Framework for the 14 - 19 curriculum;

developments in ICT learning and teaching

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Introduction

This paper looks at the developments of the 14-19 curriculum in England and how they impact on the work of ICT teachers and teacher trainers. It considers the underlying aims of the government lead changes and the subsequent implications. The reforms will see a breakdown of the traditional break at the age of 16 between school and school/college/training/employment/unemployment future for pupils. There will be a change in the location of learning from 14 with many pupils spending regular or block placements of time out-of-school. It will see a change in the staffing with college and work-based staff working alongside teachers in the classroom. There are implications for the curriculum with courses and qualifications being awarded for learning that spans the whole age range. The important aspects of the Diploma in IT and functional skills are described. There is a comprehensive list of references, resources, abbreviations and glossary of terms.

These implications of the reforms are discussed in the following sections:

- Changing the location of learning
- Changing the nature of teaching and learning
- Changing the accreditation of learning
- Changing the 14-19 curriculum

The key websites for gaining up-to-date information are:

http://www.dfes.gov.uk/14-19 *Transforming the education system for 14-19 year olds*

http://www.teachernet.gov.uk/teachingandlearning/14to19 *14-19 phase of learning*

http://www.e-skills.com/IT-Diploma/1648 *Diploma in IT*

http://www.futurelab.org.uk *14-19 and Digital Technologies: A review of research and projects*

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This report covers current developments as of January 2007 (last updated March 2007).

Aims of the 14-19 curriculum

"matching the best anywhere" (DfES, 2007a)

The DfES is committed to transforming the 14-19 curriculum over the coming decade with a strategy involving curriculum, assessment, provision and resourcing. This will be done through fostering partnerships between a range of agencies including local authorities, the Learning and Skills Council, schools, colleges and work-based learning providers. As the DfES (2007a) puts it "Success depends most of all on local partners – the job of Government is to get behind them".

Reform of the current system is needed because pupils can easily choose options that ultimately become dead-ends which offer little in the way of further progression or opportunity and which do not encourage participation in education beyond 16.. The need is to provide a more coherent system as recognised in the Green Paper *14-19: Extending Opportunities, Raising Standards* (DfES, 2002a), which recommended a single 14-19 phase. The *14-19: Opportunity and Excellence* report (DfES, 2003) established a clear government policy that is crystallised in the more recent White Paper *14-19: Education and Skills* (DfES, 2005). The government's ambitions for increasing the number of young people continuing their education beyond 16 has made the need for reform even more pressing.

The 14-19 Working Group, headed by Mike Tomlinson, set out proposals for a long-term structural reform of 14-19 education and training systems that will be fully inclusive, encouraging all learners – whatever their ability – to achieve their full potential.

The strategy is complemented by the Every Child Matters agenda (DfES, 2007b) response to The Children's Act. It does this by ensuring all young people have opportunities to learn in ways that motivate and engage them with the aim of ensuring individual success in life.

Young people with no qualifications are at a particular disadvantage in the labour market. It is much harder for them to ensure their economic well-being. The proportion of 16-17 year olds not in employment, education or training (NEET) has steadily increased over the last couple of years.

"Being NEET is a major predictor of later unemployment, low incomes, teenage motherhood, depression and poor physical health." (DfES, 2005b)

In summary, the 14-19 agenda developed by the government reports is based around:

- a new specialist system;
- built on collaboration;
- a strong focus on teaching and personalised learning;
- excellent leadership teams;
- reform of the school workforce; and
- heavy investment in ICT and school buildings through the Building Schools for the Future programme (DfES, 2004).

The reforms have three main elements (DfES, 2007a):

- raising attainment now;
- designing new curriculum and qualifications; and
- delivering on the ground.

Changing the location of learning under the 14-19 reforms

The 14-19 reforms are designed to give all young people the opportunity to choose a mix of learning which motivates, interests and challenges them, and which gives them the knowledge, skills and attitude they need to succeed in education, work, and life. They will see the breakdown of the traditional route of many young people who stay at school until 16 and then go onto work, training or college. As a result of these reforms some students will start regular attendance at college or work placements at 14 whilst others will continue in schooling to 18 but with weekly or block placements in commercial and/or further education settings.

Schools into college

As part of the strategy, there will be opportunities for school students to attend sessions in further education establishments and the workplace from the start of Key Stage 4 at age 14. There are implications for teachers and trainee teachers.

How might the development of these arrangements affect placements? Do courses that are designated 11-16 need to be concerned if the placement concentrates upon the 14-19 age range and teaching?

The Association for Teachers and Lecturers comment,

"Developing the teaching workforce is essential if these reforms are to be carried through successfully. Teachers and lecturers need timely and adequate training to develop the skills and knowledge required for flexible delivery and settings which reflect learners' circumstances and preferred learning styles. We are wary of political impatience and interference that may underestimate the degree of preparation that is required for successful transition." (ATL, 2007)

There are the immediate implications of accompanying pupils in "off-site" education and the regulations associated with those activities. These may also have an impact on staff visiting trainees on placement.

An encouragement comes from the DfES initiative *Learning Outside the Classroom Manifesto.* Every young person should experience the world beyond the classroom as an essential part of learning and personal development, whatever their age, ability or circumstances. To make this a reality, the Learning Outside the Classroom Manifesto was launched in 2002. The Manifesto acts as an encouragement for all who see the benefits of out-of-classroom and context-based learning experiences (DfES, 2006)

A cautionary note comes from the earlier DfEE publication "Work Experience - Legal Responsibility and Health and Safety". Governing bodies are responsible for work experience arrangements and must be aware of their legal/health and safety responsibilities. Schools should ensure that they have written policies clarifying objectives and responsibilities and use placements appropriately and affectively by briefing and debriefing students before/after placements (DfEE, 1999). The relationship between the schools' policies and those of the college will need to be clearly identified as part of the partnership.

Trainees should be expected to read the policies concerning health and safety of pupils including those that relate to pupils going off-site for lessons and using online resources provided by partnership establishments.

The Increased Flexibility for 14-16-Year-Olds Programme (IFP) started to implement these reforms through vocational and work-related learning opportunities (Teachernet, 2007a). The programme enables further education colleges to form partnerships with schools to enable pupils to study off-site at a college, or with a training provider for one or two days a week throughout key stage 4 with opportunities to work towards worthwhile vocational and

work-related qualifications. Trainees should be identifying these activities in their schools and taking the opportunity to develop pupils' ICT capability, knowledge and understanding in a work context.

