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SPELLING IT OUT, MAKING IT COUNT

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Functional Skills qualifications and their place in vocational training

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Contents

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Executive Summary

THIS REPORT FINDS THAT FUNCTIONAL SKILLS QUALIFICATIONS ARE NOT CURRENTLY DOING THE JOB THEY SET OUT TO DO, AND ARE SEVERELY UNDER-FUNDED.

As a result, the country is funding qualifications that bear increasingly little relevance to the workplace scenarios they were designed to map to, in a way that blurs the line between academic and vocational learning styles.

We simply cannot sustain the rate of losses incurred in delivering these qualifications which result in learners disadvantaged.

CHANGE IS NEEDED, AND IT IS NEEDED NOW.

Challenges in Functional Skills English and maths qualifications

Since their introduction in 2010, pass rates for Functional Skills Qualifications (FSQs) have exhibited fluctuations, notably witnessing a significant decline during the academic year 2020/21. The 2019 reform introduced a substantial alteration to the test content, especially in mathematics; incorporating abstract maths questions without context. Additionally, the funding rate has remained unchanged since 2014 despite ongoing inflation.

The Association of Employment and Learning Providers (AELP), in collaboration with the Institute of Employment Research (IER) at Warwick University, has therefore undertaken this research to explore the perspectives of training providers and colleges regarding the challenges presented by the content and costs of FSQs. They were supported by the Association of Colleges (AoC), carrying out college focus groups and analysis, alongside the Edge Foundation and Gatsby Foundation.

The research found traditional apprenticeships providers and apprentices, rather than newer ones, struggle more with FSQs due to fewer apprentices holding literacy and numeracy GCSEs including English and maths on entry. A primary concern voiced by training providers is the lack of contextual ties to vocational and real-world settings in FSQs. The 2019 reforms have blurred lines between FSQs and GCSEs, presenting challenges for apprentices not proficient in academic English and maths. This has decontextualised assessment, when emphasising real-word scenarios is essentially for motivating and increasing the value of FSQs for learners. There are apprehensions about the reliance on summative exams in English and maths, potentially sidelining individual competencies compounded by the binary nature of FSQ assessments which does not allow for recognition of nuanced strengths. Further complicating matters is the exclusion of English and maths from apprentices' allocated off-the-job training time, reducing employer engagement. These issues can collectively sideline potential candidates with weaker GCSE performances, narrowing opportunities and hampering social mobility.

IMPACTS OF THE 2019 REFORMS

During our research, AELP repeatedly heard strong calls from providers that FSQs in their reformed format can actually impede learner progress towards vocational excellence:

> *"Apprentice provision is for lots of learners who are non-academic … It was never an academic programme."*
>
> **(Public Services and Third Sector provider)**

Although the Office of Qualifications and Examinations Regulation [Ofqual] (2021) found a consistent level of FSQ difficulty pre and post reform, focus groups indicated this shift in the presentation of exam content has affected learners' motivation and the ability of some to understand what question is actually being asked of them. The introduction of "underpinning skills" in maths has for example resulted in over 40% of exam questions becoming abstract and lacking contextualisation, blurring the line between FSQs and GCSEs. The rigid pass/fail assessment approach is also criticised, preventing nuanced assessment of ability. To restore the original intent of practical alternatives to GCSEs, contextualising exams with real-world scenarios is therefore proposed for enhanced learning, improving both levels of overall skill and qualification pass rates.

Given an identified increase in non-contextualised questions in FSQ exams following the 2019 reforms, the implemented reforms seem to be potentially diminishing apprentices' learning in English and maths, as they appear to place more emphasis on qualification counting rather than fostering a deeper focus on learning. Specifically, the research suggests these changes might have inadvertently limited alternative pathways for individuals who find academic-style maths challenging, introducing additional obstacles. Consequently, this would challenge the DfE's initial commitment, prior to the reforms, to uphold the contextualisation of English and maths skills within real-world work settings, aiming for functionality and relevance.

COST OF DELIVERING FUNCTIONAL SKILLS

FSQs delivery costs vary based on factors like programme type and mode, challenging providers to budget accurately per learner.

Most providers, especially apprenticeship providers, however operate at a deficit. FSQs can incur costs of up to £1,250 per learner, in the face of historical funding per qualification of £471 within apprenticeships and £724 outside . Although the funding for apprentices without a Level 2 English and maths qualification will rise by 54% to £724 in January 2024, this will still be below the average delivery costs per learner, giving losses of between £20 and £39 on a standalone basis. Prior to this funding rise, **the losses on delivery per FSQ in apprenticeships have on average been between £422 and £440. Additionally, each retake can on average add up to around £35 of costs per resit depending on the learner and course type** for no extra funding, contributing to a landscape of considerable financial loss for each qualification being offered.

Analysis of average costs of delivery of FSQs including resits

Type of provision	Functional skill	Average cost of delivery per learner	**Average deficit per learner[1]**	Average costs per resit
Apprenticeship	English	£911	**(£440)**	£19
	Maths	£893	**(£422)**	£35
Non-apprenticeship	English	£744	**(£20)**	£34
	Maths	£763	**(£39)**	£30

[1] Based on funding rate of £471 per apprentice and £724 for learners on standalone qualifications.

Source: Warwick IER

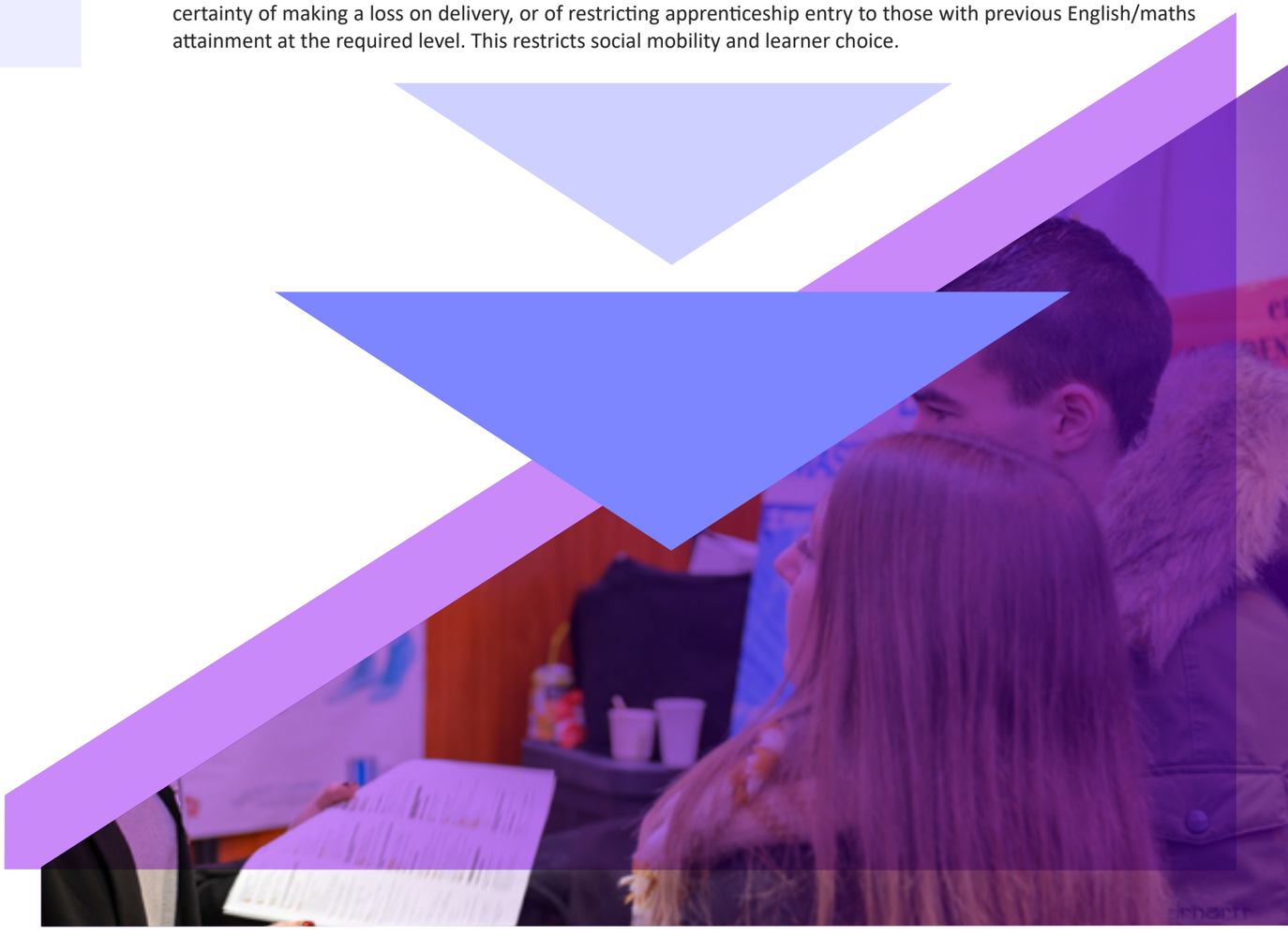
1 From January 2024, rates for FSQs will equalise both within and outside of apprenticeships at £724

