

These will vary from school to school, but some of the challenges faced by those currently offering ICT to a proportion of learners in Key Stage 4 include:

- ensuring adequate resources (staff, equipment, software licenses and space) are available to increase provision
- providing good-quality support for staff who may be preparing learners for an ICT qualification for the first time
- ensuring all learners have appropriate and progressive ICT experiences
- increasing provision without reducing the options available (for example by offering only one ICT course for all Key Stage 4 learners)
- motivating all learners, not just those with particular interests in ICT
- fitting in to the established timetable structure
- allocating an appropriate amount of time, in line with published guided learning hours, where appropriate
- enabling teachers to work collaboratively in the planning, delivery and generation of evidence and assessment where a cross-curricular approach is adopted
- effectively reviewing the impact on learning and teaching across the curriculum and age range within the school.

Qualifications

Generic qualifications

This section looks at qualifications that are likely to be offered by several awarding bodies in September 2010.

Essential Skills Wales (ESW)

Skills for Life ICT standards and Key Skills ICT standards have been converged to produce a single suite of skills standards and qualifications from Entry Level 1 to Level 4. This was not simply a straightforward convergence of the two sets; the opportunity was taken to revise the standards to reflect developments in ICT. Qualifications based on these standards[2] will be available for first teaching from September 2010, and will replace the current ICT Key Skill and Skills for Life ICT from that date.

At Levels 1, 2, 3 and 4, the qualifications will be assessed via a portfolio of evidence which will be internally assessed and externally moderated or verified by awarding bodies. In the short term, awarding bodies will continue to develop their own assessments for Entry level; however, these will be reviewed to ensure they meet the requirements of ESW ICT qualifications.

Where qualifications are assessed by portfolio only, it is for schools to decide how learners can best develop their skills and build up suitable evidence for their portfolio.

Careful mapping of the potential contribution of a number of subjects to the published assessment criteria could enable learners to build their portfolios from across the curriculum, without specific ICT lessons if they are known to be competent in these skills. However, this needs to be done carefully to ensure that the development of ICT skills and collection of appropriate evidence is efficient and effective for the learner, and assessment of the evidence is straightforward, reliable and valid for all concerned. The subject teacher will need to be familiar with the requirements of ESW ICT as well as the specific assessment requirements of their own subject, to ensure appropriate evidence is generated efficiently for both.

[2] From Entry 1 to Level 3. Details can be found at www.wales.gov.uk/educationandskills (see 'Essential Skills Wales' in the 'Information for learning providers' area).

Entry level

It is noted above that the ESW suite of qualifications spans Entry Level 1 to Level 4. In addition, there is a choice of ICT qualifications which specifically address Entry level provision. These qualifications are suitable for a range of learners. They represent the first tier of the National Qualifications Framework and can help develop skills, knowledge and confidence in using ICT in manageable steps. They are suitable for learners who are not yet ready to take an ICT qualification at Level 1 of the National Qualifications Framework and recognise achievement at Entry 1, Entry 2 and Entry 3, Entry 3 being the highest. Learners can progress from Entry level to a Level 1 or Level 2 qualification such as GCSE or ESW.

GCSE

The Wales Curriculum Review and parallel developments in England and Northern Ireland have provided an opportunity to revise GCSE ICT qualifications significantly to reflect subject and curriculum developments. Revised specifications which aim to provide a better guarantee of the ICT skills young people need to participate and progress in education, training and employment will be available for first teaching from September 2010. In Wales, short course, single award and double award GCSEs in ICT will be available. Although designed to be delivered via a timetabled course, the amount of curriculum time required will vary depending on whether the learner is aiming for a short course, single or double award qualification. This gives schools the flexibility to tailor the course to the learner's needs, for example with regard to how full the learner's timetable might be.

Specifications for 2010 will give details of the controlled assessment(s) learners need to take, specifying arrangements for task setting, task taking (including the amount of time each task should take) and task marking. Consideration of the learner's interests, the time needed to complete the controlled assessment and how the school intends to deliver the specification content will all help schools decide which of the GCSE courses might be the most appropriate.

