Skills Funding Agency

Review of publicly funded digital skills qualifications

February 2016

Of interest to employers, colleges, training organisations and awarding organisations.

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Ministerial foreword

As Minister for the Digital Economy and Minister for Skills, we recognise the huge opportunities and benefits for the UK that arise from a digitally skilled population. Not only do digital skills underpin growth and productivity, but they have the power to transform lives – supporting individuals to make new connections, embrace new opportunities, and ultimately engage with an ever more digital world.

However, realising these benefits isn't without its challenges. When we commissioned this review in early 2015, we wanted to get a better picture of the role of Further Education in providing digital skills in education and training. We wanted the Skills Funding Agency to draw on its expertise to analyse what is currently happening and how it is meeting the needs of a 21st century digital economy.

At this time we had heard from numerous sources – employers, partners and notably the Prime Minister's Enterprise Adviser Lord Young – that Further Education had the potential to do more to provide the digital skills that enable individuals and businesses to make the most of technology. This review was designed to consider what needs to happen to make this a reality.

The findings of this report are timely. With the reforms of technical and professional education under way, its recommendations will help the government get the best outcomes for future digital skills provision.

This report has usefully grouped the UK's digital skills into three categories – the basic skills needed by everyone; the general digital skills needed by the workforce, and the advanced and specialist digital skills required for the growing number of specialist digital roles. What is clear, is that more is needed to signal the importance of each category in itself, as well as setting the expectations of the knowledge and skills that should underpin them. Put plainly, digital skills are of national importance and apply to us all.

It is also essential that individuals, employers and training organisations understand how the Further Education offer can support individuals to progress and gain the

skills that are needed by industry. We know digital skills are required across the economy by individuals and small businesses looking to make the most of the internet, through to specialist digital roles across all sectors.

To achieve these ambitions, the digital skills offer must be built on two key components – relevance and flexibility. The pace of technological change means that skills requirements will continue to evolve, and provision must meet these changing needs. To stay relevant, standards must reflect what industry needs and shape the provision that sits underneath them. Delivery of skills provision must also be flexible to ensure that it meets changing local and national priorities.

We would like to thank Liz Williams (Director of Tech Literacy and Education Programmes at BT) for chairing the review, and the Digital Skills Review Steering Group for providing their expertise, time and commitment to develop the recommendations. This report makes an important contribution to shaping future digital skills provision, and to realising the benefits of the digital age.

Ed Vaizey
Minister of State for Culture and the Digital Economy

Nick Boles
Minister of State for Skills

Foreword

We are in a time of great change. Digital technology is reshaping how today's society thinks, works, learns, and develops. The digital economy *is* the economy and this presents us with major challenges and opportunities – for productivity, national competitiveness and how individuals participate in society. Our success will be measured by how well we are able to prepare people to keep pace with the rapidly changing nature of technology.

As the independent chair for this review, I was asked to look at one important aspect of the digital puzzle: how can we ensure that publicly funded digital skills provision for adults is relevant and fit for purpose? The review team has looked comprehensively across the adult skills system, with a focus on what to do in the short and medium term to improve the digital skills offer.

In this report we have made six recommendations. Each is designed to improve digital skills provision and make it relevant to the needs of individuals and employers. We have recognised that the skills system is continuing to evolve, and we have sought to make recommendations that can inform how a reformed system can best support delivery of enhanced levels of digital capability.

Equally importantly, this review has yielded a number of learning points of broader significance. There is a fundamental need to rewrite how we think about digital skills and the status they receive in society.

The UK has rightly made it a national priority to make sure all adults achieve a basic level of literacy and numeracy. Digital skills are increasingly pivotal to careers in all sectors. This review has therefore concluded that a similar level of national importance should be placed on ensuring all adults reach a basic level of tech literacy.

An important starting point is being clear on what we mean by 'digital skills'. There is currently too much jargon and too little consistency in the language used. We need a clear definition of 'digital skills', that's written in plain English. This has to go beyond

simply making sure adults are able to *use* digital technologies – to ensuring they understand the concepts behind how they *work* and the impact of technology in society.

I frequently hear people use the term ‘digital natives’. Given the strategic importance of this tech literacy, we must move away from the belief that people can acquire these essential skills by osmosis. We should not confuse the confidence young people have using technology with the overwhelming need to put in place a robust structure to deliver digital skills to the level required in the UK, today and going forward.

From my ‘day job’ at BT, I appreciate the vital role employers have to play in helping design standards for publicly funded skills and qualifications, ensuring skills and qualifications are fit for purpose, and keep pace with what employers need from their workforces today and in the future.

For the UK to be at the forefront of digital transformation, we need individuals with digital capability. We have a real opportunity. Get the investment decisions and supporting infrastructure right today, and we have the potential to empower individuals to play a fuller role in society, and make a greater contribution to our national economy.

Liz Williams
Chair of the Digital Skills Qualifications Review Steering Group
Director Tech Literacy and Education Programmes, BT Group
Board member, The Tinder Foundation

Executive summary

In the 21st century, the UK must prepare for a world where almost every role will need an element of digital skills and by 2023 the Tech Partnership estimates the economy will need over one million new recruits for specialist digital roles.

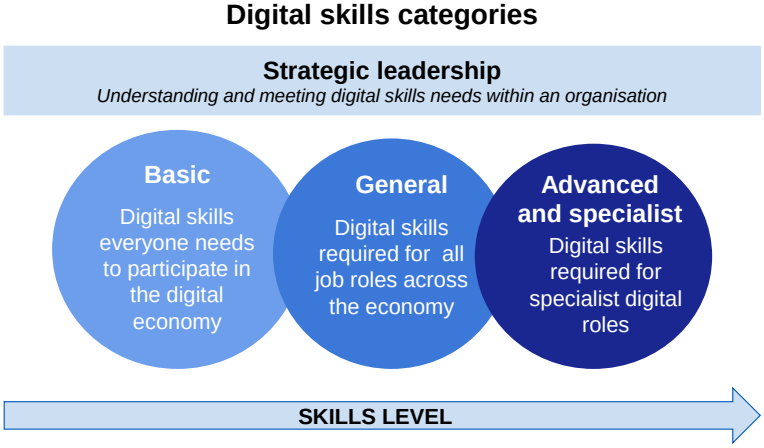
To make sure the UK is able to seize the opportunities that digitisation offers, there must be an advancing hierarchy of digital skills, which learners can access throughout their lives and careers.