The 14-19 Education And Training: A Commentary by the Teaching and Learning Research Programme May 2006 report raises some interesting questions:

- How to balance educational and training provision for 14-19 year olds to satisfy such a wide range of potentially competing goals?
- How to provide specialist forms of education and training without undermining learning programmes through multiple transitions?
- How to enable well informed choices, and ensure that information and opportunities are available for all?
- Is it best to offer more hybrid programmes to engage more learners or would this just risk destabilising qualifications and pathways that are currently well understood?

A TTRB review is accessible from http://www.ttrb.ac.uk/ViewArticle.aspx?contentId=13039

For many years, further education colleges have offered link courses. Pupils attend a local further education college for part of their studies (one-day-a-week or block placement). Characteristically they have been associated with vocational studies and/or designed for pupils with special educational needs. They are rarely associated with academic qualifications.

"As part of the transition process, many special schools (and mainstream schools with pupils with significant special educational needs) run 'link' or 'taster' courses in collaboration with colleges of further education for pupils in the final two years of statutory schooling (aged 14-16); these are pre-vocational and usually focus on independence or generic skills. These involve a regular time each week in college (link courses) or a few days (taster) during which students can become accustomed to a different learning environment, staff and activities both to help them firm up plans for their post-16 learning (to see if the college course would be suitable for them) and also to facilitate the move to the different environment if they have already chosen that option. Good practice is often indicated by close collaboration between school and college over the content and delivery of link courses." (European Agency, 2007)

A MORI report commissioned by the QCA highlighted,

"the continuing link that teachers see between work-related learning and disaffected and underachieving students. Teachers and senior managers (but interestingly not students) consider work-related learning to be more relevant and important to students in the lower attainment quartiles" (QCA, 2004:6).

The same study discovered that teachers and senior managers see learning about business enterprises, taking part in enterprise and problem-solving ideas, and any activity designed to develop a student's skills for enterprise and employability as the least important elements of work-related learning. The challenge to ICT teachers in the 14-19 area is to use the contexts of work to bring relevance to the teaching.

A response to the 14-19 proposals by NIACE includes

"FE curriculum expertise should be recognised in the partnership arrangements made between schools and colleges. For most school pupils, these are going to be new approaches to teaching and learning, with greater emphasis on practical skills and with stronger links with employment. Innovative curriculum should be encouraged. It is vital that 14-19 vocational education is not seen as the second-class route: the inspection services should have a clear monitoring role here. If the pattern of too many old style link courses is repeated, this work will not succeed." (NIACE, 2005)

In developing an educational experience that meets the needs of all young people the DfES aims to improve opportunity year on year through focussing on raising achievement and eventually providing new of qualifications and curriculum opportunities.

Bringing the vocational expertise into the classroom

The 14-19 reforms are designed to give all young people the opportunity to choose a mix of learning which motivates, interests and challenges them, and which gives them the knowledge, skills and attitude they need to succeed in education, work, and life. Some students will begin vocational and other further education-type activities in the traditional school setting rather than wait until they are 16 to make such a choice.

As part of the strategy, there will be opportunities for students to be taught in schools by tutors and trainers from further education establishments and the workplace.

Trainees should identify, by asking mentors and teacher colleagues, whether there are people working with the pupils that are not directly employed by the school. They should also identify whether the school is part of any local partnership with its KS4 students attending sessions in local colleges or work-based settings.

The implications for workforce remodelling

There will be a mixture of teaching staff operating in the classroom:

- Teachers with QTS obtained through undergraduate and post-graduate study;
- Teachers with QTS obtained through workplace training including SCITT, GTP, OTT, RTP;
- Teacher trainees from any of the above groups;
- Unqualified teachers;
- Teaching assistants (TAs) including higher level teaching assistants (HLTA); and
- Other classroom or learning support assistants including staff employed to support specific pupils.

This mix will be increased when the number of learning settings is increased. There will also be a diverse range of staff working with young people as a result of *Every Child Matters* (DfES, 2007b). Teachers will work more closely with professionals from other services – health, social services etc.

This diversification of adult involvement with learning has implications for:

- the way in which teachers and trainee teachers plan lessons and provide support for the other adults in the classroom;
- the role of a single teacher having responsibility for the activities taking place in the classroom; and
- the pastoral and guidance role of the teacher.

This will influence teaching styles, teaching strategies, resourcing for adults as well as pupils, teacher training and school management under the school workforce remodelling.

In January 2003, the *Raising Standards and Tackling Workload: A National Agreement* introduced important changes to teachers' conditions of service, which was implemented in three annual phases from September 2003. The National Remodelling Team (NRT) was established to support this process. The remodelling process is designed to enhance the status and work/life balance of all adults who work in our schools. It enables teachers to focus more effectively on their teaching and supports the growing importance of support staff roles in schools (TeacherNet, 2007b).

Another concern arising from the cooperative and enforced working together of teachers, trainers and tutors from different education sectors in the same classroom are the disparities in pay and funding. Tutors and trainees need to be sensitive to these disparities.

The implications for initial teacher training

Trainees must [Q5] “recognise and respect the contribution that colleagues, parents and carers can make to the development and well-being of children and young people and to raising their levels of attainment” (TDA, 2007).

This is a direct requirement placed on trainees to accommodate all of the staff they come in contact with in their classroom and for them make adequate provision to ensure that those adults support pupils’ learning. With this successful partnership the learning environment becomes more effective. “A TA who is well informed and confident will enhance the work of pupils, help them stay on task, enable the teacher to set more ambitious learning tasks, provide more speaking, reading and writing opportunities for pupils, and make useful contributions to lesson plans and pupil assessment.” (TDA, 2006)

Further, they must have a commitment to collaboration and co-operative working [Q6] and they should know and understand the roles of colleagues with specific responsibilities [Q20].

Importantly, all trainees must show abilities of team working and collaboration.

“Q32 Work as a team member and identify opportunities for working with colleagues, sharing the development of effective practice with them.

Q33 Ensure that colleagues working with them are appropriately involved in supporting learning and understand the roles they are expected to fulfil” (TDA, 2007).

Trainees should identify the mix of staff working with their students in the classroom, the school and beyond. Trainees should clearly identify the briefing they plan to give to other adults in the classroom before the lesson starts.

The role of employers in changing curriculum

Employers have a dual role in the 14-19 agenda. They have an important responsibility to facilitate the education of young people, both in the workplace and in schools and colleges. They also have a responsibility to give clear guidance as to the basic skills they require for people coming into the workforce.