AS

Level 3 qualifications such as AS ICT can provide appropriate stimulus and motivation for the most able learners in Key Stage 4. There are AS ICT and AS Applied ICT specifications available, as well as AS Computing; choice will depend on how well each might fit in with the school's pre- and post-16 provision.

NVQs

National Vocational Qualifications (NVQs) are work-related, competence-based qualifications based on national occupational standards. They reflect the skills and knowledge needed to do a job effectively, and show that a learner is competent in the area of work the NVQ[3] represents. Learners produce evidence to prove they have the competence to meet the NVQ standards. In the context of this guide, NVQ Level 1 and Level 2 qualifications are likely to be the most suitable for Key Stage 4 learners.

VQs

Vocational Qualifications (VQs) are taught qualifications that are primarily designed to prepare learners for employment or specific occupations by increasing their skill, knowledge or proficiency in related subjects.

They differ from NVQs in that they prepare learners for work in an occupational sector rather than assessing them as being competent in practice in that occupational sector.

Welsh Baccalaureate Qualification (WBQ)

The Welsh Baccalaureate Qualification combines personal development skills with existing qualifications such as GCSEs, NVQs and A levels to make one wider award. ICT is a feature of the Core requirements of the Welsh Baccalaureate Qualification and ICT qualifications may be taken as part of the Options too (for example GCSEs, NVQs, BTEC). Further information on the Welsh Baccalaureate Qualification can be found at www.welshbaccalaureate.org.uk

Principal Learning Qualifications

These are new qualifications which are being introduced on a phased basis in Wales. This process started in September 2009. They have been designed by employers and are therefore topical and up to date. The Principal Learning in Information Technology is available at Levels 1, 2 and 3 and can be taken alongside a Project qualification as option units within the WBQ.

[3] ITQ is the NVQ for IT users. See www.e-skills.com

Contacts

Further information on the above qualifications and additional specialist qualifications offered by individual awarding bodies can be found at:

www.aqa.org.uk
www.edexcel.com
www.ocr.org.uk
www.wjec.co.uk

A full list of members of the Federation of Awarding Bodies (FAB) can be found at www.awarding.org.uk. FAB represents organisations that award vocational qualifications in the UK, several of whom offer a range of ICT qualifications.

Specialist qualifications

Schools may wish to investigate qualifications offered by specific awarding bodies in September 2010.

It is not possible within the scope of this guide to cover all Entry level to Level 3 ICT qualifications available. However, a range of qualifications are shown in the appendix and some feature in the case studies that follow. Also, links to the National Database of Accredited Qualifications (NDAQ) and a list of approved qualifications for learners in Wales are provided on page 24.

Case studies

In this section, six case studies are presented to provide examples of how ICT provision is being addressed at Key Stage 4. The case studies represent a series of snapshots showing how schools are currently working in a range of ways with existing qualifications, but many of the features highlighted (such as the flexibility for learners) will apply also to courses available from 2010.

All of the case studies demonstrate successful provision within individual schools. These schools have selected qualifications to suit the needs of their own learners. Inclusion of a qualification within a case study constitutes neither an endorsement nor a recommendation of the qualification by DCELLS. Schools are encouraged to investigate the full range of available qualifications when deciding on their own provision for 2010 and beyond.

CASE STUDY 1

GCSE Applied ICT (Double Award) and Award in Digital Applications (AiDA)

This case study is from an 11–18 school with approximately 1200 learners, 250 of whom are in the sixth form.

The school day is divided into five periods of 60 minutes. The school operates a two-week timetable.

The school has a history of offering a range of ICT courses during Key Stage 4, including GCSE ICT and the European Computer Driving Licence (ECDL). Recently the school has developed its provision to offer Key Stage 4 learners a choice of AiDA (from the DiDA – Diploma in Digital Applications – suite) or GCSE Applied ICT (Double Award). These qualifications have been selected because of their practical approach and the learning experience they offer.