This review focuses on a specific area of provision: how to improve the publicly funded digital offer for adults. It has found that delivery of digital skills is too out of date, unplanned, confusing, and too often an add-on to other learning. Most of what government buys as publicly funded digital provision is at a basic level. Too little of the provision offers a robust route to become a high end digital user or creator.

To improve the digital skill set of individuals in and outside of the workforce, we need digital provision that is fit for purpose and continues to meet the needs of individuals and industry. Keeping pace with technological change requires employer directed standards and a national benchmark that sets out the evolving range of digital competences needed from basic literacy to digital specialist.

A key finding of this report is that there needs to be greater clarity and consistency on what is meant by 'digital skills'. The research identified categories of digital skills:

Figure 1: Digital skills categories



These categories were used to analyse the current qualifications offer and make recommendations for what good provision would look like so that future delivery meets the needs for the UK's digital economy. This is not just about supplying skills for the digital workforce, but ensuring that every individual, regardless of background, experience or aspiration, has the opportunity to develop appropriate digital skills.

This review's recommendations illustrate what can be done in the short to medium term to improve the publicly funded digital skills offer for adults in England. It provides a small but important piece of the jigsaw of digital skills – supporting activity already in progress to improve other areas of digital skills provision. This review recognises the current period of significant reform to simplify and devolve the adult skills system. These recommendations can make a significant contribution to shaping digital skills provision, and as such help to secure the UK's economic and social digital future.

Recommendations

Recommendation 1: Consistency of **language**

The terminology everyone uses must be consistent. We need a shared language that signals the meaning, relevance and importance of digital skills for individuals and industry. For many people 'ICT' (Information and Communications Technology) and digital skills are interchangeable terms, but they are not. There has been a move away from how information and communication can improve technology, to how digital content, innovation, skills and technology are embedded in everything we do. The way digital skills are talked about in education and training needs to reflect this – to clarify the different stages and purposes of digital skills development to learners and employers.

Recommendation 2: Setting the **standards**

We need clear standards to support the different stages of digital skills development. 'Basic', 'general' and 'advanced and specialist' stages must build upon each other to support progression. It is against these standards that achievement and progress can be benchmarked. To be relevant and stay current, employers must determine

the standards. Employers and government must share responsibility to establish a set of basic standards. Against this strong framework of standards, the FE sector can devise flexible and diverse forms of provision to support local and national priorities.

Recommendation 3: Putting the **basics** in place

Digital literacy must be given the same level of importance as numeracy and literacy. There needs to be equal opportunity for individuals to become digitally literate as there are for them to become literate and numerate. Alongside English and maths, work should be done to ensure that the right circumstances and right provision exists that will enable all young people and adults to achieve a basic level of digital literacy.

Recommendation 4: Integrating the **general skills** the workforce need

Increasingly general digital skills are essential in every job. They are a key skill set for employability, which individuals need to find, retain and progress in a job. These digital skills must integrate within all the technical and professional routes to employment, so that they can meet the needs of a broad workforce.

Recommendation 5: Progression to **advanced and specialist** digital skills

Although digital skills are increasingly needed in all job roles, it is critical not to lose sight of the importance of advanced and specialist digital skills. These are the higher-level skills required for specialist digital job roles across the economy. A digital technical and professional route should be created to provide clear progression to these high-level skills and jobs.

Recommendation 6: Completing the **jigsaw**

This review forms one key part of the digital skills agenda. To ensure this important agenda progresses, it is essential that these recommendations are considered alongside the findings of other key reviews, including the **Shadbolt Review of Computer Science Degree Accreditation and Employability**. The Government must consider how to bring together the findings of these reviews to deliver a coherent flow of relevant digital skills, so that it provides the skills to support growth and productivity for the UK economy.

Part 1: Introduction

Why have we undertaken this review?

The Minister of State for Skills and the Minister of State for Culture and the Digital Economy commissioned this review of publicly funded digital skills in further education (FE).

The review recognises both the importance of digital skills and the inherent challenges in ensuring provision remains up to date and relevant alongside the pace of technological change. The purpose of this review is to make sure that qualifications in FE are doing just this, and so it also considers how to update and make them more relevant to the needs of individuals and employers.

The Skills Funding Agency (SFA) carried out the review. The review was guided, and its recommendations shaped by the Digital Skills Review Steering Group. Chaired by Liz Williams, this group comprised digital sector employers, employer representative bodies, training organisations, government departments, regulators and the funding body (a list of the group members is available in **Annex B**). Members gave advice, but did not necessarily take a view or position on all items covered during the review.

As the review has progressed, reform of the adult skills system has also developed. This includes simplifying the adult funding system, moving away from using qualifications as the sole unit of funding, devolving aspects of the system, and review of the role of qualifications as routes to professions. It is likely the adult skills system and how it operates will look significantly different for the 2016 to 2017 funding year.

Scope of the review

This review looks at the availability and uptake of qualifications that demonstrate the acquisition of digital skills. To inform the recommendations, it has three outputs:

- Establish the current situation.
- Consider the characteristics qualifications need so learners achieve qualifications that are more relevant and give them better job outcomes.

- Complement other reviews taking place across the digital skills agenda. (Notably the **Shadbolt Review of Computer Science Degree Accreditation and Employability**).

Early in the review, a working definition of digital skills qualifications was tested with a range of stakeholders. There was general agreement that the following sentence captured the types of provision and skills that 'digital' can refer to and as a result this was used as the working definition for the review:

> "The very broad set of skills that individuals need in order to understand, use or create the software and services we all access through devices such as computers, tablets and 'smart' phones."

