BCS - The Chartered Institute for IT
Response to the 'Post-16 level 2 and below study and qualifications in England' call for evidence,

Jan 2021

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Scope of this document

This document is the response from BCS to the 'Post-16 level 2 and below study and qualifications in England call for evidence'[1] from the DfE. Our response covers only consultation question 31, which is:

> "*Do you agree that we should remove funding approval from the level 2 ICT FSQ and level 2 ICT User qualifications?*"

1   Executive summary

The UK needs ICT User qualifications at level 2 that are regularly updated to incorporate technological advances and that remain relevant to the modern world. They are a vital component of the overall digital qualification landscape to equip adult learners with the higher level of digital user skills that many employers want, such as in healthcare for example.

Government needs to maintain the funding for those ICT User qualifications at level 2 that are valued by employers and that can be demonstrated to support large numbers of adult learners progress into good jobs who would not do so otherwise, especially for adult students with SEN or caring responsibilities. Such qualifications do exist.

The DfE impact assessment[2] of proposed qualification reforms acknowledges that:

> "*Given the reforms are expected to make achieving level 3 more challenging, and a general correlation between students from SEN background and lower prior attainment, this could lead to these students being more strongly negatively impacted by being unable to achieve level 3 in the reformed landscape. This could lead to lower participation, and achievement rates, at level 3*."

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[1] https://consult.education.gov.uk/post-16-qualifications-review-team/level-2-and-below-call-for-evidence/supporting_documents/Post16%20level%202%20and%20below%20study%20and%20qualifications%20in%20England%20%20government%20call%20for%20evidence.pdf

[2] https://consult.education.gov.uk/post-16-qualifications-review-team/review-of-post-16-qualifications-at-level-3/supporting_documents/Impact%20Assessment%20%20Review%20of%20post16%20qualifications%20at%20level%203_.pdf

It is important to note that digital user skills at level 2 support learning across all subjects at level 3 and beyond, not just computing or digital technology related subjects, and in our view particularly students with SEN or caring responsibilities. This means a properly maintained ICT User qualification at level 2 will help mitigate against the issues DfE raise in their impact assessment, as well as providing a worthwhile qualification for those unable to access level 3 qualifications.

The world is in the midst of a digital revolution. We recognise that some aspects of the present ICT User level 2 qualification standard includes some skills, which due to the ongoing and constant advancement of digital technology, are now better classified as level 1. That same technological advancement also means some skills that used to be regarded as level 3 are now better classified as level 2 and over time should be incorporated into level 2 qualifications. For example, a wide range of data science techniques can now be applied in spreadsheets that require level 2 user skills, whereas only a few years ago they would have been regarded as at least level 3. What is needed is not the removal of funding from ICT User level 2 qualifications, but their reform and reinvigoration so that they are regularly updated in line with continuous technological advancement.

We strongly recommend government engage with all the relevant stakeholders to reform the ICT User level 2 qualification standard, and over a reasonable time frame transition the FE sector to new level 2 qualifications alongside the newly developed EDSQs.

Over the last decade government policy has recognised that everyone should have both a balanced computing education and be equipped with a broad range of digital skills, from primary school through to lifelong learning. Now is not the time to undo some of the excellent progress that has been made by removing funding for a qualification that when properly maintained will be an integral part of the strategy for implementing those policies.

2   The difference between level 1 and level 2 digital user skills

In this section we illustrate the additional skills developed in a level 2 ICT User qualification that are particularly desirable for employers. It is important to understand that for a large range of employers they need their workforce to have this level of digital skills that go beyond what is available at level 1.

Figure 1 shows some of the Ofqual approved assessment criteria of skills for improving productivity for levels 1 to 3 that are used by BCS in their ICT User qualifications.