IN SUMMARY:

1. Functional Skills qualifications are now funded at £724 each.
2. yet on average, they cost £763 to deliver, assuming the learner passes on the first attempt.
3. A resit on average adds £35 to the cost of delivery for no extra funding.
4. Therefore a learner requiring just one resit could, even at the equalised funding rates, on average incur a loss to the provider of up to £69, or just under 10%.

This persistent financial gap undermines the viability of FSQs. Where qualifications are delivered at a financial surplus, this often results from a blend of narrower programme offers, fewer learners with Special Education Needs and Disability (SEND), and higher entry requirements, normally avoiding losses by ensuring that suitable qualifications are already held before commencement.

Furthermore, apprenticeships remain the only 16-19 qualification for which English and maths qualifications are exit requirements without which an award is impossible. This means that providers are faced with the near-certainty of making a loss on delivery, or of restricting apprenticeship entry to those with previous English/maths attainment at the required level. This restricts social mobility and learner choice.



Our recommendations

This report makes seven key recommendations intended to improve the quality and relevance of FSQs and to, improve the effectiveness and efficiency of FSQs overall;

1 ENSURE THE DIFFERENTIATED PURPOSE OF FUNCTIONAL SKILLS IS MAINTAINED IN PRACTICE.

FSQs should serve as practical, real-world alternatives to GCSEs, focusing on essential life and work skills. Emphasising their tangible benefits enhances their recognition and relevance to vocational training, and strategically aligns with policy goals for improved credibility. FSQs must empower all learners, irrespective of academic background, fostering progress rather than hindering it.

2 INCREASE EXAM QUESTION CONTEXTUALISATION

FSQs must prioritise contextualisation. Infusing real-world scenarios into exams motivates learners and enhances skills acquisition. Generative AI can ensure personalised, robust assessments in sector-specific scenarios which could help to reduce delivery costs as well as increasing learner relevance. Government and regulators should proactively consider FSQ test and assessment policies in line with this evolving AI capability.

3 REVIEW THE STRUCTURE AND SPREAD OF LEVEL 2 FUNCTIONAL SKILLS MATHS QUESTIONS

Intricate scenario questions should be broken down into multiple segments to enhance clarity and alleviate cognitive strain. Furthermore, a comprehensive range of topics should be covered in exams to promote consistency and diminish the influence of luck, fostering fair assessment for all learners.

4 PROMOTE DIVERSE ASSESSMENT METHODS AND IMPROVE RECOGNITION OF PARTIAL SUCCESS

Diversifying assessment methods, such as formative assessments and project-based evaluations, enhances the holistic evaluation of learners, accommodating diverse needs and strengths. Also, to improve fairness and motivation in maths exams, consider moving beyond a binary pass/fail system. For example, providers suggested recognising a learner's proficiency by granting a pass in Level 1, even if they fall short in Level 2. This acknowledges their strengths and fosters a more inclusive approach. A useful consideration would be a requirement for sub-skillsets relevant to job roles as opposed to gaining the 'full' FSQ .

5 INCORPORATE ENGLISH AND MATHS COMPONENTS OF APPRENTICESHIPS INTO THE OFF-THE-JOB APPRENTICESHIP TRAINING DEFINITION.

Employers generally do not appreciate front-line on-the-job training to include training towards a qualification that is increasingly academic in nature, and that is in many ways unsuited to the job in question. Training for these subjects should be allowed as part of off-the-job training within apprenticeships. Structured training programmes for apprentices could include job-specific Functional Skills training during off-the-job training, supplemented by additional learning opportunities that specifically support the attainment of FSQs. Combining these elements would create a comprehensive and effective learning experience for all apprentices, ensuring they acquire the necessary skills and qualifications for success in their chosen field.

6 CONSIDERATION SHOULD BE GIVEN AS TO THE ROLE FUNCTIONAL SKILLS QUALIFICATIONS SHOULD PLAY IN THE AWARD OF APPRENTICESHIPS.

No 16-19 programme of study requires English and maths qualifications as an exit requirement except apprenticeships. This research did not reveal a persuasive rationale as to why this should be the case, particularly given their removal as exit requirements from T Levels in 2022. Other approaches merit consideration, including study towards literacy and numeracy qualifications as a condition of funding, or developing tailored English and maths programmes related to specific occupational scenarios so that the skills that taught are tailored to and embedded within the training that is given, rather than being set on a "one-size fits all" basis.

7 UPRATE FUNDING FOR FUNCTIONAL SKILLS QUALIFICATIONS BY AT LEAST 10%

The funding rate for FSQs, unaltered since 2014, is insufficient to cover costs. In the face of mounting losses in FSQ delivery an immediate 10% boost to £796 is a helpful and reasonable first-stage proposal after which progress can be made towards better aligning rates with costs of delivery. DfE should develop a consistent methodology that monitors the costs of delivery in relation to the funding allowed in order to properly inform future funding decisions for FSQs.

1. Introduction

BACKGROUND

Basic literacy and numeracy skills are essential for an individual's overall well-being and life opportunities. These fundamental skills empower individuals to succeed in their personal and professional lives, leading to higher employment rates and job satisfaction. The Learning and Work Institute (2021) found that from an economic perspective, investing in basic skills can yield a significant social return, with an estimated £22 return for every £1 invested in Level 1 provision. Basic literacy and numeracy also have a positive impact on personal well-being, self-esteem, and confidence. Therefore, there are numerous benefits to acquiring these skills from social, economic, and personal viewpoints.