The review looks at learning in England. Its focus is learners aged 19 years and older who the SFA funds. It excludes learners funded by the Education Funding Agency who are 19 to 23 years old with an Education Health Care Plan.

A range of public funds are available for adult learning. This review looks at the Adult Skills Budget (ASB), (now the Adult Education Budget), and Advanced Learner Loans (Loans). It excludes:

- Community Learning
- European Social Fund
- Employer Ownership

The review looks at the use of qualifications in a stand-alone context outside of apprenticeships. However, to set out the relative use of digital skills qualifications in apprenticeships, it includes some statistical information on delivery within an apprenticeship, compared to the wider FE sector.

The following criteria were used to identify what to include within the data set:

- all provision identified as being in the sector-subject area of ICT
- all ICT Functional Skills qualifications

- other provision that has the term ‘digital’, ‘comput’, ‘online’, ‘web, ‘social media’, ‘interactive’, ‘information technology’, ‘software’ or ‘game’ in its title

While the review describes the role of academic qualifications, such as A Levels, GCSEs and the Access to HE Diploma, no comment is made on these groups of qualifications. The Department for Education (DfE) and the Quality Assurance Agency lead on the content and purpose of these respectively.

Areas out of scope

The review identified issues that are outside of its scope. However, they are factors that play a critical role in the success (or otherwise) of digital skills qualifications. They were therefore considered as the recommendations were developed.

Issue 1: Information, advice and guidance, including careers advice

It is important that all individuals understand the value of digital skills and how these can support their career. There can be a difference between what a learner believes to be their level of digital competence, and the level of competency employers look for. For example, experience of tweeting, does not mean you can manage a corporate Twitter handle.

To enable learners to enrol on courses leading to qualifications that signal they have the skills employers want, they need effective diagnosis of their skills gap. They also need better information, advice and guidance to make sure they are aware of the basic to advanced and specialist digital skills that the economy needs. This in itself is reliant on accurate and timely labour market information, as well as information on the outcomes that particular qualifications may support.

Issue 2: Prioritisation of funding

There are a range of digital skills qualifications currently approved for funding. It is not always clear what outcomes these ranges support:

a) Each of the three types of digital skills qualification identified are aimed at different groups of learners to achieve different outcomes. At what level

should decisions be taken about funding of each of these types, or should it be on the basis of local demand?

b) Where digital skills qualifications are aimed at signalling the acquisition of advanced or specialist skills as part of a route to digital sector employment, should certain roles be a priority where there is a known shortage? For example, cyber security specialist over IT user support roles.

c) Should the Loans offer support some types of qualifications, such as professional certificates linked to particular programmes or products (often called ‘vendor certificates’)?

Issue 3: Teaching capacity

It is important to ensure that the teaching workforce is equipped to deliver the skills that digital qualifications necessitate. In parallel to this review, an Ofsted review is ongoing, which will provide valuable insights into the current quality of teaching, learning and assessment of ICT in the FE and skills sector.

Issue 4: Alignment with the inclusion of digital skills within apprenticeships

Any change to publicly funded digital skills needs to take account of the possible impact on apprenticeships. Although qualifications within apprenticeships are not in scope for this review, there are high volumes of ICT Functional Skills within apprenticeships. And the most popular advanced and specialist digital skills qualifications have high enrolments within apprenticeships for digital job roles.

Apprenticeships themselves are changing, to be defined by Standards of knowledge, skills and competence that are set and owned by employers. This may see fewer digital qualifications awarded as part of apprenticeship delivery although there will be more focus on what is needed for specific advanced and specialist digital roles.

The Review Steering Group noted that a positive outcome of high quality basic and general digital skills provision could be progression onto apprenticeships (including higher and degree apprenticeships), as well as progression to higher levels of provision.

Part 2: The current digital skills offer

Why ‘digital’ is important

The digital sector was worth an estimated **£113 billion** in gross value added (GVA) to the UK in 2013.

In June 2015 the UK Commission for Employment and Skills (UKCES) published a **review of the digital and creative sectors**. It found that, “UK digital and creative…contributes almost nine per cent of total GVA UK and employs 2.1 million people.” As well as being a substantial sector of economic activity in its own right, the review highlights the fact that “digitisation of the wider economy is driving extremely strong demand for digital services.”

These views are shared by the House of Lords report **Make or Break: The UK’s Digital Future**. This notes that “digital technology is transforming much more than just one sector of the economy, the whole economy has become digitised.” The ‘digital economy’ is synonymous with the national economy.

Digitisation presents real opportunities for UK growth and competitiveness. By adopting accelerating technologies (including data analytics, mobile technology and social media), companies can perform 10 times better than their peers (Exponential Organisations, Salim Ismail, 2014). In 2014, an estimated 1.4 million people worked in digital roles. Research from the Tech Partnership predicts that by 2023 the economy will require one million new people to fill digital roles and it is vital the future workforce is equipped to fill them.

The need for digital skills will continue to increase in future. In London, **84% of businesses** state that the skills of their employees will need to change over the next 10 years, identifying ‘digital know-how’ as a top new skill. A recent **Deloitte report** estimates that 35% of all jobs are likely to become automated in the next 20 years, with 90% of all jobs requiring some level of digital skills. Digital skills have a key role to play in preparing people for new job roles that will emerge alongside changing technologies, as well as future proofing the workforce as existing job roles change.

Digital skills shortages

Understanding the benefits of technology and being able to use it, requires every individual to have digital skills. It is therefore notable that digital skills shortages are widely reported across the economy. An estimated 23% of UK adults do not have basic digital skills, and the CBI **Gateway to Growth** report notes that 61% of businesses surveyed report weaknesses in IT skills competencies, a 4% increase from the last survey in 2009. The UKCES found that "the greatest recruitment challenges are currently experienced by those seeking workers with digital skills" and that "there are particular concerns about the ability of the education system to supply the quantity and quality of workers needed for digital roles."