Many young people have been leaving education without basic skills. The 14-19 agenda identifies those as the *Functional Skills* (see below). This curriculum area has been developed as a result of listening to the concerns of employers and following the publication of the Leitch report on skills in the UK (HM Treasury, 2006). Amongst the recommendations of the report are

- strengthening the employer voice on skills through creation of a new Commission for Employment & Skills, increasing employer engagement and investment in skills, reforming Sector Skills Councils who will simplify and approve vocational training;
- increasing employer investment in higher level qualifications, especially in apprenticeships…; significantly more training in the workplace;
- raising people's aspirations and awareness of the value of skills, creating a new universal adult careers service to diagnose skill needs with a skills health check available for all;
- government to introduce compulsory education or workplace training up to age 18 following introduction of new diplomas and expanded apprenticeship route.

The functional skill areas are English, mathematics and ICT. These are being placed at the heart of the curriculum for 14-19 year olds, so that no young person leaves education without them.

Employers also have a role in developing new specialised *Diplomas* (see below), which combines skills development and general education. Through the sector skills councils, employers have been involved in the top level design of these new programmes. To achieve these qualifications, young people will need to demonstrate competence in the functional skills and a range of personal, employability, learning and thinking skills, as well as developing some of the specific skills required for employment in a particular area. The Diplomas will reflect local needs for employment and social needs.

The new apprenticeships

Employers have a role in providing *Apprenticeships*. These, in the past, have served many people well as an introduction to a successful career or a job-for-life in an established industry. In latter years the initiatives like the Youth Training Scheme have failed many young people because they did not fully integrate education, training and employment. Apprenticeships prepare young people, through an employment-based route, for a particular occupation that includes learning and assessment in that particular "occupational competence" - industry-recognised skills. There will be an entitlement to funding for an apprenticeship place for all school leavers who meet the entry criteria (DfES, 2007c). There still remains work to be done to establish the quality and status of apprenticeships in the UK but the Qualifications and Curriculum Agency (QCA) and Sector Skills Development Agency (SSDA) are beginning pilots in spring 2007. To ensure employers are onboard a clearinghouse to match potential employers and apprentices is to be established. There will be a compulsory probation period of six weeks to help ensure apprentices and employers are well matched. A system will be in place to ensure that young people can move between employers and transfer the credit they have gained and the Learning and Skills Council (LSC) will introduce a quality mark for employers creating quality apprenticeships. There are also plans to ensure that further education and employer-based training is equally funded.

Apprenticeships are separate to Diplomas but the DfES endeavours to ensure that there are clear progression routes between them. Diploma Development Partnerships mapped out clear progression routes from specialised diplomas to apprenticeships and vice versa for the initial proposals in summer 2007.

Employers are also being asked to contribute to the *Young Apprenticeships* (YA, see below). The ATL provides a note of warning, however:

"Employer engagement is in short supply; the Government has to provide appropriate levels of funding and incentives to encourage it" (ATL, 2007).

Trainees should identify the extent to which local employers are engaged in their school curriculum and how these links were developed and fostered.

Young Apprenticeship programme for 14 to 16 year olds

The *Young Apprenticeship* (YA) programme is an opportunity for 14-16 year olds, whilst at school, to combine the practical application of skills and knowledge in a vocational context with the pursuit of qualifications that relate to particular occupational sectors. They will be educated at a school but also attend on a regular basis a company or public sector centre to receive vocational training. The initiative contributes to a more personalised approach to teaching and learning.

It is being designed as an addition to the vocational options at key stage 4 "suited to the needs of motivated and bright 14-16 year olds pupils" (DfES, 2007d) to pursue industry specific vocational programmes outside of school. It will involve extended work placements. (3000 pupils have been involved in programmes since 2004.) None of the programmes have ICT as the focus of the study/apprenticeship; the options are dominated by the service industries (DfES, 2007d).

Some people are highly critical of the pathway because, contrary to the wishes of Tomlinson, the proposal promotes a schism between the academic and the vocational provision at the every time that educational practice might have an opportunity to meld the two together in the location, context and accreditation of learning.

NUT General Secretary Steve Sinnott comments further on the White Paper on 14-19.

"*The White Paper uses the language of Tomlinson but has a fundamentally different meaning. Tomlinson was about ensuring all young people had access to both academic and vocational learning.*

"The Government has created one diploma for GCSEs and A levels and another for vocational learning. This re-branding does not disguise the fact that the academic/vocational divide has been widened rather than narrowed." (Sinnott, 2005)

*Changing the **nature** of teaching and learning under the 14-19 reforms*

Andragogy, pedagogy and beyond

School-based learning, the work of teachers and the development of trainees are driven by the understanding and implementation of pedagogy. In teacher training, it is described as subject knowledge and understanding. The work of Shulman focuses upon pedagogic content knowledge - not just a teacher's knowledge of the curriculum but the teacher's knowledge of how to teach the skills, knowledge, concepts and attitudes of the subject.

Tutors and trainers in further education are driven by andragogy. It is their perception of how adults learn and constructing the right environment for learning.

If differences exist then teachers, tutors, trainers and trainees working in the 14-19 context need to understand the differences and similarities.

Malcolm Knowles devised a set of four assumptions that differentiated adults from children as learners. He suggested that different approaches to teaching adults and children are necessary. His four assumptions are based upon the adults': awareness of self-concept, experience of learning over a long time, readiness to learn and orientation to learning. Knowles believed that an andragogical approach to teaching adults was vitally important in order to meet the adult's learning needs and to "teach adults how to learn" (Knowles, 1970: 39).

Modern approaches to pedagogy including recent DfES initiatives in thinking skills, leading in learning, assessment for learning, ICT capability and the National Strategies in general place the child at the centre of the learning process. They advocate that teaching:

- promotes cognitive independence (awareness of self-concept)
- encourages reflection upon prior learning (experience of learning);
- motivates learners (readiness to learn); and
- places learning in an appropriate context (orientation to learning).

It appears that a major exclusivity of andragogical practice is being undermined by the changing approaches in pedagogy.

Indeed, the argument that adults' readiness to learn makes them very different to pupils and that different strategies are required is undermined by leading educationalists such as:

- Neill in the 1960s and his work in Summerhill;
- Montessori in the 1950s and the focus upon the child determining the context of learning; and
- Dewey at the turn of the last century and his assertion that the teacher should be a guide to learning.

Perhaps the teachers and trainees of key stage 4 need to be more aware of the principles of andragogy so that they might better understand how the changes in pedagogy can better meet the needs of students as they pass through their adolescence to adulthood. This third way of considering pedagogy and andragogy is termed heutagogy,

Heutagogy is the principle of teaching based upon the concept of truly self-determined learning. It is suggested that heutagogy is appropriate to the needs of learners in the twenty-first century, particularly in the development of individual capability, individualised learning and independent learning using the internet-based systems including multimedia, virtual learning environments, online assessments and social software.