In the UK context, the General Certificates of Secondary Education (GCSEs) at age 16 serve as pivotal benchmarks for basic literacy and numeracy. A 'standard pass' lies between grades 4-9, and yet in 2023, a mere 72% of students met this standard. Recognising this gap, the government mandated post-16 continuation in English and maths for those not meeting GCSE benchmarks since 2014. This policy directive meant that by 2023, approximately 28% of learners incorporated English and maths in their advanced studies.

Yet, the challenge persists, with FFT Education Datalab's 2023 data indicating dismal retake success rates at a mere 25.9% for English and a concerning 16.4% for maths. Such statistics imply that the majority grapple with GCSE resits, with only about one in four English learners and one in seven maths learners succeeding. Alarmingly, an estimated 9 million working-age adults in England lack adequate literacy and numeracy skills, highlighting an urgent need for strategic interventions (Learning and Work Institute, 2021).

FUNCTIONAL SKILLS AS AN ALTERNATIVE TO GCSES

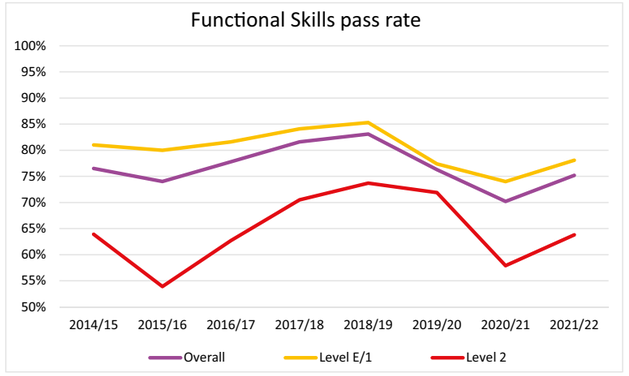
While much attention is often drawn to GCSEs, there exists another path – Functional Skills qualifications (FSQs) in English and maths. These are generally available from age 16 as alternatives to GCSEs – a Functional Skills Level 2 is equivalent to a GCSE grade 4 and it is at this level that this report concentrates its analysis.

FSQs were first introduced in 2007 as part of a three-year pilot programme to replace existing 'Key Skills' and 'Skills for Life' qualifications, becoming more widely adopted over the early 2010s. While GCSEs are predominantly academic in nature, FSQs were designed to focus on the practical skills required for everyday life and work. Notably, they would provide a significant alternative for individuals who may not be best-served by academic learning. By emphasising the development of essential skills for real-world applications, they offer second-chance opportunities for those who may have previously not succeeded using traditional educational pathways. Due to the practical nature of Functional Skills emphasising real-world applications, they are particularly suitable for apprenticeships.

Under current regulations, Level 2 (intermediate) apprenticeships mandate the attainment of Functional Skills Level 1 qualifications in both English and maths Functional Skills to fulfil apprenticeship requirements. Additionally, intermediate apprentices are obligated to study Functional Skills at Level 2.

Since their introduction, FSQs have undergone various changes. Over the past eight years (2014/15-2021/22), there has been a noticeable shift in FSQ pass rates, as shown in Figure 1. In particular, the 2020/21 academic year saw a remarkable drop at all levels – Level 2 witnessed a significant decline from 71.9% in 2019/20 to 57.9%, marking a 14% decrease. Similarly, at Entry Level 1, the pass rate decreased from 77.4% to 74.0%, a 3.4% drop. The overall pass rate therefore fell from 76.3% to 70.2%. Several factors may have contributed to this decline, including changes in the curriculum and testing as a result of the reform, as well as external influences like the COVID-19 pandemic.

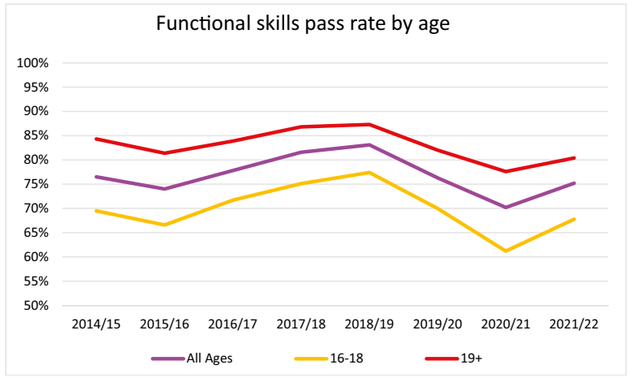
Figure 1: Pass Rate of Functional Skills by Level



Source: Created by AELP using data from GOV.UK. Explore Education Statistics. [online] Available at: https://explore-education-statistics.service.gov.uk/data-tables/further-education-and-skills & GOV.UK. Statistics: national achievement rates tables. [online]. Available at: https://www.gov.uk/government/collections/sfa-national-success-rates-tables.

Figure 2 shows a discernible fluctuation in pass rates among various age brackets. The 16-18 age group consistently exhibits a diminished pass rate in contrast to the 19+ age group. A declining trend is evident in both categories – notably since reforms were introduced to FSQs in 2019.

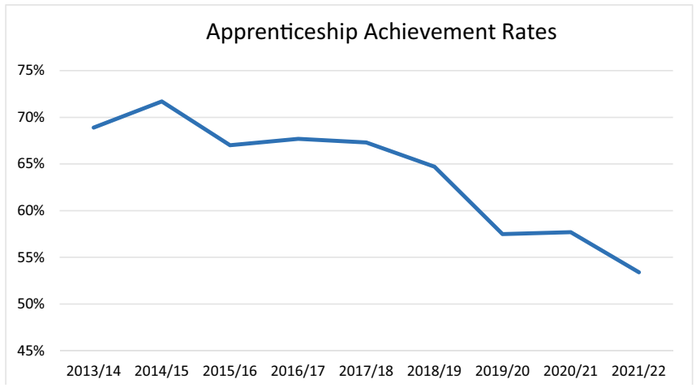
Figure 2: Pass Rate of Functional Skills by Age



Source: Created by AELP using data from GOV.UK. Explore Education Statistics. [online] Available at: https://explore-education-statistics.service.gov.uk/data-tables/further-education-and-skills & GOV.UK. Statistics: national achievement rates tables. [online]. Available at: https://www.gov.uk/government/collections/sfa-national-success-rates-tables.

The mandatory exit requirement for qualifications in English and maths further complicates the picture, with recent research from AELP (2023) demonstrating that failure to complete these qualifications accounts for many of those who do not pass the apprenticeship gateway stage to end-point assessment. The failure to pass FSQs is therefore compromising the ability of many to demonstrate their occupational competence, even though their applied levels of English and maths may be completely appropriate. This continues to hold back completion rates for apprenticeships which remain low and generally on a downward trajectory despite a variety of initiatives to improve them (see Figure 3).