The UKCES 2013 Employer Perception Survey (EPS) found that 16% of all vacancies were due to a lack of basic digital skills. Furthermore that 22% were due to a lack of advanced IT or software skills. (The EPS looks at the whole economy. It defines a vacancy as an employer reporting they cannot fill a post due to a lack of sufficiently skilled applicants). The EPS also looked at skills gaps within the existing workforce. Where there were skills gaps, 25% of these related to basic digital skills and 22% to advanced IT or software skills. Finally, the EPS looked at future skills needs of the existing workforce. Where employers anticipated a need to upskill their staff within the next 12 months, 23% expected this to cover basic digital skills, with 33% looking for advanced IT or software skills.

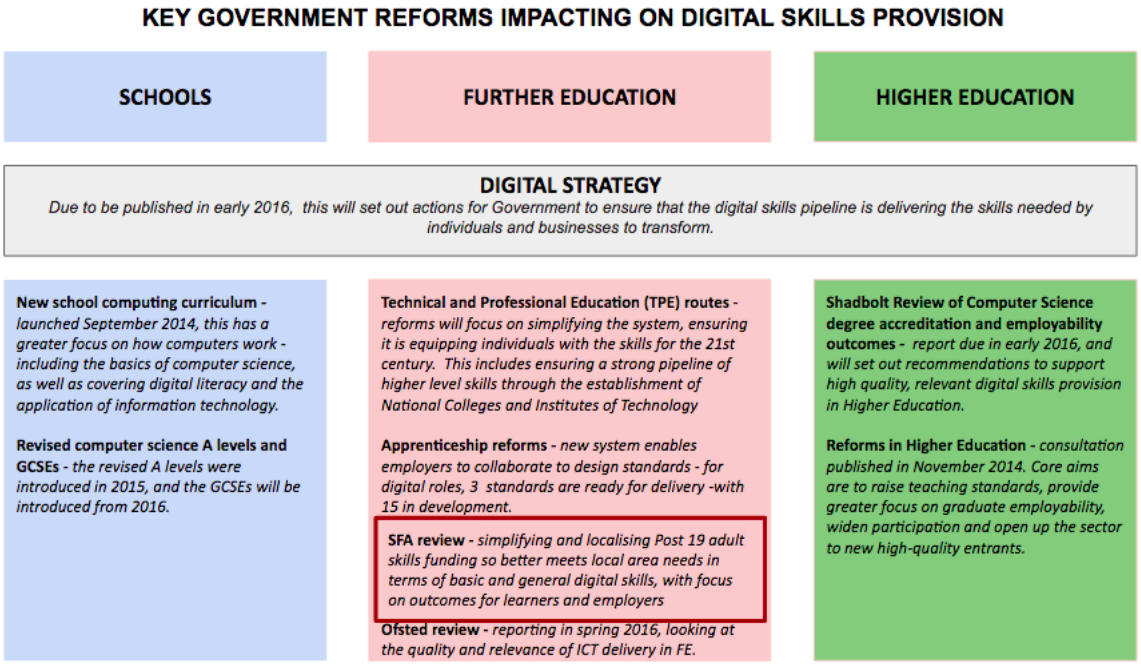
The education and training landscape

If the UK is to develop the digital skills it needs, these must be embedded across education and training routes; through school, Higher Education (HE), FE and informal learning opportunities. This review focuses on just one key part of digital skills delivery, post-19 FE provision, and how the government utilises the ASB to support and promote the development of digital skills.

It is important to identify the synergies between this review and other government activity to strengthen the UK's digital skills (Figure 2). Of particular note is the **Shadbolt Review of Computer Science Degree Accreditation and Employability**. This review, due in early 2016, looks at how computer science

degrees can equip learners with relevant skills. Considering its recommendations alongside this report will provide a fuller picture of how FE and HE can play their part to support high-quality, relevant and employer-led digital skills provision.

Figure 2: Government reforms to build and strengthen digital skills training



Reports by UKCES and the House of Lords sit alongside a range of other reviews, such as **digital capabilities in small and medium enterprises**, published by the Department for Business, Innovation and Skills (BIS) in September 2015. That report highlights the range of digital support for businesses offered by Local Enterprise Partnerships, UK Trade and Investment, the Digital Business Academy, Go-ON UK, and the Tinder Foundation. It notes that several of these organisations also work to improve adult digital literacy.

This review provides important learning to inform the government's reforms to technical and professional education. These reforms will focus on simplifying the current system, working in direct partnership with employers to ensure the new system provides the skills most needed for the 21st century economy. The launch of the National College for Digital will also improve the levels of advanced and specialist digital skills across the workforce.

This review provides timely insights to support the reform agenda, as it positions digital skills as a vital skill set that requires fit for purpose provision from basic digital literacy to the advanced skills needed in digital specialist roles.

The role of qualifications

Qualifications act as a signal of the skills of the holder. Achievement of a qualification should demonstrate that they have achieved specific skills, knowledge and understanding.

For most funded activity, the SFA uses qualifications as the unit of funding. Payments to training organisations are linked to the number of learners who enrol on and go on to achieve an approved qualification. Since January 2012, the SFA has published an annual list of qualifications that are approved for public funding. Awarding organisations can request that the SFA add a qualification to the offer by making a formal submission, which the SFA assesses against a series of criteria.

Overview of the skills system

The **SFA funds FE to deliver** high-quality apprenticeships, traineeships, qualifications and skills. It does this equip people of all ages with what employers need for their employees to prosper, and compete locally, nationally and globally.

In the **2013 to 2014 funding year**, the SFA funded over 2.9 million adults, including:

- 201,000 learners taking digital qualifications
- 951,800 learners participating on an English and maths course
- 665,700 apprentices aged 19 years or over
- 657,200 adult participants in community learning
- 95,300 offenders aged 18 or over in the prison system participating in learning
- 59,100 learners aged 24 or older accessing learning using a Loan

In this cohort of learners, outside of apprenticeships, approximately £100 million was spent through the ASB on training that led to a qualification in digital skills.