The rapid changes in society, the pervasive nature of new and developing technologies and change in employment patterns from manufacturing to service industries and from physical skills-based to knowledge-based occupations have an impact upon what a vocationally-based curriculum should contain. Heutagogy is associated with capability. It contains

principles of teaching that foster and create independence within the learner. From the perspective of young people experience a vocational driven curriculum there are important attitudes and understandings arising from the idea that there is no longer any certainty about one's job, chosen career, place of work, abode, relationships and economic circumstances. Heutagogy and the 14-19 reforms have similar aims because the world is no place for the inflexible, the unprepared, and those attempting to ignore the changes around them.

The design of effective lessons is fundamental to the pursuit of high quality teaching and learning. Teachers, trainees and teacher trainers are under considerable pressure to incorporate the pedagogic approaches promoted in the recent key stage 3 initiatives. There is an emphasis being placed on how to teach which focuses upon the structure of learning and chronology of teaching. It is far from allowing pupils to determine the course of their own learning or fostering individualisation. "The Strategy intends to strengthen its emphasis on pedagogy by promoting discussion about the key factors in lesson design (DfES, 2002b).

Trainees need to recognise that ICT has been responsible for the transfer of education from passive participation to active participation. The internet provides the learner with opportunities to go beyond the immediate curriculum, learn with others separated both by distance and by time, experience real contexts for their learning and to receive immediate feedback upon their answers and queries. The internet through the worldwide web and social software facilitates the self-directed learner in ways that classroom-based learning cannot.

Perhaps it will be the challenge of the end of this decade to recognise the patterns of teaching prescribed for 11 to 14 year-olds is not appropriate for the 14 to 19 year-olds and that teachers need to adopt a new style of pedagogy - heutagogy. Pupils must be encouraged to be independent learners to be able to deal effectively with change - they need to know how to learn, be creative with the skills they possess, use their competencies in novel as well as familiar situations and work with others.

The move towards a more self-directed learning style is considered more appropriate to the new century and is more closely aligned with heutagogy (Hase and Kenyon, 2000).

Changing the learning context

"*The need to provide opportunities that raise standards and achievement is a prime mover for changing the 14-19 learning landscape. It is increasingly acknowledged that the current institutional, curricular, qualification and assessment structures and systems require long-term rather than piecemeal reform in order to address the issue of too many young people leaving school without the qualifications and skills that they need. There is widespread recognition that the provision of learning opportunities for 14-19 year-olds is fragmented and lacks coordination and systematic planning. There is a growing consensus that a more strategic approach is required to achieve a more coherent education and training offer that links pre- and post-16 learning"* (Sims and McMeeking, 2004).

The intention of the 14-19 reform is that the work that students do will, as far as is practicable, will be employer-led with real or simulated projects based on the business or organisational needs. This concept is becoming known as 'applied learning'. At key stage 4 that learning experience will take place predominantly in schools with some pupils learning in workplace and college locations for some of the time in either weekly of block placements.

The cohesion required through coordinated and systematic planning will arise through the unification of qualifications. Of particular interest to ICT teachers is the Diploma in IT. That development is being underpinned by a number of studies and initiatives that have been reported by the QCA. They all have influenced the curriculum pupils experience at key stage 4.The case studies presented by QCA (2006) represent the range of models found in

schools, at a time of significant development. They provide a snapshot of work in progress. All the case studies include curriculum models and their rationale. Other aspects of provision discussed in each case study are indicated in the tables to enable users to locate those they are most interested in. They are: collaboration, entitlement, pace and progression, pathways with the curriculum, student guidance, using GCSEs in vocational subjects and vocational programmes.

Trainee teachers should be aware of the curriculum approach that has been adopted in their placement schools.

Trainee activity: scan through three different case studies. Consider your placement school. Write down a number of questions that you need to ask your mentors about the key stage 4 curriculum and the way in which it meets the needs of the pupils. After gathering the information, write a short description of the key stage provision identifying how ICT is represented in their curriculum experience.

Further case studies are available on the vocational learning website (LSN, 2007) and on the FERL site (BECTA, 2007).

The BECTA FERL site provides access to a number of resources to help trainees see the 14-19 reforms in action. There is a 14-19 wiki space http://post16.net/CategoryFourteentoNineteen which provides information about e-assessment, e-portfolios and other topics important to the 14-19 elearning agenda; this is also a good place to start if you have never used a wiki before, as it also contains background information and help pages.

The 14-19 e-learning community discussion forum http://ferl.becta.org.uk/display.cfm?page=1585

The 14-19 Focus newsletter http://ferl.becta.org.uk/display.cfm?page=1583

Supporting the 14-19 learner

"In April 2001, the Government launched the Connexions Service. Connexions is the government's support service for all young people aged 13 to 19 in England. The service aims to provide integrated advice, guidance and access to personal and social development opportunities for this group and to help them make a smooth transition to adulthood and working life. It aims to bring together all the services and support young people need during their teenage years. It offers practical help with choosing the right courses and careers, including access to broader personal development through activities such as sport, performing arts and volunteering.

Through the Connexions Service all young people have access to a personal adviser. For some young people this may be just for careers advice, for others it may involve more in-depth support to help identify barriers to learning and find solutions brokering access to more specialist support. The personal advisers work in a range of settings, including schools, colleges, one-stop shops, community centres and on an outreach basis.

The implementation of the Connexions Service was accompanied by the introduction of an infrastructure of 47 local Learning and Skills Councils, overseen by a national Learning and Skills Council (LSC). From April 2001 the LSC has been responsible for the planning, funding and quality assurance of all post 16 learning and skills delivery in England - as well as working with partners at all levels to promote workforce development and economic regeneration activity" (NIACE, 2004).

The Why young people are not engaging with learning: Nuffield Review of 14-19 education and training (Nuffield, 2006) focuses on the issues arising from behaviour and disaffection which are important issues when teaching this age group. A TTRB review is available at http://www.ttrb.ac.uk/ViewArticle.aspx?contentId=12881

Framework for the 14-19 curriculum

How do young people make choices at 14 and 16? DfES Research Report 773 (2006)

The key findings show that schools with effective support and guidance practice enable young people to make better decisions, that young people make decisions in different ways and therefore support needs to be differentiated.