Figure 3: Apprenticeship achievement rates since 2014



Source: Created by AELP using data from Department for Education (2014). Statistics: national achievement rates tables. [online] GOV.UK. Available at: https://www.gov.uk/government/collections/sfa-national-success-rates-tables. and GOV. UK (2023). Apprenticeships and traineeships, Academic Year 2021/22. [online] explore-education-statistics.service.gov.uk. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/apprenticeships-and-traineeships

FUNCTIONAL SKILLS REFORM IN 2019

REFORM PURPOSE

In 2018 the DfE announced plans to reform English and maths qualifications. Its main purpose was 'to improve the relevance of these qualifications, thereby increasing their recognition, credibility and value in the labour market' (DfE, 2018, p3). The changes aimed to ensure that FSQs better met employer needs in terms of required knowledge and skills, thereby building the qualifications' recognition and credibility.

DfE (2019), at the same time noted that;

> *"Many aspects of current FSQs are being retained. […] questions will often continue to be based on everyday contexts and scenarios"*
>
> **(DfE, 2019).**

> *"Functional Skills often contextualise maths and English which helps learners apply these skills in real life work settings."*
>
> **(DfE, 2019)**

This seemed to indicate continuing alignment with employer requirements, through questions being grounded in real-world contexts.

REFORM CONTENTS

The reform brought the following specific modifications to FSQs:

- Oversight by independent invigilators
- Guided Learning Hours increased from 45 to 55 hours
- Dictionaries and spell checks no longer allowed on English writing papers
- The introduction of a non-calculator paper for FSQ maths, worth 25% of the assessment time and marks
- Underpinning skills introduced to FSQ maths to address basic arithmetic skills

UNDERPINNING SKILLS

The reforms meant evaluating learners' mathematical knowledge in 1) underpinning skills and 2) problem-solving skills[2], weighted at 25% and 75%, respectively. While the definition of problem solving skills appears to be straightforward, that of underpinning skills is more ambiguous. DfE (2018) defines underpinning skills as the 'ability to do maths outside of a problem' suggesting a policy desire for non-contextualisation in assessment. However, Ofqual (2021, p7), states that 'Questions or tasks assessing underpinning skills may be presented either in a given context or in the abstract, without a context' which implies that underpinning skills can be tested and assessed within a context.

This flexibility has nevertheless facilitated the inclusion in FSQ exams of an increasing number of abstract academic-like questions such as those found in GCSEs, even though the primary significance of FSQs remains their practical application. Research conducted by AELP (2023) highlights this issue of the perceived overemphasis on academic aspects in functional skill tests within training providers.

COST OF FUNCTIONAL SKILLS

The funding of Functional Skills for apprentices has long been a contentious issue, with voices across the further education (FE) sector voicing longstanding concerns about the inadequacy of rates. Whilst FSQs funding for apprentices without a Level 2 English and maths qualification will increase by 54% from £471 to £724 in January 2024, aligning with Adult Education Budget rates, this change only applies to new apprentices and not those already in the programme. Providers nonetheless feel the move merely equalises funding rates that are still inherently too low to be viable.

Despite this increase, researching costs associated with delivering Functional Skills should be central to ascertaining the enduring viability of apprenticeship programmes, and we were surprised to find little if any existing research in this area. By investigating this, we can effectively tackle challenges, optimise resources, and contribute to the formulation of a sustainable funding model. This not only enhances the programme's efficiency and effectiveness but also ensures its sustained success over time.

2 The ability to apply mathematical thinking to solve problems (DfE, 2021, p4).

There is also a serious policy issue to consider about the need for FSQs as an exit requirement in order to achieve an apprenticeship. This is the only such technical qualification with this requirement, which our evidence indicates is hindering the demonstration of vocational excellence via apprenticeships instead of enhancing it. Alternative approaches such as requiring study towards English and maths qualifications (rather than their completion) as a condition of funding may serve the purpose of driving overall skill levels up more effectively.

RESEARCH OBJECTIVES AND METHODOLOGY

This research was conducted by AELP with the support of Association of Colleges (AoC) carrying out focus groups and associated analysis, and Institute for Employment Research (IER) at Warwick University, kindly funded by the Edge Foundation and the Gatsby Foundation. AELP's work and AoC's focus groups concentrated on FSQ content, while IER placed primary focus on the costs of delivery.

THE RESEARCH QUESTIONS WERE:

1. Do training providers encounter challenges in Functional Skills content and their delivery, and if they do, what are these challenges?
2. To what extent does the current content of Functional Skills align with the industry expectations?
3. How has the Functional Skills reform in 2019 changed the content of the exams and how has it impacted learners?
4. What level of costs are incurred by providers to successfully deliver Functional Skills qualifications in English and maths?

This study used various methods, including focus groups by AELP and AoC to identify challenges in Functional Skills training. The impact of Functional Skills reform on math exams was assessed through the analysis of 31 Level 2 past papers from four awarding organisations. The provider cost analysis focused on post-16 providers serving diverse learners through a case study approach. The detailed overall methodology and sample information are provided in Appendix 1and Appendix 2.

2. Challenges Faced by Training Providers in Functional Skills Contents – Insights from Focus Groups

KEY FINDINGS OF THIS CHAPTER

The focus groups with independent training providers and colleges revealed the following:

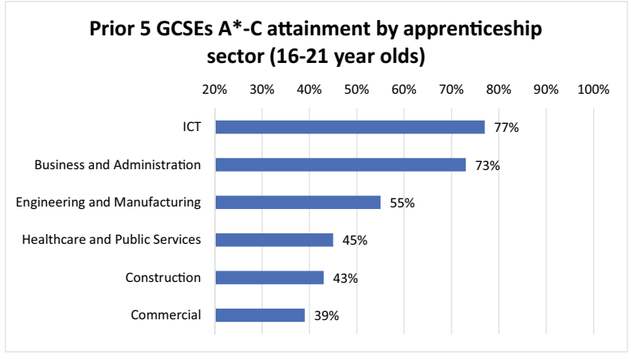
- There are sectoral variations in Functional Skills challenges; traditional apprenticeships face more issues than newer apprenticeships.
- There is a significant step up in knowledge requirements between FSQ Level 1 and Level 2 maths, attributed to the incorporation of GCSE-like content.
- Lack of contextualisation in Functional Skills exams hampers understanding and relevance for apprentices. The exams closely resemble GCSEs, raising concerns about their practical applicability, differentiation, and relevance in work-related scenarios.
- Overly-complex exam questions can be challenging and time-consuming for learners, particularly for ESOL (English for Speakers of Other Languages).
- The single summative assessment methodology of FSQs, and the binary pass/fail nature of their award, do not properly encourage, recognise or reward specific strengths.
- It is difficult to thoroughly explore specific topics due to constrained time and extensive syllabus.
- Apprentices and employers face challenges balancing Functional Skills training with other commitments due to their exclusion from off-the-job training rules.
- FSQ maths presents more significant challenges than English due to a higher number of apprentices not meeting maths requirements.

There is growing concern regarding the fitness for purpose of Functional Skills. As many apprentices turn to work-based learning having not academically excelled in school, so they can be discouraged from studying FSQs in English and maths because they are now too close in content and nature to the GCSEs they previously struggled with. Consequently, this presents a significant barrier and obstacle to gaining a vocational qualification. AELP (2023) have also previously highlighted mandatory English and maths exit requirements as a significant impediment to the successful completion of apprenticeships.