Level 1	Level 2	Level 3
Identify the purpose for using IT	Describe the purpose for using IT	Explain the purpose for using IT
Identify the methods, skills and resources required to complete the task successfully	Describe the methods, skills and resources required to complete the task successfully	Analyse the methods, skills and resources required to complete the task successfully
Identify reasons for choosing particular IT systems and software applications for the task	Describe any factors that may affect the task	Analyse any factors that may affect the task Critically compare alternative methods to produce the intended outcome
Select IT systems and software applications as appropriate for the purpose	Select and use IT systems and software applications to complete planned tasks and produce effective outcomes	Explain why different software applications could be chosen to suit different tasks, purposes and outcomes
Decide whether the IT tools selected were appropriate for the task and purpose	Describe how the purpose and outcomes have been met by the chosen IT systems and software applications	Critically compare the strengths and weaknesses of own and other people's final work Evaluate the productivity and efficiency of IT systems and procedures
Identify the strengths and weaknesses of the completed task	Review ongoing use of IT tools and techniques and change the approach as needed	Evaluate and test solutions to make sure they match requirements and are fit for purpose
Identify ways to make further improvements to work	Develop solutions to improve own productivity in using IT Test solutions to ensure that they work as intended	Research and advise on ways to improve productivity and efficiency Recommend improvements to IT systems and procedures that increase productivity and make demonstrable improvement to IT systems

Figure 1: Assessment criteria for levels of ICT User skills for improving productivity.

From an employer's perspective it is important to note that level 1 skills mostly are concerned with 'identifying' methods, skills and tools to complete a task. At level 2 the skills are concerned with 'describing' what methods, skills and tools are needed to complete a task and the skills needed to 'develop' solutions that improve individual productivity. These are significantly more advanced than level 1 and are exactly the kind of skills many employers require.

Figure 2: Headline from BCS news website https://www.bbc.co.uk/news/technology-54423988 Oct 2020

Level 2 is also distinct from level 1 in requiring that students can create suitable tests that validate their solutions work as intended, which many employers regard as highly desirable. The loss of 16,000 COVID-19 test results by a Public Health England employee through misuse of an Excel spreadsheet[3] illustrates how in the real world the failure to properly test whether a solution works can have dire consequences (as reported by the BBC shown in Figure 2). Being able to construct a comprehensive set of tests that properly cover every important use case is a skill that is distinctly higher than level 1 and is very important to many employers.

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[3] https://www.bbc.co.uk/news/technology-54423988

Level 1	Level 2	Level 3
Identify what types of information are needed in documents	Use appropriate techniques to enter text and other information accurately and efficiently	Summarise what types of information are needed for the document and how they should be linked or integrated
Identify what templates are available and when to use them	Select and use appropriate templates for different purposes Identify when and how to combine and merge information from other software or other documents	Create, use and modify appropriate templates for different types of document
Store and retrieve document files effectively, in line with local guidelines and conventions where available	Select and use a range of editing tools to amend document content Combine or merge information within a document from a range of sources	Select and use tools and techniques to work with multiple documents or users Customise interface to meet needs
Enter information into existing tables, forms and templates	Identify the document requirements for structure and style Identify what templates and styles are available and when to use them Select and apply styles to text	Analyse and explain the requirements for structure and style Define and modify styles for document elements
Create and modify tables to organise tabular or numeric information Select and apply heading styles to text	Create and modify columns, tables and forms to organise information Identify what templates and styles are available and when to use them	Select and use tools and techniques to organise and structure long documents Respond appropriately to any quality problems with documents to ensure that outcomes meet needs and are fit for purpose
Select and use appropriate techniques to format characters and paragraphs	Identify how the document should be formatted to aid meaning Describe any quality problems with documents Check documents meet needs, using IT tools and making corrections as necessary Respond appropriately to quality problems with documents so that outcomes meet needs	Select and use appropriate page and section layouts to present and print multi- page and multi-section documents Evaluate the quality of the documents produced to ensure they are fit for purpose

Figure 3: Assessment criteria for levels of word processing ICT User skills

Figure 3 shows some of the Ofqual approved assessment criteria of word processing skills for levels 1 to 3 that are used by BCS in their ICT User qualifications. The important distinction between level 1 and level 2 is that at level 1 students must have a range of basic formatting skills, whereas at level 2 a student must understand the purpose of the document structure, how to ensure it uses meta-data to deliver a high quality output, and are able to check that a document meets the user's needs. Note those needs will include accessibility requirements for documents when they are produced as part of a public service, which have regulatory requirements that must be met so that a reader with protected characteristics is able to properly access the contents of the document.