Sometimes the vocational courses are only offered to the 'less academic' and not always recognised for entry on to A-level courses. QCA equivalences are also often not understood by either parents or post-16 providers.

Do your courses include sufficient experience of the range of vocational courses and a consideration of the equivalences using the National Curriculum Framework?

A review of the DfES report is available on the TTRB website
http://www.ttrb.ac.uk/ViewArticle.aspx?contentId=12757

Changing the accreditation of learning under the 14-19 reforms

The aims of the 14-19 agenda are to make reforms in three main areas:

- raising attainment now;
- designing new curriculum and qualifications; and
- delivering on the ground.

This section outlines the provision and developments to ensure that appropriate curriculum and qualifications are in place to meet the key stage 4 National Curriculum requirements, ensure the success of the 14-19 provision, and for it to be "the best anywhere" (DfES, 2007a).

All schools must follow the National Curriculum for ICT at key stage 4. Most schools will offer a programme leading to a qualification at key stage 4 although this is not mandatory.

The National Qualifications Framework

The National Qualifications Framework (NQF) provides a measure of level. Qualifications at the level of GCSE D-G are deemed to be level 1, those at the level of GCSE A*-C are level 2, and those at the level of A level are level 3.

An important "driving factor" in school development is the publication of performance figures. For the purposes of school performance figures and tables, *threshold performance* at key stage 4 is deemed "5 passes". Formerly this was expressed as 5 GCSE A*-C. With the diversity of qualifications, a new measure is being introduced that determines volume of study as a percentage (with 5 GCSEs=100%) and points level. In order to reach the threshold a learner must achieve 100% with level 2 passes in English and mathematics.

For post-16 students another important measure, alongside level and number of units, is the UCAS tariff (UCAS, 2006). UCAS have agreed a points value for all accredited qualifications that may be used to guide entrance to higher education courses. Under this system, for example, a grade A GCE A-level pass is given 120 points, grade A Applied ICT A level pass 240, Distinction at BTEC National Level 3 240.

Trainees should be aware of the performance figures for their placement schools, how they relate to those of other schools in the locality, the strategies in place to improve those figures and the contribution that the teaching of ICT makes to the threshold achievements.

Entry level	Level 1	Level 2	Level 3	Level 4	Level 5
	4 or more GCSEs at grades D to G	4 or more GCSEs at grades A* to C	at least 2 GCE A2 Levels or 1 A Level and 2 AS Levels or 4 AS Levels	Undergraduate degree	Postgraduate degree
	BTEC Introductory Award	BTEC First Diploma	BTEC National	BTEC Higher National Diploma (HND)	
	Entry to Employment (E2E)	NVQ Level 2	NVQ Level 3	Higher professional qualifications (NVQ Levels 4 and 5)	

	NVQ Level 1				
New Diploma entry level certificates	New Diploma Foundation	New Diploma Intermediate	New Diploma Advanced		

Overview of qualifications including the New Diploma

Section 96 and the national database of accredited qualifications

"*Under the provisions of section 96, 98, 100 and 101 of the Learning and Skills Act 2000, schools, institutions and employers in England may offer to those under the age of 19 a course leading to an external qualification which is funded either by a Local Education Authority or Learning and Skills Council only if the qualification is approved*" (DfES, 2002c).

At key stage 4, schools and colleges can only offer qualifications that appear on the DfES "Section 96" list. The 96 here refers to the section that deals with this issue in the Learning and Skills Act 2000.

The National Database of Accredited Qualifications (NDAQ) supersedes openQUALS. This database contains details of all accredited qualifications in England, Wales and Northern Ireland. There are many alternative qualifications in ICT. QCA, and its counterparts in Wales and Northern Ireland, maintain the National Database of Accredited Qualifications (NDAQ) website at http://www.accreditedqualifications.org.uk

The qualifications are divided into Entry level (EL), GCSE, GCE (post 16 usually), VRQ (vocationally related qualifications), and NVQ (vocational qualifications). Further, for ICT, they are divided into IT Users and IT Practitioners. These are sometimes referred to as learning and skills sectors 6.1 and 6.2 respectively. Some qualifications, such as GCSE, cover both.

VRQs (unlike NVQs) can give graded results and they allow for the incorporation of vendor-awarded qualifications (see below) as units. An example from Cisco is the incorporation of their successful Cisco Networking Academy Programme into the National Qualifications Framework (NQF) (Cisco, 2006).

In the NVQ category there are many work-based units in the IT for Users and IT Practitioners sectors. These will most often be offered by further education colleges rather than 'schools' and require the learning/performance to be assessed in the workplace. The NVQs in IT include ITQ and ECDL. The Increased Flexibility Programme (IFP) provides for 14-16 year olds to learn off-site and to gain NVQs in other subjects, for example, motor vehicle engineering, as well as Applied GCSEs.

The range of qualifications available to schools

GCSEs and GCEs are available in ICT and Applied ICT. Many centres also offer GCE Computing; sometimes, this is in place of the ICT/Applied ICT courses. It is interesting to note that schools can be specialist Technology Colleges or Maths and Computing Colleges. ICT falls somewhere within or between these specialisms!

Among the most common level 2 ICT qualifications are the GCSE in ICT (single award), GCSE in Applied ICT (double award) and DIDA 'family' – the Diploma in Digital Applications or, more properly, the Diploma in Digital Applications for IT Users. Using the notion of threshold performance, a GCSE in ICT contributes 20% of threshold, GCSE in Applied ICT 40% and DIDA 80%. The NDAQ gives full tariffs for all qualifications, indicating their level, percentage contribution to threshold and points value. This latter measure indicates the breadth of study more finely.

The GCSE in Applied ICT was introduced in 2003. It has a similar structure to the earlier GNVQ Part One award. Students take three units and gain a 'double award'. The

qualification was designed before the publication of the Tomlinson (2004) report but had similar aims and objectives. These include

- introduce students to work-related learning
- provide students with an overview of the sector
- equip students with some of skills they will need in the workplace or in further education or training
- empower students to take charge of their own learning and development

(Edexcel, 2002)

A further objective is to *"provide a range of teaching, learning and assessment styles to motivate students to achieve the best they can"* (Edexcel, 2002). The assessment style for this course has been interpreted as a rather paper-intensive one. Partly as a result of this, and in order to exploit the developing multimedia facilities in schools, Edexcel designed and introduced the Digital Applications suite of qualifications. These provide an Award, Certificate and Diploma in Digital Applications – AIDA, CIDA and DIDA – worth 20%, 40% and 80% of threshold respectively (c.f. single, double and quadruple GCSEs).