Part 3: What we found

Key findings

This section summarises the characteristics and underlying trends found during analysis of the data and consultation with sector representatives and stakeholders.

Analysis of the underlying data is available in **Annex A**.

The following breakdown of enrolments and funding across the categories of digital skills in funding year 2013 to 2014 establishes the current position:

Table 1: Categories, enrolments and spend in the funding year 2013 to 2014

Category	**Technical Definition**	**Characteristics**	**Enrolments**	**Funding (excluding Loans)**
Basic	Entry Level or Level 1; 'ICT' sector area or a Functional Skill or meets a keyword check	Aimed at giving learners basic, fundamental skills for digital literacy	143,820 (72%)	£52,187,000 (52%)
General	Level 2 or above; 'ICT for Users' sector area or a Functional Skill	Part of a continuum of skills for adult learners to go beyond basic digital literacy and gain skills needed in the workforce	48,260 (24%)	£27,077,000 (27%)
Advanced and specialist	Level 2 or above; 'ICT for Practitioners' sector area or meets a keyword check or identified by DfE as a 'Tech Cert' or 'Tech Level'	Advanced and Specialist technical skills needed for digital job roles	6,510 (3%)	£15,245,000 (15%)
Academic	Level 2 or above; GCSE/ GCE/ Access to HE Diploma or identified by DfE as 'Applied General'	Support progression through academic study, particularly towards HE	2,420 (1%)	£5,621,000 (6%)

Volumes of delivery

In the funding year 2013 to 2014 the SFA spent £100 million on training that led to a qualification in digital skills. This supported just over 200,000 enrolments.

Of these enrolments, over 96% were for qualifications focused on basic and general digital skills, which equated to 79% of the funding. Given that training organisations are free to choose the mix of provision they offer, this suggests that they are geared towards delivery of this type of digital skills provision.

Between the funding years 2012 to 2013 and 2013 to 2014 there has been an increase in the proportion of qualifications building basic digital skills. Provisional data for the first 10 months of the funding year 2014 to 2015 suggests that this increase may have stopped, but this should be treated with caution (**Table A-2**).

Nature of the qualifications used

Most digital skills enrolments have been on Functional Skills, or qualifications based on the National Occupational Standards (NOS) for IT for Users or IT for Professionals. Enrolments on European Computer Driving Licence (ECDL) branded qualifications were also high.

There are high volumes of enrolments at Entry Level and Level 1. Lower volumes of enrolments at Levels 3 and 4 seem to indicate less demand for these qualifications through public funding. This means that the current funded digital skills offer is almost entirely at Level 2 and below, and dominated by Entry Level enrolments (**Table A-3**).

Whilst less than 5% of enrolments are at Level 3 or above, they equate to a substantial proportion of funding (21% of the digital skills budget). Typically these qualifications are much larger than in the basic and general categories.

At Levels 1 and 2 the offer is mainly the suite of Information Technology Qualifications (ITQs). These are made up of units developed by e-skills UK based on the NOS that date from 2009, (the Tech Partnership is now responsible for these). At

Entry Level there is also a large volume of enrolments on Functional Skills qualifications, which are based on design criteria last updated in 2011 (**Table A-6**).

Market share

Independent training organisations deliver the largest proportion of basic and general digital qualifications. However, FE colleges deliver the largest volumes of advanced and specialist qualifications (**Table A-9**).

Learners

Older learners are more likely to work towards a digital skills qualification. For example, a quarter of all learners aged over 65 took digital courses (**Table A-10**).

Across the last three funding years, basic and general skills have a very close gender balance. Qualifications that support progression to HE or into a digital job role have a ratio closer to 20/80 female/male (**Table A-11**).

Content

The analysis of qualification content revealed that half of enrolments on basic skills qualifications include productivity applications (such as word processing). The remainder focus on the general use of computers or the internet. General digital skills appear to have a greater emphasis on productivity software.

Most digital skills qualifications are in the ICT Sector Subject Area (SSA). The average success rate for this SSA was 82% in the funding year 2013 to 2014. This is in the middle of the spread of values for all SSA (**Table A-15**).

Functional Skills account for 50% of basic digital skills delivery. This rises to 69% of general digital skills. As well as qualification delivery, there is a large volume of unit and non-regulated activity. This highlights the flexible delivery of digital skills training.

Size

Digital skills training tends to be delivered in shorter courses. For digital courses, 62% are 100 guided learning hours (GLH) or fewer, compared to 48% for all qualifications.

The proportion of enrolments on qualifications with more than 300 GLH is significantly smaller (**Table A-5**).

Apprenticeships

Table A-16 shows that 33% of basic digital skills qualification enrolments are delivered in apprenticeships frameworks. This rises to 71% of general digital skills qualification enrolments, and 74% for advanced and specialist digital skills.

Employment outcomes

In September 2015 BIS published **data** showing the employment and learning outcomes for learners at a qualification level, including for many digital skills qualifications. These outcome-based success measures will augment other information to give a comprehensive view of delivery performance for informing learner choice, provider self-improvement, curriculum planning and accountability. Currently this data is still experimental. As part of the broader work on outcomes based success measures, how the data can be used will need to be considered.

Basic digital skills qualifications

Feedback indicates that the current basic digital skills qualifications are out of date, as they are based on standards and criteria that are more than five years old. Although a large number of qualifications are available, most enrolments are on Functional Skills or ITQs.

In delivery, there is a strong emphasis on productivity tools and general use of the internet. However, there is less emphasis on specific use of the internet, such as website design or online transactions. Only 55% of enrolments are on qualifications that include such content, despite more than 90% of training organisations in the survey indicating they offered that type of provision (**Table B-13**).

Learners who take basic digital skills are older than learners on other types of digital learning. The 46 to 55-year-old age bracket sees the highest volume of enrolments, with lower proportions in the age brackets below 36 years (**Table B-6**).

The gender profile is stable across the three funding years (**Table B-8**).