3 Opinions of adult learners

To further illustrate the value of level 2 ICT User qualifications we sought the opinion of adult learners whose employability has been enhanced through gaining such qualifications. Due to time constraints we have not conducted large scale surveys, but instead include here a small sample of comments from students at a variety of FE colleges.

Adult Student A
I have completed level 1 and then want onto level 2. Prior to the course I was able to 'get by' with in-house work packages and felt incredibly daunted and unconfident at the prospect of producing professional documents. I wanted to be able to develop myself and feel able to utilise Microsoft packages professionally. Having gained these skills I was able to use my knowledge to competently produce spreadsheets and volunteer to do PowerPoint presentations etc. I cannot emphasise enough how much learning these packages have enhanced my confidence and indeed my employment prospects. Since completing the course I have been successful in two promotional employment interviews.

Adult Student B
Simple tasks, such as word processing, creating spreadsheets and PowerPoint, which I do on a daily basis at work, have become so much quicker and easier due to knowing how to do them 'properly'. I have been able to create master templates of all documents to help keep my work looking professional and save time. Excel has become my new best friend and will help me both currently and for end of year statistics. I was very confident in IT but this course has shown me how much I didn't know!

Adult Student C
The course provided me with a refresher on all the main aspects of the Microsoft Office suite. It allowed me to gain a recognised qualification in IT and work towards it outside of office hours. This has been particularly useful for allowing me to evidence transferrable skills and continued professional development. It also increased my confidence in those areas where I felt less confident. I became a more efficient and effective user of IT as a result of this course. Although I felt I already had a basic knowledge of the main applications, I discovered things I did not know before and this has saved me time in the workplace. I am able to put what I have learnt in to practice on a daily basis within an office environment. It has also allowed me to keep my skills up to date, which has remained a key component in being able to remain competitive when applying for jobs and seeking to progress my career. I would have no hesitation in recommending this course to others and it would be a great shame if it were no longer available. I feel this would have a detrimental effect on the opportunities people would have to develop new skills in the future.

Adult Student D
I was looking for employment within the IT sector and a lot of employers were asking for ECDL, which I didn't have. I enrolled on the course with Adult Education at North Lincolnshire council. I completed the course and applied for the role of Service Desk Administrator at my local NHS trust. ECDL was required and I then put into practise what I had learnt on the course as it ideally suited the role. I now work in a similar role in social housing and I still utilise the knowledge and skills I obtained through ECDL. Without ECDL I would not now be in an occupation I love.

What these comments show is that level 2 courses support students gain higher skilled jobs than at level 1, and allow them to demonstrate professionalism at level 2 beyond basic competence at level 1.

4   What the different levels of skills mean in the real world

In this section we show how the different levels of ICT User skills translate into a real world context by exemplifying the use of spreadsheets in the working environment. The high level exemplification illustrates how these levels support job progression within a work environment.

	Example of digital skills tasks	**Type of job where this happens**
Level 1	Can *manually* use a sequence of menu options in a spreadsheet to filter, sort and aggregate data which is then used to create a bar chart. Task completion may be slow, error prone, and will have to be manually repeated whenever there is new data.	Junior admin assistant. Would perform this sort of task on an ad-hoc basis, and either for a one-off report or at most quarterly reports.
Level 2	Can *manually* use menu options to create new types of tables within a spreadsheet, and use *compound formulae* embedded in the spreadsheet to *automate* the level 1 task above. These skills mean solutions are developed more rapidly than would result from using level 1 skills, are less error prone, and are easier to validate and repeat.	Team leader of an administrative group. Would perform such a task on a regular basis, such as for monthly reports to their manager.
Level 3	Can use high level spreadsheet *features*[4] to *completely automate* the level 2 task above. Once set up, is effectively instantaneous, and close to error free.	Data analyst or business analyst. Also, any professional working in a role that relies on analysing data to make business decisions. E.g. accountants, sales managers, financial controllers, etc. Would perform such a task frequently for business planning by senior management.
Level 4+	Can use programming language such as Python to *automatically* extract data over the internet, create databases of relevant data, and use *off-the-shelf AI apps*[5] to output spreadsheets containing relevant tables, associated bar charts and business intelligence reports. *This automates some **core roles** of the data analyst at level 3.*	Data Engineer or Data Scientist Would perform such a task as part of digital transformation programme across corporate entities.