The DIDA family use an electronic portfolio as the basis for assessment. It is thus "a paperless qualifications … that focuses on the practical application of technology"(Edexcel, 2005). Further it is "designed to stimulate students' creativity and develop real-world, practical skills" (ibid.) The use of the e-portfolio in DIDA presages their wider use in other areas of learning. The government's e-strategy has an action to 'provide a personalised learning space for every learner that can encompass a personal portfolio', and a milestone to make a 'personalised learning space with the potential to support e-portfolios available to every school [and college] by 2007-08.' (Becta, 2007)

The full GCSE course provides the traditional single award (20% of threshold) with a combination of coursework and examination. The nature and content of these specifications vary between awarding bodies but are governed by the need to cover the National Curriculum. As an example AQA offer two such awards – labelled specification A and B. A significant difference between the two is in the nature of coursework assessment. In specification A, students have to produce a project and respond to board-set tasks (AQA 2006a). In B they have to produce two reports (AQA, 2006b). A complete overview of the GCSEs (full, short and Applied) offered by the major awarding bodies – AQC, CCEA, Edexcel, OCR and WJEC – may be found on the Joint Council for Qualifications website (JCQ, 2005). There is also a similar list for GCE qualifications (ibid).

Along with all other awards, the GCSE specifications will be affected by the review of the secondary curriculum (QCA, 2007d) and the need to embed functional skills. There maybe fundamental changes in the 'menu' of GCSEs offered as a result. With numbers of students taking Applied GCSE ICT courses falling by 10% in 2006 (JCQ, 2006:89) and the 'applied' nature of ICT as a whole it may well be that the distinction between Applied ICT and ICT is removed in the future.

Some schools use the GCSE short course option to provide accreditation and enable pupils to meet the National Curriculum requirements at key stage 4. In the qualification framework they are level 1/2 and offer 10% contribution to the threshold.

"*This specification offers a flexible unitised format. Short Course candidates take the first two units only, while full course candidates must complete a further two units*" (OCR, 2007a).

There is a concept of qualifications being proxies for key skills (QCA, 2004). If this is continued with functional skills, it may well be that a stand alone functional skills qualification replaces the short course GCSE as there may not be a need for both.

An alternative offered by school schools to all key stage 4 pupils is an entry level ICT course. It is at level 1 and not counted on performance tables. “Formerly known as the certificate of achievement, entry level qualifications are the first level in the national qualifications framework. They are designed for learners who are not yet ready for GCSE, NVQ or other level 1 courses. There are three stages of achievement, which are broadly in line with National Curriculum levels 1 to 3. Specifically, candidates have the choice of entry level 1, entry level 2 or entry level 3 ICT” (OCR, 2007b). QCA has identified good practice in the use of qualifications at Entry level and developed a number of case studies to illustrate how this has been achieved in variety of educational settings (QCA, 2007b).

“*Entry level qualifications have been beneficial to teaching and learning. They motivate learners, increase their confidence and help them to progress. They help teachers to create better-quality learning programmes and encourage them to raise their expectations of learners… … At the heart of all these programmes must be a shared vision of how the learning below level 1 of the NQF can best be met*” (QCA, 2005).

An alternative to the now obsolete GNVQ and the current Digital Applications qualifications is the BTEC Introductory Certificate and Diploma in IT@Work. It is a vocationally related (applied context) qualification at level 1 and contributes 80% towards the threshold. The Certificate and Diploma in IT@Work routes are designed to:

- develop a range of employability skills and techniques, understanding, personal qualities and attitudes essential for success in working life;
- develop learners’ ability in IT through effective use and combination of the knowledge and skills gained in different parts of the qualifications;
- provide specialised studies directly relevant to IT and related sectors in which learners are working or intend to seek employment;
- provide a stepping stone into employment in the IT industry where some previous experience is necessary to gain initial employment.

The BTEC First Diploma/Certificate for IT practitioners is the level 2 equivalent; OCR iPro is a similar qualification (OCR, 2007c). They focus on:

- the education and training for IT practitioners who are employed in a variety of types of IT based and technical work in a support or trainee capacity, such as user support, customer services, hardware testing and production, data entry, network administration, education and training and publishing;
- developing the knowledge, understanding and skills of learners from a technician’s viewpoint the role of the IT practitioner, their relationship to section/department in which they work and how their role and their department/section fits within the overall company structure and the external IT and local communities;
- providing opportunities for learners to focus on the development of the major key skills and the wider key skills in an IT context, such as improving own learning and performance, working with others and problem solving; and
- providing opportunities for learners to develop a range of skills and techniques, personal qualities and attitudes essential for successful performance in working life.

The OCR Nationals are found in an increasingly large number of centres. These qualifications are offered in four forms at level 2. The National First Award is a 20% of threshold qualification (equivalent to one GCSE), National Award 40%, National First Certificate 60% and National Certificate 80%. They offer a range of different approaches from the traditional examination at 16 model.

- flexible candidate entry (there are no entry deadlines)
- no external assessment (all qualifications are centre-assessed and externally moderated by an OCR Visiting Moderator)

- no set dates for moderation.

The move to centre-based assessment follows the model of the Edexcel DIDA family where centres are verified as having quality assured assessment processes.

Basic skills courses

The most popular basic skills courses are Computer Literacy And Information Technology (CLAIT, 2007) and the European Computer Driving Licence (ECDL, 2007). They are aligned with the NQF. An example, OCR has produced a level 1 New CLAIT. It is a VRQ with a 10% certificate and a 20% diploma. They also have CLAIT Plus, which is a level 2 award with a 20% certificate and a 40% diploma. CLAIT is an introductory course for people with little or no computer experience to those wishing to gain qualifications that extend up to Level 3.

ECDL (European Computer Driving Licence) is awarded by the British Computer Society. It has a 5% certificate at level 1 and a 20% part 2 certificate at level 2. Its new name is BCS Level 1/2 Certificate for IT Users (BCS, 2007) and BCS IT User Level 3 called ECDL Advanced.

Vendor qualifications

Students at school may be entered for qualifications awarded by vendors. Schools need to become approved academies for the vendor concerned. There are 3 popular opportunities:

Cisco (networking) http://cisco.netacad.net

Microsoft http://www.microsoft.com/uk/education/skills-dev/it-academy/faq

Oracle (database) http://academy.oracle.com

National Vocational Qualifications (NVQs)

NVQs are available in both IT Users and IT Practitioners sectors. They are 'competence-based' qualifications because students learn practical, work-related tasks designed to help them develop the skills and knowledge to do a job effectively. They are available at levels 1-5 and are vocational qualifications, with on-the-job learning and assessment.