FUNCTIONAL SKILLS AMONG TRADITIONAL VS NEWER SECTORS

From the focus groups convened for this study, we found the extent of these issues can vary significantly between traditional and newer occupational sectors. Figure 4 depicts the proportion of learners who had obtained five GCSEs before enrolling in apprenticeships across six sectors. As the data reveals, 77% of apprentices in the ICT sector and 73% in business and administration already possessed five GCSE passes prior to commencing their apprenticeships – it came as no surprise therefore to find that the focus group in Digital and IT identified that FSQs tend not to present a significant challenge. Conversely, sectors such as healthcare and public services, construction, and commerce have significantly lower percentages of prior attainment, with only around 40% of apprentices holding five GCSEs on entry.

Figure 4: Prior 5 x GCSE A*-C Attainment by Apprenticeship Sector (16-21 Years Olds)



Source: Cavaglia, Mcnally and Ventura (2022) data 2019

This discrepancy in prior GCSE attainment translates into variations in the number of apprentices requiring English and Maths study, leading to varying perceptions of the degree to which FSQs present a challenge in any individual sector.

FOUR MAIN CHALLENGES WITH FUNCTIONAL SKILLS

Whilst acknowledging the variance noted above, our focus groups identified four key overarching challenges concerning Functional Skills.

1. Challenging content
2. Contextualisation in the Functional Skills exam
   - A Lack of contextualisation and application to vocational and real-world contexts
   - B Complexity
3. Assessment methods
4. Delivery model

CHALLENGING CONTENT

Overall, participants in the focus groups felt that Functional Skills content is inappropriate for many students, resulting in low pass rates. They attributed this to the increased inclusion of GCSE content since the reform, raising concerns around the amount of content that looks very similar to that with which the learner previously struggled.

LEVEL 2 MATHS

In particular, participants expressed concerns about the difficulty of Level 2 maths, noting that even with a low pass mark[3], a national pass rate of 25% evidences the issue. Many felt as though they are setting students up to fail, as Level 2 maths can sometimes be the only thing holding apprentices back from otherwise demonstrating vocational competence and completing their apprenticeship.

> *You know, that has got to tell you there is something not quite right with the makeup of that qualification exam if you are only achieving 25%.*
>
> **College**

ENGLISH

Participants also described difficulties with the writing aspect of Functional Skills due to heavy emphasis on Spelling, Punctuation, and Grammar (SPAG). This was said to disadvantage ESOL students in particular, who might struggle with the heavy emphasis on SPAG in English writing Functional Skills, such as tenses. One participant highlighted that the reading assessment feels more formulaic, and as a result it is easier to teach students the exam rather than the skill itself.

Irrespective of the subject, participants also noted a lack of alignment between FSQ levels and GCSE grades resulting in challenges with progression. For example, one participant explained that a student with a grade 1 GCSE may still need to take Level 1 Functional Skills for progression, despite their actual skill level being better suited to Entry Level Functional Skills.

> *Functional Skills does not align right with the grades from 1 to 4 […] if someone comes in to us with a grade 1 GCSE and we have got to get them a Level 1 (Functional Skill) it is virtually impossible really. So it is easier actually to move someone through the grade 1 to a 2 to a 3 to a four in GCSE, than it is to actually try and get them to achieve a Functional Skill that is a positive progression.*
>
> **College**

3 One participant referenced 50%, and another referenced a specific AO recently raising it to 60%.

CONTEXTUALISATION IN FUNCTIONAL SKILLS EXAMS

The most prevalent issue highlighted was that the questions in FSQs lack contextualisation. In other words, they are too academic in nature for many of the learners taking them.

I. LACK OF CONTEXTUALISATION WITHIN THE VOCATIONAL AREA

The absence of contextualisation within specific vocational areas can hinder the learning experience of apprentices, as they struggle to perceive the relevance of these exams in their chosen fields. Contextualising Functional Skills within the framework of their vocational area greatly enhances understanding and acceptance among learners and reinforces vocational learning, but many training providers feel current FSQs do not incorporate this approach.

> *"That [Functional Skills exam] is not relevant out on the ground, and not only do they find it difficult, they do not see the application of it in real life."*
>
> **Land-based industries**

> *"When you put it into context and you say well, this is what they are going to learn and it is relevant to the job they are doing, then it makes sense to them, and they are more willing to accept it."*
>
> **Logistics & Transport**

> *"You could have a different Functional Skills paper for every [vocational area]. So it is about really taking those fundamental skills, which I think they have done, but allowing adaptation in the assessment somehow … [there must be] a way that you can adapt it, contextualise it to any specific industry that is being taught. That would, I believe, see a much higher success rate, would allow the learners to then have an opportunity to learn the maths and English that they need for that industry that they are being taught vocationally."*
>
> **College**

Providing relevance to the skills being taught helps bridge the gap between theory and practice, making the learning journey more meaningful and effective. When learners can see how these skills directly apply to their roles, they become more engaged and willing to embrace them as valuable tools for their profession.

II. LACK OF CONTEXTUALISATION IN REAL-WORLD SITUATIONS

Another aspect of lack of contextualisation reported by providers is that FSQ content is increasingly shifting towards academic questions, rather than real-world scenarios, raising alarm bells regarding the relevance and functionality of these assessments.

> *"The contents of Functional Skills is more academic rather than practical [and] functional … It is just not relevant, it is GCSE-type stuff."*
>
> **Land-based Industries**

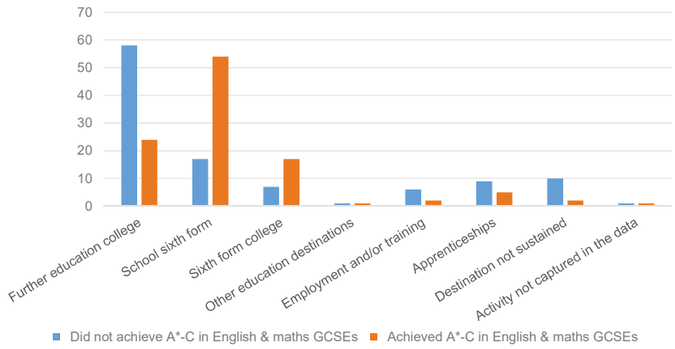
> *"Functional Skills have been tinkered so much with that it is now almost an academic delivery."*
>
> **Public & Third Sector**

> *"They are not contextualised, it is just an extension of doing another GCSE".*
>
> **Hospitality & Catering**

The growing recognition of the practical application of maths in real-world contexts is evident, exemplified by Labour's recently proposed policy to bolster lifelong numeracy skills. Focused on early intervention and hands-on maths instruction in primary schools, the plan strives to build a fundamental maths proficiency crucial for success in secondary education, the professional realm, and daily activities, such as financial literacy, graph analysis, and calculating the value of supermarket promotions. The House of Lords has also emphasised the significance of applying mathematical skills in real-world scenarios. This approach aims to enhance opportunities for all students to showcase their achievements and eliminate obstacles hindering their progression into post-16 education (House of Lords, 2023).

Despite the government stressing the application of maths in real-world scenarios, providers feel that Functional Skills maths qualifications are becoming more academically oriented. Such concerns about Functional Skills exams are compounded particularly because of the characteristics of the people who take them. Figure 5 shows GCSE English and maths attainment by destination after Key Stage 4. Students who do not achieve GCSEs 4-9 (previously A*- C) are more likely to take up Further Education (FE) college or apprenticeship routes than A Levels; hence, apprentices are more inclined to have previously experienced challenges in their school studies, particularly in English and maths.