[4] Note a spreadsheet feature is more advanced that a formula. E.g. the entity relationship modelling feature is more advanced than a formula to merge two tables.
[5] E.g. such as currently available Microsoft tools to automate workflow creation, monitoring and management https://flow.microsoft.com

We've shown level 3 and level 4 real world contexts to emphasise how level 2 User ICT skills can provide progression that can increase an individual's employability. This is an important point as without a level 2 ICT User qualification progression will be much more difficult, and consequently will make it that much harder to move from, for example, admin assistant to a team leader role.

5   Example of a job advert asking for ICT User qualifications at level 2

The following advert is a paraphrased extract from an actual job advertised on the Indeed website on Jan 26, 2021, which explicitly stated that ICT User qualifications at level 2 are desirable. We've included extracts from the advert that show where the skills developed on an ICT User qualification at level 2 are directly relevant to different aspects of the job.

Job Advert Jan 26, Indeed.co.uk : Full Time Events & E-Commerce Manager

Salary: £21,000 - £26,000 a year - Full-time, Permanent
The successful candidate will have and take full ownership of the E- commerce part of the Business making sure they use their skills to ensure all procedures are standardised and that the system runs very smoothly, which in turn will create growth in sales.

Extracts from Job Description

- Sourcing images and product descriptions to upload to the e-commerce site.
- Creating and overseeing the admin process for e-commerce sales.
- Reporting of sales & website traffic/customer behaviour Data.
- Drive sales online with promotions etc through Marketing and social media.
- Monitoring and evaluate sales results and discuss with Management team.
- Constantly developing the system to make it the best possible experience for customers.
- Able to produce a programme of events to fit in with business needs and time of year.

Extracts from Person Specification

- Effective use of ICT packages including the use of Outlook, Excel and Word at intermediate level or above with the ability to produce documentation with speed and accuracy.
- Proven ability to communicate effectively, orally and in writing, with individuals at all levels both internally & externally.
- Proven ability to prioritise workload, meet rigorous deadlines & targets whilst maintaining accurate records.

This illustrates that level 2 ICT User qualifications are being asked for by some employers, and the jobs being offered do require skills at that level.

6   Who we are - BCS, The Chartered Institute for IT

BCS is the UK's Chartered Institute for IT. The purpose of BCS as defined by its Royal Charter is to promote and advance the education and practice of computing for the benefit of the public. As the professional membership and accreditation body for IT, we serve over 60,000 members including practitioners, businesses, academics and students, in the UK and internationally.

We have worked alongside government on many key policy initiatives over the decades. For example, BCS were instrumental in championing the need for a statutory computing curriculum and helping to develop it[6], we are part of the consortium establishing the new National Centre for Computing Education, are funded by DfE to run the computing teacher training scholarship scheme, last year were end point assessors for over 80% of digital apprenticeships, and recently were commissioned by the Office for Artificial Intelligence to conduct a study on introducing industry relevant Machine Learning MSc courses[7]. BCS is also, through its Learning and Development subsidiary, an awarding organisation registered with Ofqual that delivers qualifications for IT users and IT practitioners at all levels. Our several decades of expertise in computing and IT education and training give us a unique perspective of what works in delivering successful policy outcomes.

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[6] https://www.gov.uk/government/speeches/michael-gove-speech-at-the-bett-show-2012
[7] https://www.bcs.org/media/3047/ethical-ai.pdf