NVQs are based on national standards for various occupations; those standards say what a competent person in a job could be expected to do. Taking an NVQ is most appropriate if the worker already has skills and experience and wants a qualification that recognises what they can do. NVQs are also courses where the worker compares their skills and knowledge with the occupation standards to see what they must do to meet them.

The phrase ‘vocational contexts’ is being dropped from the non-NVQ qualifications in favour of ‘applied contexts’ to avoid confusion between qualifications awarded through work (NVQs) and those through schools.

Other subjects

ICT teachers may find themselves being asked to contribute to courses leading to qualifications other than those labelled as ICT. This may be in respect of key or functional skills teaching but may also be part of the mainstream teaching of those qualifications. Subjects that fall into this category are those involving business, media and travel and tourism. Of particular note are those combined courses such as the level 1 Business and ICT offered by OCR or the BTEC level 3 National in e-Business.

Trainees should identify the qualifications offered in their placement schools and colleges. For each one the level and volume should be identified – how many units, how much contribution to threshold or UCAS tariff points. In the case of KS4 courses, these could be mapped against the National Curriculum. They should identify how the learning of ICT is monitored for those KS4 students who do not opt for a qualification.

Changing the curriculum under the 14-19 reforms

The Tomlinson report (Tomlinson, 2004) recommended that GCSEs, A levels and vocational qualifications should evolve over the next decade into a new open diploma system enabling learners to select a mixed pattern of subjects and areas of learning similar to those available through GCE, GCSE and vocational qualifications. One of the outcomes of his report is the creation of a Specialised Diploma specification. It will provide a clear indication to employers, universities and others as to the range of skills, knowledge and experience of young people. The Apprenticeships (see above) would be linked to the diploma system through clear progression routes so that students can more freely and integrate academic and vocational study.

Specialised Diploma in IT

The Specialised Diploma in IT will be ready for September 2008. Like all specialised diplomas, it consists of three components: principal learning (IT), additional/specialised learning and generic learning. Again like all specialised diplomas, a sector skills council regulates it with e-skills UK is leading the development for the IT Diploma in collaboration with the awarding bodies.

"*Developed in partnership with employers and universities, each Diploma blends general education and applied learning to provide a motivating and challenging programme of study*" (e-skills UK, 2007).

The additional learning may include units that deepen their learning in IT or that complement it. For example, vendor qualifications, foreign language acquisition, vocational skills or non-accredited courses can enrich the students' studies. Diplomas would be achieved through completing a defined volume of study. The diploma framework would allow multi-level learning in that learners could work at more than one level as they progress towards the diploma.

Generic learning consists of functional mathematics and English, PLTS (personal, learning and thinking skills), work experience, an extended project and planning/review. Most of this should be embedded in other learning. Mathematics, English and ICT user skills will be developed. Employers have criticised previous courses because do not produce potential employees with the skills they need to function effectively in the workplace - especially in communication. The functional skills (see below) will address this concern.

At level 2, students on this programme will, if successful, be deemed to have reached the threshold performance (the same as if they achieved five A*-C GCSEs including mathematics and English). The idea is to make the intermediate level more of a "progress check" and less a final set of qualifications. It is hoped that it will encourage more pupils to stay on after the end of compulsory education at the age of 16.

An entry-level diploma would provide a suitable level of challenge both for individuals who reach their potential within entry-level and who choose to leave the diploma system at this level and for those progressing to level one. Assessment would provide a record of the distance travelled by the learner over the course of the programme. The entry level is also suitable for pupils with special educational needs that prevent their higher cognitive engagement.

The diploma gateway

In order to be allowed to offer the award of Diploma in IT, schools must work in collaboration with other schools, training providers and employers. These consortia must pass through a "gateway process" to gain this approval. Considering the experiences of the 14-19 Pathfinders enables good practice to be identified and provide a test bed for innovative work. The intention is that the work that students do will, as far as is practicable, will be

employer-led with real or simulated projects based on the business or organisational needs. This concept is becoming known as 'applied learning'.

An important aim has been to reduce the burden of examinations currently faced by young people; pupils in the UK are often described as the most tested in the world. In the light of criticisms of course work in key stage 4 qualifications, the search for non-examination methods of assessment is more challenging. Work is underway to enrich the learner's experience by using a variety of types of assessment and to ensure that all assessment is fit for purpose and at the same time not burdensome to learners, teachers and lecturers. The professional judgement of teachers will be acknowledged. All assessment has to be seen as valid, reliable and quality assured. Coursework, discredited as prone to cheating, would be drastically reduced. However, there would be an extended project, intended to allow youngsters to develop and demonstrate a greater depth of knowledge.

At all diploma levels, a transcript would detail students' achievements in the individual modules they had taken. At intermediate level, roughly equivalent to the current GCSEs, the ideas involve a far greater reliance on internal assessment by teachers. Teachers unions have already expressed concern that their members' workloads might increase.

"Student disaffection in this age group has had a widespread and negative impact on teacher workload, stress, motivation, and recruitment into the profession…

…opportunity to pursue an extended project, particularly if this replaces a great deal of externally set coursework, requires further detailed consideration. NASUWT has deep concerns about the implications for teacher workload of a move to increased internal assessment" (NASUWT, 2004: 4, 7).

"*The type of assessment which best supports learning is that which is based on the day-to-day informed professional judgements that teachers make about pupils' learning achievements and their learning needs, drawing on their knowledge and understanding of pupils.*

Somewhat optimistically, the SHA claims that an increase in internal assessment would not increase teacher workload. ATL takes a different view and will be concerned to ensure that any increase in classroom-based assessment is not achieved at the expense of hard worn recent gains in reducing workload.

Nevertheless, ATL can support the emphasis on professional development inherent in the Chartered Examiner idea… …at the same time we shall be pointing out the potential workload implications of each proposed development" (ATL, 2004).

The assessments lead eventually to the award of qualifications. The Diploma route will be characterised by having different forms of certification or evidence that students can give to employers and colleges. Ways of providing detailed information about the achievements of individual learners might be through:

- formal transcripts accompanying the award of the diploma;
- record of credits for learners in transition between school and college or work-based training;
- grading individual components to inform selection and recruitment decisions; and
- grading the diplomas within each level to be considered further in the next stage of the Working Group's work.