Figure 5: Destination in the Academic Year After Completing Key Stage 4, by GCSE English and Maths Attainment in 2014/2015



Source: Velthuis et al. (2018. p22)

Focus groups told us they struggle to provide support to such individuals.

> *Looking at the current state of Functional Skills, we are just expecting them to do in a very short period of time what they failed to do in 10 years of schooling"*
>
> **Logistics & Transport**

> *These are people that have probably not been to school at all […] or have had a bad time at school.*"
>
> **Land-based industries**

> *If these young people were capable of achieving Grade 4 in GCSE and Level 2 in Functional Skills, why did not they do it in five years of maths and English support at 10-15 hours a week in school? We have got to take the point why these young people [deliberately] have not taken the academic route."*
>
> **Foundation & Functional Skills**

Many studies show that apprentices, often individuals with a prior history of struggling with English or maths during their schooling, are likely to perceive a higher level of difficulty when attempting to relearn these subjects (Higton et al., 2019; Education & Training Foundation [ETF], 2014; Robey, Woodhouse, & Downes, 2016). Particularly, there can be serious challenges with attitude and motivation towards learning. Teachers report that students who struggled with GCSE maths often lacked confidence and were demotivated due to poor prior experiences and a perceived lack of consideration for their individual learning needs. Therefore, GCSE maths is seen as an academic subject that '*switched off*' most of the learners. (ETF, 2014).

To enhance students' motivation and confidence in retaking English and maths exams, fostering a positive mental attitude is crucial. Research by Higton et al. (2019) and Williams et al. (2017) underscores the importance of rebuilding self-confidence in FE. Functional Skills, as a non-academic alternative, should therefore be vital for rebuilding student confidence.

Literature highlights the significance of contextualised learning, especially in English and maths education for vocational students (Higton et al., 2019; ETF, 2015; Dalby and Noyes, 2015; ETF, 2014; Robey, Woodhouse and Downes, 2016). Learner motivation is strongly influenced by the perceived relevance of the curriculum, its practical utility, and the acquisition of transferable skills. Incorporating real-world scenarios and adult contexts in teaching maths is more engaging for students and bolsters their self-esteem (ETF, 2014).

Furthermore, contextualisation in Functional Skills offers significant benefits by linking problems to real-world vocations. This approach engages learners effectively and enhances their understanding while boosting information retention. Various studies confirm that contextualised maths learning not only deepens comprehension but also improves the ability to remember what has been learnt (ETF, 2014). This connection to practical applications not only makes learning more engaging but also equips learners with valuable skills they can apply in their future careers.

Additionally, contextualising Functional Skills within vocational courses can significantly reduce dropout rates. Research by Casey et al (2006) indicates that integrating maths instruction into vocational learning at Level 2 resulted in up to 20% higher achievement rates and lower dropout rates. Contextualisation enhances learner engagement and thereby improves overall educational outcomes, which should always be the primary outcome being sought.

Most importantly, studies show apprentices tend to prefer learning English and maths in contextualised contexts, often finding this more effective and fulfilling in a work-related setting. Learners expressed a desire to grasp the practical relevance, purpose, and significance of their English and maths studies and to connect these skills to their chosen career goals (ETF, 2015).

Training providers often note that abstract maths questions can discourage certain learners, particularly those with Special Educational Needs and Disabilities (SEND). This is often because these questions appear too academically oriented, reminiscent of previous negative experiences with maths in school.

> *They [Functional Skills exams] are far too abstract. If you have a learning disability, there is no way you can really engage with that. And it just leads to you feeling even worse about yourself and your abilities"*
>
> **Public & Third Sector**

> *Abstract questions exclude many learners with learning disabilities who are already shockingly underserved by most provision."*
>
> **Foundation & Functional Skills**

The psychological impact or burden on a learner can vary depending on whether the question is presented in a contextualised scenario or as an abstract concept, even if the required mathematical skills to answer it remain the same. Thus, incorporating contextualisation within a scenario can alleviate the psychological burden on learners by differentiating it from abstract academic maths, in which they may struggle [4].

4 One counter to this is that such contextualisation of Functional Skills may in fact disadvantage those SEND learners who would prefer a less real-world and more academic approach, such as many on the autistic spectrum. However, a clear differentiation between the approaches of Functional Skills and GCSEs would make this far less of an issue because there is a choice of approaches to take. The current convergence of Functional Skills and GCSE content and assessments does not give this differentiation and therefore reduces any choice at all.

Training providers expressed their frustration with the disparity between how they teach learners Functional Skills in showing relevance to vocational settings, and how learners are then assessed.

> *We do contextualise the materials in terms of worked examples [but] for the test, it is not contextualised. "*
>
> **Logistics & Transport**

> *It is not difficult for teachers to embed that and contextualise it and make it relevant. […]. The problem comes when the test is not contextualised. […] you contextualise it and then [the tests] do not"*
>
> **Public & Third Sector**

Because FSQ questions can lack context, there can exist a disconnect between the skills learners develop and apply during the course and how they are evaluated. This can only really be rectified if the training content becomes academic in nature to align with the final exam, which defeats the overall purpose and intent of FSQs to be applied and functional.

III. COMPLEXITY OF FUNCTIONAL SKILLS EXAMS AND CONTEXTUALITY

Contextualising maths questions can however pose challenges for some learners in grasping the scenario, which may require learners to employ additional skills like language proficiency, despite the mathematical context. Ahmed and Pollitt (2007) argue that the cognitive processes influenced by the context could potentially hinder their understanding of the concepts within the question, decreasing the exam's validity.

PROVIDERS ARE CLEAR ON THE PROBLEMS HERE:

> *[…] it is the language. You know they have almost got to know how to problem solve before they can even use the maths to solve the problem. I think the language levels are too high"*
>
> **Land-based industries**

> *[…] there is just so much information to read and take on board that actually the learners look at them and think, what do I actually need to do here? […] I would agree some contextualised questions are too complicated to unpick the question"*
>
> **Foundation & Functional Skills**

Robey, Woodhouse, and Downes (2016) echo that complex scenario-based questions in maths assessments can be challenging for many learners, making them harder to understand. While some learners appreciate the context scenarios provide, many struggle to understand them, often requiring multiple readings and word-blocking to identify the problem. Moreover, lengthy scenarios can be distracting and time-consuming, hampering exam performance. Learners therefore stress the importance of concise scenarios to prevent distraction and ensure efficient problem-solving, which may mean breaking larger scenarios down into more manageable sections.

The complexity of exam questions can pose significant barriers for English for Speakers of Other Languages (ESOL) learners, with the complex language used in Level 2 English and maths writing being a case in point. One participant noted that despite their ESOL student being highly qualified in their country, they could not get a job in England because of speaking and listening barriers, and the tutor did not feel Functional Skills was going to help them. Linguistic challenges can therefore hinder performance, even if they possess strong mathematical abilities. One focus group participant said;

> *Sometimes they have the skills already. However, the language really delays the achievement and the progression of these learners, and I feel that this is something that I think needs a bit of attention."*
>
> **Digital & IT**

This issue notwithstanding, contextualisation offers significant advantages in enhancing memory retention and reducing dropout rates, with many learners expressing a preference for it. However, it is crucial to strike a balance between ensuring functionality and preventing the context from overshadowing the development of relevant skills, as overly complex or lengthy scenarios in questions can pose a barrier for some learners.