At present, not all learners take an ICT subject during Key Stage 4. Those opting for AiDA have the equivalent of a single GCSE's time allocation (four one-hour lessons per fortnight); those opting for GCSE Applied ICT have around double the time (nine one-hour lessons per fortnight). The extra time for Applied ICT is important. This is a practical subject with a significant portfolio element and learners need the time to develop their ICT skills before they can apply them appropriately in the portfolio tasks. Both courses are taught by ICT specialists who have been able to complete training offered by the respective awarding bodies – an important consideration as delivery of the specification content and the associated scheme of assessment is significantly different from the previous courses taught.

This approach gives learners a choice of two quite different ICT courses with varying demands on their time.

A level Computing is offered in the sixth form and all learners in Key Stage 4 are offered this progression route. While the above courses allow a greater development of application-based skills which are important for employment, the school feels they do not always support the level of theoretical knowledge necessary in A level Computing.

Current provision is providing two popular and successful courses for learners. However, the school is planning to develop provision further from 2010. The school intends offering ESW Level 2 qualifications during Key Stage 4 to complement the introduction of the WBQ. A single award GCSE ICT option is also being investigated.

The school is particularly interested in the relationship between the single and double award GCSE qualifications from 2010. At present the double (Applied) and single awards are very different in terms of structure, content and assessment. It looks as though a closer relationship from 2010 might make it easier for learners to move from one to the other (or to a short course) should the need arise. The school is also investigating the 2010 GCSEs from the point of view of progression to A level Computing.

CASE STUDY 2

Key Skills ICT, GCSE (Short Course) ICT, GCSE ICT and OCR Nationals

This case study is from an 11–18 school with approximately 1100 learners, 230 of whom are in the sixth form.

The school day is divided into six periods of 50 minutes.

The school offers learners the option of entering for a Key Skill ICT qualification[4] (at Level 1 or Level 2) at the end of Key Stage 3. Learners have opportunities to work with a range of applications such as data handling, modelling and presentation software, video/sound editing and animation. The school is presently carrying out an audit of ICT skills developed in other subjects during Year 9, following one full year's teaching of the revised curriculum. The results will inform decisions regarding the gathering of evidence for ESW qualifications from September 2010.

Most Key Stage 4 learners opt for GCSE ICT or GCSE (Short Course) ICT. Those opting for GCSE have three lessons a week throughout Key Stage 4. Those opting for the GCSE (Short Course) have three lessons a week in Year 10, then go on to GCSE (Short Course) RE in Year 11. As an alternative, the OCR National First Award in ICT (equivalent to one GCSE) is taken by a small group of learners. Some learners also enter for the WBQ.

AS and A level ICT is offered in the sixth form – this progression route is offered to all. Additionally, all sixth form learners are enrolled on the WBQ.

The majority of ICT lessons during Key Stage 3 are taken by specialist ICT teachers, though non-specialists also contribute and (as noted above) opportunities for cross-curricular work are being explored. Specialist ICT teachers teach all ICT courses offered in Key Stage 4 and beyond.

[4] This case study includes Key Skills, which will be replaced by ESW from 2010. The school is familiar with the ESW standards and is now waiting for the publication of awarding body specifications. This will enable the school to map future requirements so that cross-curricular development of appropriate ICT skills can continue under the new arrangements.

CASE STUDY 3

Entry Level ICT, GCSE (Short Course) ICT, GCSE ICT and Key Skills ICT

This case study is from a residential special school that has approximately 50 children between the ages of eight and 16 years with emotional and behavioural difficulties (EBD).

Throughout the school ICT is not just seen as a subject in its own right, but as an instrument to be used in all areas of the curriculum, wherever it may be appropriate. This means that all teachers are teachers of ICT, whatever their specialist areas may be.

Learners with emotional and behavioural difficulties have a wide variety of difficulties that need to be addressed in a range of ways. The appropriate use of ICT, while not solving the emotional difficulties of the learners, is seen as an important tool in supporting their emotional needs as well as the aims and objectives of the school as a whole. The importance of ICT throughout the school is reflected in the range of ICT facilities available to learners throughout the day and into the evening.

The school day is divided into six periods of 50 minutes.