Functional Skills – the new key skills

Key Skills are in different levels, matched to the National Qualifications Framework (NQF):

Level 1 – the same level to GCSE and grades D-F

Level 2 – the same level to GCSE grades A*-C

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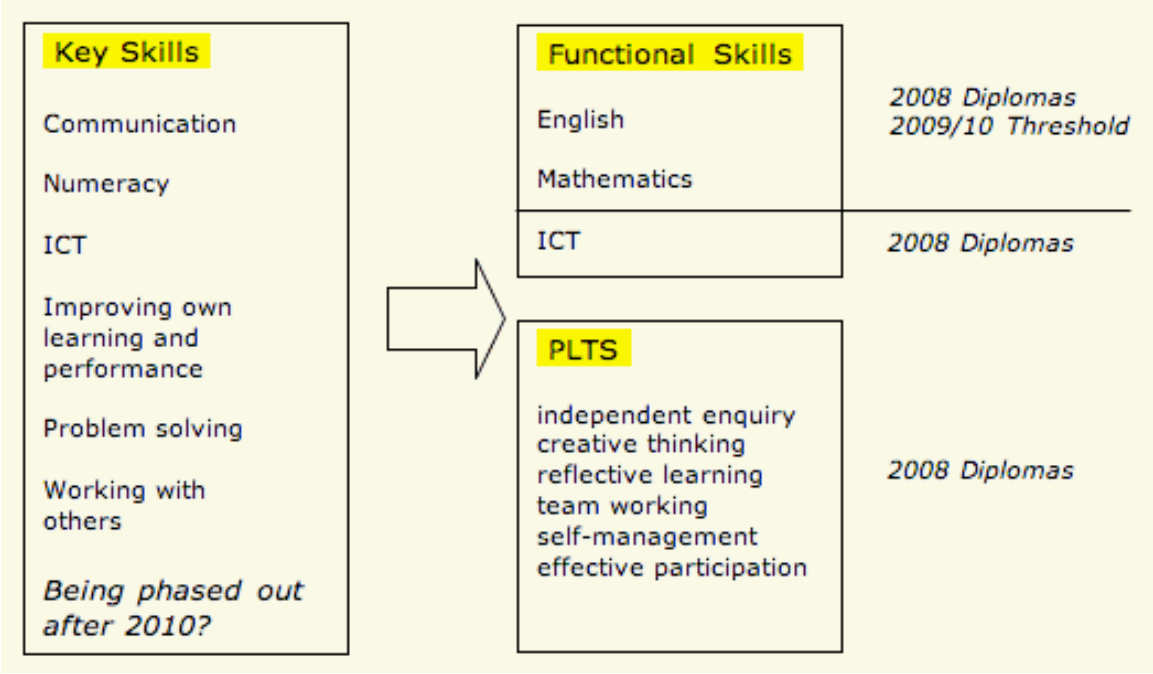
Level 3 – the same level as GCE (A2) level

Level 4 – the same level as HND or an ordinary degree

Level 5 – the same level as good degree

Key skills will still have a role to play in the new 14-19 curriculum reforms, but it is yet unclear to what extent that role will be. Key Skills, or those deemed to be “Functional Skills”, are planned to become compulsory for years 10 and 11 in the near future. Some schools have successfully introduced Key Skills in year 9. The Functional Skills of English, and mathematics are a mandatory part of the ‘threshold’ for reporting performance. In order to qualify for a school’s level 2 figures, students must achieve five level 2 passes including the Functional Skills of English and mathematics. The other Functional Skill is ICT. All three functional skills will be mandatory parts of the 14-19 Diplomas.

See the extract from QCA’s structure document (2007c):



Additionally there are six Personal, Learning and Thinking Skills (PLTS). These are not going to mandatory (Knight, 2006) components of GCSEs and GCEs, but will form part of the Diploma.

References and resources for the 14-19 reforms

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Glossary and abbreviations for the 14-19 reforms

AQA Assessment and Qualifications Alliance is an awarding body

BTEC Business & Technology Education Council is an award conferring council now run by Edexcel

CCEA Council for the Curriculum Examinations and Assessment is the Northern Irish regulatory body that has a similar role to QCA in England but which is also an awarding body whose qualifications may also be taken in England

CLAIT Computer Literacy And Information Technology is a VRQ and is an introductory course for people with little or no computer experience

Connexions Service is a support service for young people providing integrated advice, guidance and access to personal and social development opportunities

DfES Department for Education and Skills

DiDA Edexcel awards the Diploma in Digital Applications for IT Users and the double award Certificate or CIDA and the single Award or AIDA.

Diploma gateway - consortia of schools, colleges, HEIs and employers must pass through a "gateway process" to be allowed to offer the award of Diploma in IT

ECDL European Computer Driving Licence is an award of the British Computer Society also called BCS Level 1/2 Certificate for IT Users

Functional skills - the three functional skills of English, mathematics and ICT will be mandatory parts of the 14-19 Diplomas

GTP Graduate teacher programme

HLTA Higher Level Teaching Assistants

ICT Information and communication technology - a subject of the National Curriculum for England and Wales

IFP Increased Flexibility Programme supports learning off-site for NVQs, Applied GCSEs and AVCEs

IT Information technology - a subject of focus of the 14-19 reforms

ITT initial teacher training the provision by higher education institutes, recommending bodies or SCITTs to train and make the recommendation that QTS is awarded to individuals

Key Skills - 6 areas: communication, numeracy, ICT, improving own learning and performance, problem solving and working with others. They are being phased out after 2010.

NDAQ National Database of Accredited Qualifications (was openQUALS) is a database of all accredited qualifications in England, Wales and Northern Ireland

NEET 16-17 year olds not in employment, education or training

NIACE The National Institute of Adult Continuing Education - England and Wales is a non-governmental organisation working for adult learners.

NQF National Qualifications Framework provides a comparison between the different awards

NVQ National Vocational Qualification is a 'competence-based' qualification where students learn practical, work-related tasks designed to help them develop the skills and knowledge to do a job effectively

OTT Overseas trained teacher

Framework for the 14-19 curriculum

PGCE Postgraduate Certificate of Education with QTS

PGCE Professional Certificate of Education with QTS

PLTS Personal, Learning and Thinking Skills - 6 areas of learning including: independent enquiry, creative thinking, reflective learning, team working, self-management and effective participation.

RTP Registered teacher programme

SCITT School centred initial teacher training

SHA Secondary Heads Association - from 1 January 2006 became the Association of School and College Leaders (ASCL)

TDA Training and Development Agency for Schools who govern and support initial and in-service teacher training, part of the Department for Education and Skills

UCAS Universities and Colleges Admissions Service

WJEC Welsh Joint Examinations Committee is an awarding body whose qualifications may also be taken in England