ASSESSMENT METHODS

Providers also have concerns regarding the appropriateness of assessment methods being used.

Presently, English and maths FSQs are evaluated through examinations that typically last for approximately three hours in the case of English (Reading, Writing, Speaking, Listening, and Communication) and two hours for maths. These summative exams are administered under the supervision of invigilators, either online or in a paper-based format. Our focus groups told us that many apprentices do not work well with this type of assessment, often because it resembles what they experienced (without previous success) in school. Hence, the existing FSQ exam, characterised by its lengthiness, summative nature, and singular assessment approach, requires modification to better align with the needs of work-based learners.

> *There is a cohort of learners that can still do the maths, but they struggle with the test. So an assessment methodology […] to sit in the classroom to do maths does not fit with the learning styles"*
>
> **Hospitality & Catering**

> *A lot of the battle is actually trying to convince them about a two hour exam in an alien environment. I had a learner say to me, 'I actually find it really stressful sitting in a quiet room with an invigilator in silence. That is not a normal environment for me to be in."*

Public & Third Sector

The current assessment methods for English and maths FSQs, resembling traditional school exams, can therefore create added stress for learners and pose unnecessary and unhelpful challenges. Alternative assessment approaches, such as formative assessments, practical demonstrations, and project-based evaluations, that better suit the diverse needs of learners in various fields should be explored.

ENGLISH ASSESSMENTS

Our focus groups reported barriers arising from the assessment methods in both English and maths FSQs. One major challenge with English assessment is that students are required to pass all three exams, with no intermittent recognition of achievement. For example, if a student excels in the reading exam but struggles with speaking and listening, they will not be able to pass their Functional Skills. This can particularly prove a problem where one element requires particular attention but only a limited number of learning hours have been funded.

> *I have taught people to read in the last 12 months – like literally from scratch taught someone to read – but obviously then we have not got time to focus on their writing in that time. So it is that sort of conflict I have with English – the fact you have got the three exams and we do not get any recognition for getting them say through two of the three. It is just classed as a fail"*

College

To overcome this, one participant touched on the idea of portfolio-based assessments for English as an alternative assessment, which evidences their consistent work. Another participant raised the issue that in their opinion the reading and writing exams tend to take prominence over speaking and listening, despite their employer's wishes. A different participant described speaking and listening as too prescriptivist;

> *the speaking and listening is just so prescriptive that actually it takes away what speaking and listening is about to be honest … I actually said to (one of my ESOL learners) 'well, Functional Skills is not going to help you and your communication because all we are going to do is get you through an exam'. …the point is that Functional Skills does not actually help people with their speaking and listening. It literally is this tick box … things we do to get them through that part of the exam*

College

A couple of participants raised that the heavy focus on SPAG in the writing exam often resulted in students feeling reluctant to express themselves, through fear of making spelling or grammar errors. Others criticised how dictionaries are not allowed in the assessment, suggesting that this disadvantages students with dyslexia. In both cases, it was being suggested that the assessment methods could in fact be limiting the use of English rather than expanding the skilled use of it.

MATHS ASSESSMENTS

Like English, the maths exam was criticised for binary pass/fail assessment with no recognition of aspects that students do well in even if they do not pass overall. This issue is mitigated with GCSEs as students can at least obtain a lower grade – not the case within FSQs.

> *It is just pass or fail. Now, the maths, particularly maths Level 2 does not have a very good pass rate nationally. So therefore, are people better off doing a GCSE? Because even if they do not get the four or higher, potentially they might get a grade 3 or grade 2 - but they have got something, as opposed to just a fail"*

College

Participants raised the ongoing issue with content similarity, where questions are lifted from the maths GCSE and included in FSQs. One participant additionally noted that students were allowed formula sheets in GCSE exams but not FSQs, which seemed unfair. This suggests a disparity in the treatment of assessments between GCSEs and Functional Skills, prompting concerns about fairness and consistency.

> *One other thing that was slightly – well actually, it was really annoying, was the fact that they allowed the GCSE students to have formula sheets in the exam, but they would not allow them in Functional Skills. I cannot even remember what their reason was now, I just know that it was really not fair. It was something to do with COVID, but I just felt like, well, if they are allowing a formula sheet, why not allow that for Functional Skills when there are just as many formulas to remember?"*

College

To enhance fairness and motivation in maths exams, a proposed solution involves moving beyond a simple pass/fail system, by recognising strengths in specific areas. For instance, if a student excels in some aspects of a Level 2 test but falls short overall, grant a Level 1 pass to acknowledge proficiency.

DELIVERY MODEL

Delivery time was raised as a barrier in all our focus groups. The vast amount of content within the syllabus makes delivery generally challenging. With limited time for a comprehensive exploration of different topics, delivery can become a tick box exercise with a heavy focus on how students can gain enough marks during the exam, as opposed to actually developing fundamental skills. The absence of grading in favour of a binary pass/fail system also discourages stretch or challenge. Participants explained Level 2 in particular has more content but less time to deliver it in (55 hours) compared to GCSE (90 hours). To add to the delivery challenges, some students have been out of education for an extended period of time and require greater coverage of content and fundamental skills.

> *it would be lovely if we could actually teach them to improve their English and maths but we are actually teaching them to pass a test… but what else can we do? Like, literally what else can we do? Than try and get them through that test that they need to get through gateway?*

College

Participants specifically noted that apprentices are required to balance Functional Skills with other apprenticeship commitments that might already be challenging for them. Functional Skills is not included in off-the-job training definitions, meaning they must be taught in on-the-job situations which can compromise employer expectations and relationships. It also makes the non-contextualised nature of the summative assessment methodology more divergent from the way the apprentice is likely to have been taught.

For colleges that teach Functional Skills in block periods, barriers can also arise from employers who will not allow apprentices to take a fixed period of time out of work, as well as from apprentices not wanting to inconvenience their employers. One participant suggested that additional barriers can arise even when employers do allow time off – for example, other employees falling unwell can lead to apprentices being recalled from learning and back into work. This can result in challenges in re-arranging classes, impacting overall attendance rates.

> *I have the issue where employers will not let them out of work for that long, they do not like it… I had one employer ring me up and tell me to tell his apprentice to get back to work now… So it is just getting that time off work to actually come and do the Functional Skills"*

College

Challenges in balancing apprenticeship commitments could be resolved (at least in part) by the inclusion of English and maths FSQs training within off-the-job training hours.

Some – possibly many – apprentices simply discontinue their apprenticeships due to difficulties in passing mandatory FSQs. While considerable attention is rightly directed towards enhancing apprentices' proficiency in English and maths, most providers believed that employers are more concerned with apprentices' ability to perform in their job roles as opposed to developing wider English and maths skills:

> *Interestingly, the vast majority of employers that we surveyed said they were not that interested in maths and English skills of learners. They were more interested in the soft skills and the attendance and punctuality and communication and that is what they were looking for first of all - not so much around what the content of the Functional Skills is or the fact that they had to do it necessarily, or what level they had to do it at"*

College

CHALLENGES IN FUNCTIONAL SKILLS: A FOCUS ON MATHS

While there are certainly shared challenges between English and maths FSQs, we found maths in particular faces a multitude of distinct problems. Providers explain that this is often the case because of the higher number of apprentices who do not meet maths requirements, as opposed to English requirements.