Almost all courses in basic digital skills are fewer than 300 GLH in length: most enrolments are on courses of between 11 and 100 GLH (**Table B-10**).
Just under half of all enrolments are at independent training organisations: just over one third are at FE colleges (**Table B-11**).

The qualitative feedback indicates the main strength and value of these qualifications is their flexibility, as they allow training organisations to offer bespoke courses to learners to meet their needs. Some training organisations would like greater flexibility, particularly to offer smaller courses. Views on the relevance of the content of these qualifications was mixed. Some training organisations believe them to be relevant and others want the content to be brought more up to date (**Table B-15**).

General digital skills qualifications

These qualifications are also predominantly based on out-of-date standards; most on ITQs that are derived from the NOS that are over five years old.

Most enrolments (62%) are on qualifications where productivity software, such as spreadsheets and word processing, are either the exclusive content, or form a large majority of mandatory content. Just under a third (32%) of enrolments are on broad ITQs. These cover how to use a computer, online skills, digital media, or other areas such as imaging software.

Learners are younger than those on basic digital skills, but still much older than learners on advanced and specialist qualifications. There is a high level of enrolments by learners aged 36 to 55 years. With an emphasis on productivity applications, this could relate to learners looking that acquire digital competence that was not needed when they entered the job market (**Table C-4**).

Across the funding years 2012 to 2013 and 2014 to 2015, the proportion of learners in age groups up to 45 years old is falling, whilst the proportion of learners aged 46 to 65 years old is growing steadily. This may reflect the increasing role digital plays

in the economy, where more jobs require digital skills. These are skills that older workers did not need when they entered the workforce (**Table C-5**).
Independent training organisations deliver most of the publicly funded qualifications. The 'Other Public Funded' category, which includes adult community learning, has a smaller proportion of general digital skills qualifications (10%) than basic digital skills (16%). This suggests the focus here is more on the basic digital literacy than on the general digital skills needed in the workforce (**Table C-9**).

Views are similar to those for basic digital skills qualifications. There is not overwhelming support or criticism of the current offer. Training organisations value the flexibility of the qualifications, and have mixed views about the relevance of content (**Table C-12**).

Advanced and specialist digital skills qualifications

The qualifications are mainly based on standards that are over five years old.

Learners tend to be much younger than those enrolled on basic or general digital skills, with just over 60% aged 19 to 23. This may relate to higher levels of funding available for learners who have not achieved a Level 3 qualification (**Table D-2**).

Across the funding years 2012 to 2013 and 2014 to 2015, the proportion of learners that are 24 years and older is falling, whilst the 19 to 23-year-old age group is growing. This may reflect that from the funding year 2013 to 2014 learners aged 24 or older need to take out a Loan for qualifications at Levels 3 and 4 (**Table D-3**).

These qualifications have high volumes of enrolments on courses with between 300 and 1,000 GLH. These large qualifications contain a broad range of units requiring learners to complete a specific 'pathway' of content to gain an 'endorsed' certificate that shows the pathway. They also include 'vendor' units, such as Microsoft or Cisco, that are assessed using exams offered by the 'vendor' (**Table D-6**).

FE colleges deliver most of the publicly funded qualifications (**Table D-7**).

With a low survey, size firm conclusions are difficult to draw, but the views given appear to align with those for basic and general qualifications (**Table D-9**).

Part 4: Recommendations

In making the recommendations, the Review Steering Group considered what a 'good' publicly funded digital skills offer should look like in the future.

The recommendations are made in the wider context of the range of reforms taking place across the skills system. Some are unique to the digital sector, others have wider relevance that recognise the importance of improving digital skills to the whole economy. Consider the recommendations in aggregate, as a suite of proposals that have a key role to play in informing the current skills reform agenda.

The emphasis of these recommendations is firmly placed on how the review's findings can guide and transform the future. But, there are still specific recommendations that can apply to the existing system to improve the efficacy of the offer now.

Recommendation 1

Consistency of language

There must be consistency in the terminology everyone uses. A shared language is needed which signals the meaning, relevance and importance of digital skills for individuals and industry. For many people 'ICT' and digital skills are interchangeable, but they are not. There has been a move away from how information and communication can improve technology, to how digital content, innovation, skills and technology are embedded in everything we do. The way digital skills is talked about in education and training needs to reflect this in order to provide clarity to learners and employers about the different stages and purposes of digital skills development.

Why: This recommendation reflects the Review Steering Group's views and qualitative feedback through discussions with awarding organisations, employers and training organisations. These highlighted a divide between the way employers

describe the skills they need, and the language of the qualifications and training used to gain them. More widely, the current interchangeability between ‘digital’ and ‘ICT’ is viewed as confusing for learners and employers alike. It acts as an additional barrier to understanding what is meant by the term ‘digital skills’ and therefore dilutes the message of their importance. Being clear and consistent in the terminology and language used will help rectify this. It will also help ensure everyone understands the importance of digital skills now, and how this will continue to increase in the future.

What: This first recommendation may be the most challenging in terms of how to implement it. It is not merely about meaning, but ensuring a simple, future-proof terminology. A way to describe what is meant by ‘digital skills’ and what is expected from the different digital skill sets individuals need at different points in their lives.

The timeframe and responsibility for this recommendation has not been defined, as it needs to be reflected in all the reforms referenced in this report. To ensure the shared language is adopted and signals to individuals the shared importance placed on digital skills, it requires acceptance from employers across the economy.

To start this process, a working definition of digital skills was set out at the beginning of this report, and used to undertake and progress the review. It is suggested that this definition is used as a basis to start discussions on a shared language.

> “The very broad set of skills that individuals need in order to understand, use or create the software and services we all access through devices such as computers, tablets and ‘smart’ phones.”