Year 9 learners have three dedicated ICT lessons each fortnight and, while covering the Key Stage 3 programme of study, they also complete the coursework component for Entry Level ICT. They take the written examination for this qualification at the end of Year 10.

Year 10 learners have four dedicated ICT lessons each fortnight. Here they develop the skills they have previously acquired to complete the portfolio component of the GCSE ICT specification.

Year 11 learners have between three and seven dedicated ICT lessons each fortnight, depending upon vocational commitments. Taking into account their capabilities and interests, as well as the time available, learners are offered the opportunity to move on to the project component of the GCSE ICT specification.

If learners choose to do the project they are entered for the full GCSE qualification; if not they take the short course qualification. The few pupils who do not take either of the GCSE options presently work towards acquiring a Key Skills qualification.

For the future, the school is reviewing its provision in terms of Essential Skills Wales qualifications and the revised GCSE specifications which come on stream in 2010. These qualifications will be analysed with regard to current and future learners (new learners bring with them new difficulties that require different approaches). The modular nature of the revised GCSEs would appear to suit the school's approach to short and full courses. The move towards controlled assessment requires careful consideration to ensure learners are given the best opportunity to demonstrate their ICT skills and understanding.

CASE STUDY 4

GCSE ICT and AS ICT

This case study is from an 11–18 school with approximately 1400 learners, 250 of whom are in the sixth form.

The school day is divided into six periods of 50 minutes.

The school offers GCSE ICT to Key Stage 4 learners, with three 50-minute lessons a week. In recent years the school has, while covering the requirements of national curriculum IT/ICT in Key Stage 3, ensured that learners' activities in Year 9 could also contribute to the GCSE ICT portfolio.

Some of the most able pupils take GCSE ICT at the end of Year 10 and AS ICT at the end of Year 11. Developing appropriate skills and generating suitable evidence for the GCSE ICT portfolio during Year 9 helps ensure learners entered for GCSE at the end of Year 10 are fully prepared for the examination. The challenge of delivering an AS course alongside GCSE during Year 11 has been partly addressed by the introduction of the school's virtual learning environment (VLE).

In the sixth form, learners have an opportunity to opt for GCE ICT. Additionally, Year 12 learners are able to study Key Skills Level 2 ICT as part of the WBQ.

For the future, the school intends to explore the links between the work of Year 9 learners in the revised national curriculum ICT and revised GCSE ICT for teaching from September 2010. This will enable the most able learners to complete their GCSE ICT in Year 10 and AS ICT in Year 11, as now. The school also intends further developing its VLE to broaden access to all subjects and all key stages.

CASE STUDY 5

OCR Nationals

This case study is from an 11–18 school with approximately 1400 learners, 140 of whom are in the sixth form.

The school has a long tradition of offering GCSE ICT courses at Key Stage 4, and A level Computing in the sixth form. Recently the school has developed its provision to offer more vocational courses and now delivers OCR Level 2 Nationals at Key Stage 4.

The school day is divided into six periods of 50 minutes.

All learners follow a timetabled course of study for ICT during Key Stage 4. Learners can opt to devote two, three or nine periods a week to ICT. The qualifications on offer are as follows:

50-minute periods	Qualification	GCSE equivalent
2	OCR National ICT First Award (Level 2)	1 (A*–C)
3	OCR National ICT Award (Level 2)	2 (A*–C)
9	OCR National ICT Certificate (Level 2)	4 (A*–C)

Offering a 9-period-a-week option created challenges both in terms of staffing and ensuring learners have a broad and motivating range of experiences. These challenges have been addressed by timetabling three lessons with ICT specialists, three with teachers from the music and careers departments, and three with teachers from design and technology and art. Learners therefore have the opportunity to use ICT in a range of contexts including music technology and computer aided design.

In the sixth form, learners can go on to study AS and A level ICT or OCR Level 3 Nationals. Alternatively, they can follow further units in OCR Level 2 Nationals to build up to the 'certificate', equivalent to four GCSEs.