Recommendation 2

Setting the standards

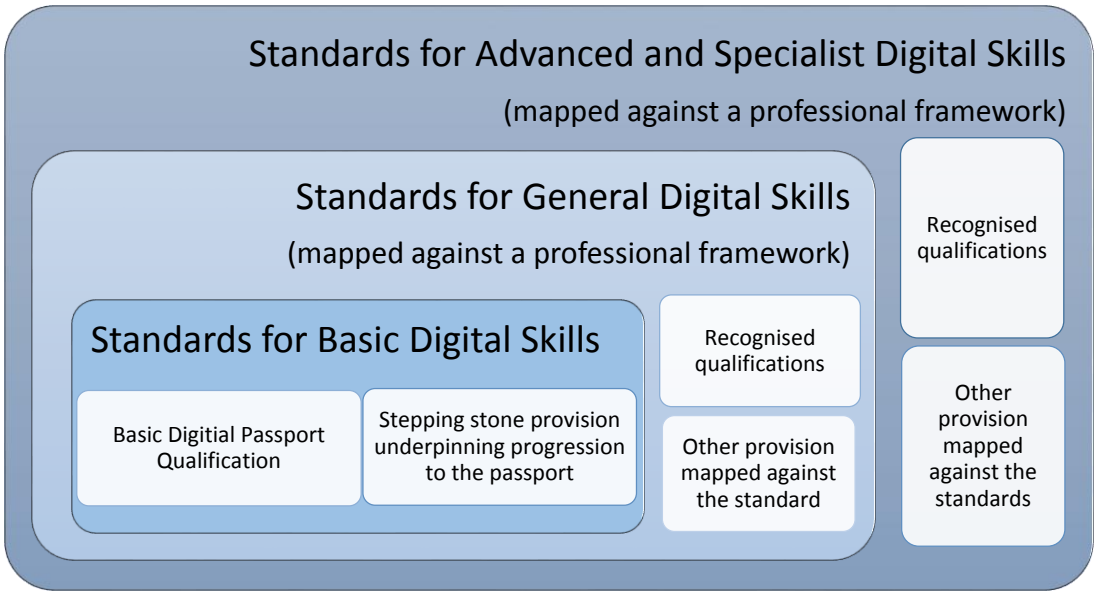
Clear standards are needed to support the different stages of digital skills development. ‘Basic’, ‘general’ and ‘advanced and specialist’ stages must build upon each other to support progression. It is against these standards that achievement and progress can be benchmarked. To be relevant and stay current employers must determine the standards. Employers and government must share responsibility to establish a set of basic standards. With this strong framework of standards, flexible and diverse forms of provision can be devised to support local and national priorities.

Why: A consistent message from employers and training organisations, which resonated with the Review Steering Group, was the need for clear and consistent standards that underpin digital skills development. Current standards are out of date and do not reflect the pace of technological change and the impact this has had on digital skills needs. The analysis undertaken shows that delivery of the publicly funded offer focuses on lower-level provision, with limited evidence of learners progressing through and out of such provision into higher levels.

What: Standards should be put in place that establish the relevant knowledge, skills and behaviours an individual needs at each stage. They should interlink, building on each other to create a clear progression pathway for learners, from basic to advanced and specialist digital skills. Employers are best placed to define the skills they need and so they must develop the standards that underpin digital progression.

The **Digital Inclusions Outcomes Framework** may assist this activity. It highlights a wide range of outcomes that basic digital literacy can lead to, and also identifies relevant indicators and sources of evidence. The outcomes framework may serve as a useful starting point to agree the standards to support basic digital skills. And from there build the progression stages (or ‘digital passport’) through general, advanced and specialist digital skills.

Figure 3: Framework of standards for digital skills



As indicated above, employers need to define and own the design of professional standards to meet their needs. These standards will need to build on and be interdependent with each other. A framework of digital skills already exists through the **Skills Framework for the Information Age** (SFIA). Bringing together the SFIA with IT Professional skills standards offers a way to link into a 'digital passport' for basic and general digital skills and establish a route to higher-level digital skills. However, it would need to ensure employers recognise that a uniform approach to standards will not work, either in terms of the design of the standards or the provision which may follow.

In establishing such a set of professional standards, it will be necessary to support employers to determine how curriculum and provision would best meet the desired outcomes. In essence this is about adopting the model already working in apprenticeship standards.

During the course of the review, there have been positive examples of employers already engaging in the content and curriculum of digital skills provision. This may have been through local employers influencing the content that is covered as part of a learning programme leading to a qualification that focuses on digital skills. Another example is through the use of 'kite marking' schemes to facilitate and quality assure

employer involvement operated by sector bodies such as the Tech Partnership and Creative Skillset. If a set of employer-defined and employer-endorsed general, advanced and specialist digital skills standards is created, it could be possible to be less prescriptive about the form that provision takes to support these standards. Flexibility of provision becomes easier if there is a clear core of standards. Where there is still a desire for a qualification to be created the SFA and BIS will discuss with Ofqual any shaping of the market so these qualifications are developed in line with employer and user needs.

Work should therefore start to review all current standards relating to digital skills, in order to identify the best way forward for establishing a coherent set of standards for basic, general, advanced and specialist digital skills. This work must take into account standards development already under way, and how to use greater flexibility in the type of provision that could be aligned to these standards.

Who and how: The government should consider which organisation, or consortium of organisations, would be most appropriate to carry out this work. This should reflect the central importance of employer collaboration in designing and developing standards. It should also take into account activity to create a discrete number of occupational routes, which has arisen from the reform of technical and professional education.

For basic digital skills, one approach could be to review what skills are needed at this level and establish and agree a set of standards for digital literacy. This would form a clear foundation from which interlocking standards for general, advanced and specialist digital skills could then be developed.

When: This work should be formally progressed during 2016. This timetable acknowledges that there is work already underway in this area, and aligning with the timelines for the occupational routes work.

Recommendation 3

Putting the basics in place

Digital literacy must be given the same level of importance as numeracy and literacy. There needs to be parity of opportunity for individuals to become digitally literate in the same way there is the opportunity for them to become literate and numerate. Alongside English and maths, work should be done to ensure that the right circumstances and right provision exists that will enable all young people and adults to achieve a basic level of digital literacy.

Why: The Review Steering Group reflected on the growing importance of digital literacy for economic and social outcomes for all individuals. Equipping individuals with these skills is increasingly essential to ensure they can participate and make the most of an increasingly technological world. Without these skills, individuals will be left behind as technology continues to advance. The group agreed that the pivotal importance of digital skills was still not being recognised, and that action was needed to highlight their relationship with literacy and their role as a fundamental skill set for every individual.

What: Just as it is expected that all young people and adults should reach a basic level of literacy and numeracy, it should be expected that they will reach a basic level of digital literacy and skill. This will enable them to participate in an increasingly digital economy and society.

Giving access to basic digital skills is only part of the answer, if learners and training organisations do not take advantage of that access. Engagement with training organisations shows there is demand for small, bespoke packages of training that fill very specific digital skills gaps. Such targeted activity helps ensure individuals are digitally literate. It is proposed that the broader flexibilities for lower-level skills include basic digital literacy. Local commissioners will also need to recognise the importance of ensuring there is access to digital literacy.

The Review Steering Group believes there is value in establishing a benchmark that confirms an individual is broadly digitally literate and a basic digital skills ‘passport’ qualification, that is based upon an agreed standard for basic digital skills. The benchmark qualification could be an up to date Functional Skills qualification that covers basic digital skills, or could be a new offer. There is a need to review the current suite of ICT Functional Skills qualifications with a view to either updating them, or reconsidering their place in the qualifications offer.

Who and how: As a framework of local commissioning is developed, along with outcomes agreements, basic digital skills should be identified as a key component. As they emerge, local commissioning authorities (such as Combined Authorities) should be encouraged to recognise the importance of digital skills. Local commissioners and providers should have the flexibility to determine the best type and form of provision to meet the national priority.

At a national level, digital literacy should be considered as a priority alongside literacy and numeracy. The government should review the role of ICT Functional Skills qualifications and establish whether or not a revised Functional Skills qualification has the potential to become the basic digital skills passport. If so, it should then determine the timeframe for development and regulation.

When: The government has set a target of 3 million apprenticeship starts by 2020. There should be an equally challenging ambition to ensure that all adults have access to the right type and content of basic digital skills training. This ambition should mean that by the end of this parliament we can confidently talk about progress towards a digitally literate adult population.

Recommendation 4

Providing the general skills the workforce need

Increasingly general digital skills are essential in every job. They are a key skill set for employability, which individuals need in order to find, retain and progress in a job. These digital skills must be integrated within all technical and professional routes to employment, so that they can meet the needs of a broad workforce.

Why: It is predicted that within 20 years, 90% of jobs will require digital skills. The data indicates that the publicly funded provision does not emphasise these skills sufficiently, which will support digital transformation and productivity.

What: In the recommendations it is clear that there should be access to digital provision for all, especially in terms of making sure that all individuals are 'digitally literate'. However, it is necessary to go further, to recognise that digital skills are a key skill set for employment. Therefore digital content should be contained within all technical and professional routes to employment, integrated with content in the specific occupational area (such as, engineering and design).

Who: BIS and DfE are jointly leading the programme of reform linked to technical and professional routes. An independent expert panel, headed by Lord Sainsbury, has been established to work with the government to improve technical and professional education. This work should consider the recommendations on digital skills routes.

How: It is understood that the content of each identified occupational route will be designed with direct input from employers. It is important that as they do this, they consider the recommendations in this report, particularly those aligned to standards and the desire for greater flexibility in the type and shape of provision.

When: It is expected that the routes will be announced in 2016 with these recommendation progressed as part of the reform programme.

Recommendation 5

Progression to advanced and specialist digital skills

Although digital skills are increasingly needed in all job roles it is critical not to lose sight of the importance of advanced and specialist digital skills. These are the higher-level skills required for specialist digital job roles across the economy. This should be recognised through the formation of a digital technical and professional route that provides clear steps to progress to these high-level skills.

Why: There is a known shortage of individuals with the high-level digital skills required across the economy and the number of specialists is set to continue increasing over future years. There has been decreasing public funding available to support higher-level skills, including high-level digital skills.

What: For specialist digital roles, there should be a transparent and robust progression route for individuals, as a key technical and professional route in and of itself. The reform of technical and professional education offers an opportunity to establish such a route alongside the expansion of Loans to Levels 5 and 6. Therefore it is recommended that digital occupations are identified as one of the new occupational routes.

How and who: in 2016 the independent expert panel will agree routes and their content. BIS, DfE and Department for Culture, Media and Sport officials should work together to ensure these recommendations form part of the rationale for a digital route to meet the needs of the economy.

When: It is expected that the routes will be announced in 2016, with these recommendations progressed as part of the reform programme.

Recommendation 6

Completing the jigsaw

This review forms one key part of the digital skills agenda. To ensure progress is made on this important agenda, it is essential that these recommendations are considered alongside the findings of other key reviews – including the **Shadbolt Review of Computer Science Degree Accreditation and Employability**. The government should consider how to bring together the findings of these reviews to deliver a coherent supply of digital skills that will provide the skills to support growth and productivity for the UK economy.

Why: The Review Steering Group reflected on all skills provision and the importance of ensuring that all aspects of education and training deliver the digital skills that individuals and employers need. As already indicated, this review forms one part of the digital skills agenda. To ensure that the work underpinning this review and the recommendations arising from it are not lost, the outcomes of this review should be considered alongside the findings of other reviews. This includes the **Shadbolt Review of Computer Science Degree Accreditation and Employability** as well as the forthcoming Digital Transformation Plan.

Who and how: It is now for the government to consider the outcomes of this review and, in the context of the broader digital agenda, decide how to progress this and other related work. The SFA will share this report directly with Sir Nigel Shadbolt and his Review Team to support their research.

When: The **Shadbolt Review of Computer Science Degree Accreditation and Employability** and **Digital Transformation Plan** are due to publish in early 2016. It is expected that officials take this recommendation forward at that stage.

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