This approach provides learners with a range of options based on the OCR Nationals in ICT qualification. Learners can choose to devote from around one and a half hours up to seven and a half hours a week to their ICT studies. However, in Key Stage 4 choice is limited to this one suite of qualifications. The next step for the school is to review its provision to see whether learners could be given a choice of a different path in addition to the current broad choice regarding time commitment. The school is also considering introducing 'multi-modules' within lessons to support learners progressing at their own pace.

CASE STUDY 6

Key Skills ICT, Certificate in Digital Applications (CiDA) and Diploma in Digital Applications (DiDA)

This case study is from an 11–18 school with approximately 1500 learners, 260 of whom are in the sixth form.

The school day is divided into five periods of one hour and the school operates a two-week timetable.

The school offers Key Stage 4 learners a choice of CiDA (equivalent to two GCSEs) or DiDA (equivalent to four GCSEs). Those opting for CiDA have five lessons a fortnight; those for DiDA have ten lessons a fortnight.

The courses are taught by ICT specialists, which is considered to be an important factor in their success. All teachers involved have taken part in training offered by the awarding body (another important factor as the assessment of these qualifications is significantly different from the school's previous ICT provision). The school has also benefitted from a close working relationship with the local authority's advisory service.

Around 70 per cent of the present cohort follow one of these two courses. For the future the school is investigating courses that might appeal to others so that more learners follow an ICT course of study during Key Stage 4. The school previously entered candidates for CiDA and DiDA at Level 1 and Level 2. All entries are now at Level 2 and the school is interested in broadening provision for less able learners, particularly those who might wish to follow an ICT course with a smaller time commitment.

Presently all sixth form learners enrol on the WBQ. From September 2009, the WBQ is also being rolled out in Key Stage 4.

While covering the requirements of national curriculum IT/ICT during Key Stage 3, the school has ensured that learners have the opportunity to build up a portfolio of evidence for Key Skills ICT, for which they enter at the end of Year 10. For the future, the school intends to explore the relationship between ESW ICT and learners' activities during Year 9.

The way forward

ICT provision varies a great deal in schools in Wales. In many schools a large proportion of learners, if not all, are given opportunities to apply and develop their ICT skills and to take an accredited qualification during Key Stage 4.

There are challenges to address in giving this entitlement to all learners. However, as a sound grasp of ICT is so important in today's world, learners without this opportunity will be placed at a disadvantage in many aspects of modern life, not just in employment opportunities.

The following points should help schools provide all learners with this entitlement.

- The school as a whole needs to be committed to ICT.
- The Becta ICT Self-review framework (SRF) can be used to evaluate current provision and practice in the use of ICT, identifying what is good and helping to prioritise areas for development.
- The school development plan should include appropriate monitoring and evaluation to inform future planning and target provision and practice in the use of ICT.
- Resources, both in terms of staffing and equipment, need to be considered and planned for from the beginning.
- Key Stage 3 should be a positive experience so that learners are motivated to continue to develop their ICT skills in Key Stage 4 and beyond.
- The available options for Key Stage 4 need to be clearly understood by learners and their parents.
- Learners should be supported so that they can decide which qualification is the most suitable for them.
- Appropriate time allocation for a course, in line with awarding body guidelines, is essential to give learners the best chance of success.
- Choice matters to learners. Not all will want to follow a timetabled course of study in ICT if it limits other choices. Qualifications requiring a smaller time commitment (for example GCSE Short Course) or qualifications in which assessment can be based on the collection of evidence from other subject areas (for example ESW) can help here.

- The modular structure of many ICT qualifications means that (subject to awarding bodies' deadlines for entry) decisions about the 'size' of the final qualification can be amended to reflect the learner's progress.
- There is no universal template for timetabling but the commitment and the imagination of those responsible for the timetable have the potential to make a big difference to the range of ICT courses available to learners.
- Teachers should be supported so they can keep up to date with emerging technologies and the requirements of ICT qualifications.
- Planning should take place within the context of the 14–19 Learning Pathways programme, to ensure learners of all abilities have a broad choice of appropriate qualifications.

Appendix

Examples of specialist ICT qualifications

The following table lists some of the specialist ICT qualifications available. Inclusion in the table is for information only and constitutes neither an endorsement nor a recommendation of the qualification by DCELLS. Schools are encouraged to investigate the full range of available qualifications using the links below.

Information about approved qualifications for learners in Wales is available at www.wales.gov.uk/educationandskills (go to the 'Guidance and information' area in the 'Publications' section).

The National Database of Accredited Qualifications (NDAQ) is available at www.accreditedqualifications.org.uk and contains details of qualifications that are accredited by the regulators of external qualifications in England, Wales and Northern Ireland.

Qualification	Description	Comments/contact
BTEC	**BTEC Level 2 First Diploma for ICT Practitioners** – equivalent to four GCSEs (A* to C). **BTEC Level 2 First Certificate for ICT Practitioners** – equivalent to two GCSEs (A* to C). Work-related qualification. Diploma needs two core units and enough specialist units to give a combined total of 360 hours; Certificate needs one core unit plus enough specialist units to give a combined total of 180 hours. Some units embed specialist IT vendor qualifications.	Most units are internally assessed and externally verified by the awarding body. Some units are vendor units, assessed through external examinations. www.edexcel.com

Qualification	Description	Comments/contact
CLAiT	**Level 1 Certificate/Diploma for IT Users** (New CLAiT) **Level 2 Certificate/Diploma for IT Users** (CLAiT Plus) **Level 3 Certificate/Diploma for IT Users** (CLAiT Advanced) Available as single units, Certificate (3 units) or Diploma (5 units).	Units are internally assessed, externally moderated by the awarding body. Several options for assessment (depending on unit and level) including e-portfolio, computer-based marking or using Microsoft Office Specialist tests. www.ocr.org.uk
DiDA	**AiDA – Award in Digital Applications** (Unit 1 only) – equivalent to one GCSE. **CiDA – Certificate in Digital Applications** (Unit 1 plus any other unit) – equivalent to two GCSEs. **CiDA+ – Extended Certificate in Digital Applications** (Unit 1 plus any other two units) – equivalent to three GCSEs. **DiDA – Diploma in Digital Applications** (Unit 1 plus any other three units) – equivalent to four GCSEs.	Electronic submission. All units are internally assessed, externally moderated by the awarding body. Level 1 and Level 2. Can be accessed by navigating through the quals/dida sections at www.edexcel.com
Digital Cre8or	Available as both a four unit award and an eight unit certificate. DigitalCre8or is structured into five 'creative' and three 'sharing' units. To gain the Award, learners must successfully complete four units, including at least one from each group. To achieve the Certificate all eight units must be completed.	Electronic submission of units for assessment. Presently available at Level 2; a Level 1 qualification is under development. www.bcs.org

Qualification	Description	Comments/contact
ECDL	**European Computer Driving Licence (Syllabus 5)** ECDL is a modular qualification made up of units that cover word processing, spreadsheets, databases, presentation software, IT security, file management and electronic communication. Seven units are needed for the overall ECDL qualification.	Assessments are practical and on-screen. Units can be taken in any sequence. www.ecdl.org
OCR Nationals	**Level 1 and Level 2 qualifications are:** **Level 1** First Award, Award, Certificate – equivalent to one, three or four GCSEs (grades D–G) respectively. **Level 2** First Award, Award, First Certificate, Certificate – equivalent to one, two, three or four GCSEs (grades A*–C) respectively.	All units are internally assessed and externally moderated by the awarding body. Levels 1, 2 and 3 qualifications. www.ocrnationals.com

Qualification	Description	Comments/contact
Principal Learning	Elements of the 14–19 Diplomas that are being developed in England will be available in Wales within the WBQ. Principal Learning in IT will provide a practical insight into how technology plays a key role in business. Elements include: • Business – how organisations work and the role technology can play • People – how to work well with other people • Technology – how to create technology solutions.	Principal Learning in the occupational area of Information Technology could be used as part of the WBQ Options requirements. The Principal Learning in IT for the Welsh Baccalaureate is being offered by the WJEC in partnership with Edexcel, and by OCR. www.welshbaccalaureate.org.uk

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