> *English is less of a problem (in apprenticeships) because there are less people who need to do it"*

Land-based industries

> *The maths [qualification] is probably the more common in that more learners have the English but not the maths."*

Digital & IT

4. **Reform** and Its Influence on the Exams Content

KEY FINDINGS OF THIS CHAPTER

- Ofqual (2022) report that the relative difficulty of legacy and post-2019 reform Functional Skills maths qualifications is unchanged.
- There are however significant concerns that the shift toward theoretical rather than practical applications contradict DfE assurances of maintaining contextualisation to ensure functionality and relevance.
- Questions about the effectiveness of FSQs in preparing learners for real-world scenarios, especially for those struggling with academic maths, raises concerns about social mobility and support for students from lower socio-economic backgrounds.
- As a result of the reforms, providers and employers more often require prior English and maths qualifications for apprentices to be held before commencement, limiting opportunities for those with a less academic background.
- Functional Skills should serve as viable alternatives for individuals lacking required GCSE grades, instead of a near-replication of a GCSE system which did not work for them.

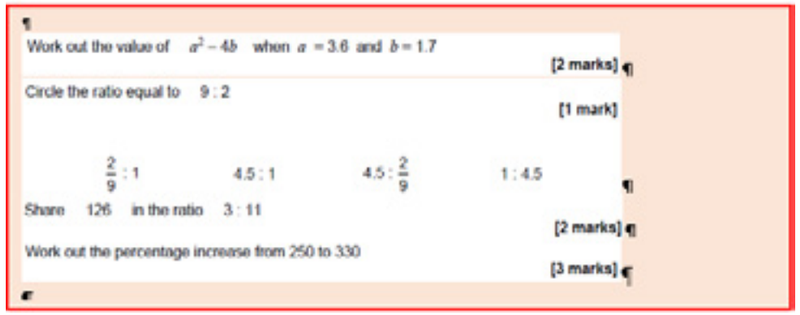
Given the emerging focus on maths during the analysis of past papers, this chapter examines FSQ maths in more detail.

COMPARISON OF LEGACY AND POST-REFORM FUNCTIONAL SKILLS EXAMS

Functional Skills maths is designed to be a pivotal component in equipping individuals for practical applications of mathematical concepts in the real world. However, our analysis revealed that following the reforms, certain awarding organisations introduced questions lacking context or presented in scenarios that were not conducive to effective work-based learning, as illustrated in the examples below (refer to Figure 6), sourced from three different awarding organisations.

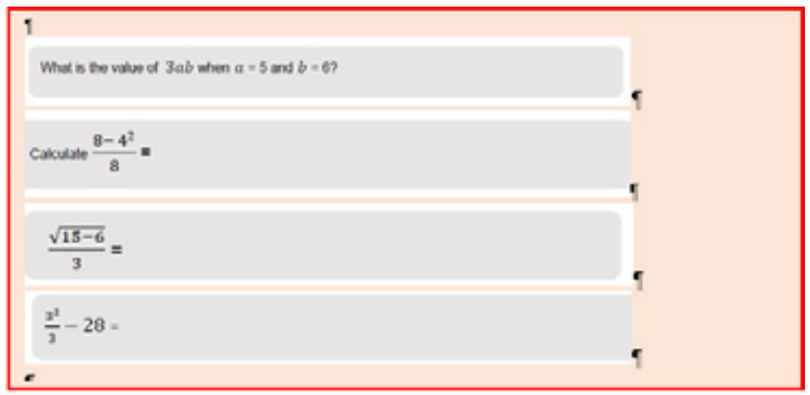
Figure 6: Examples of Abstract Questions from Three Awarding Organisations

AWARDING ORGANISATION A



AWARDING ORGANISATION B

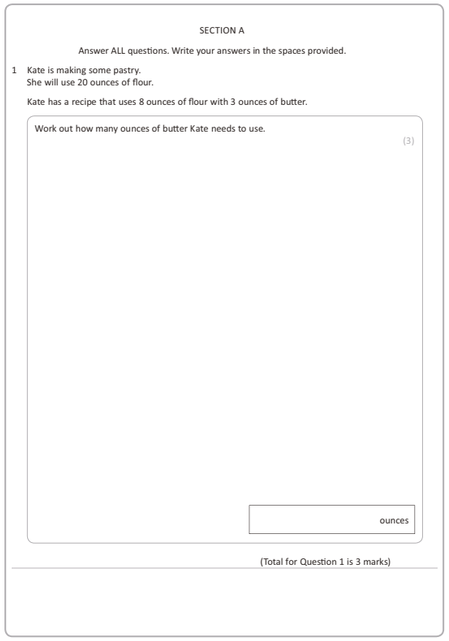
AWARDING ORGANISATION C



These examples adopt an academic, GCSE-like orientation rather than a functional one. While some problems may have practical applications, they often remain disconnected from real-world situations, and it can be hard to see how these questions can be useful in daily life. The disconnect between the assessment of non-practical mathematical skills and the intended evaluation of "functional maths skills" raises questions about the relevance and applicability of the questions in preparing learners for real-world scenarios.

As a consequence of introduction of abstract maths questions, the distinction between Functional Skills and GCSEs is becoming increasingly blurred. Figure 7 and Figure 8 illustrate the first five questions taken from the Functional Skills maths Level 2 and GCSE foundation tier, both sourced from the same awarding organisation. The purpose of this comparison is not to determine which exam is more challenging, but rather to discern which exam places a greater emphasis on real-world, functional maths with tangible, real-world applications. As can be seen, this is difficult to do.

Figure 7: Functional Skills Maths Level 2 Exam (First 5 Questions)



SECTION A

Answer ALL questions. Write your answers in the spaces provided.

1 Kate is making some pastry.
She will use 20 ounces of flour.

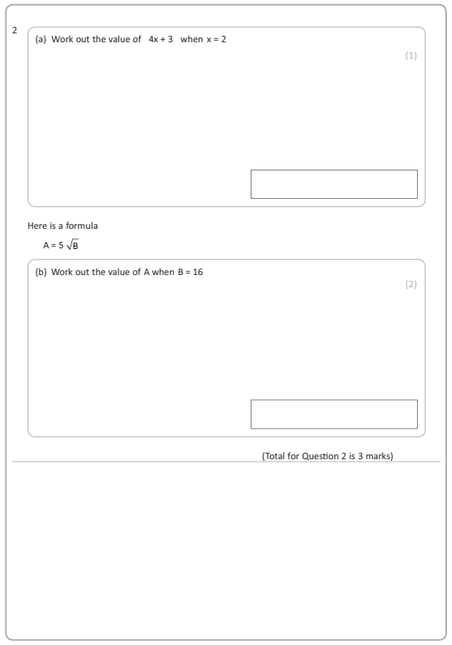
Kate has a recipe that uses 8 ounces of flour with 3 ounces of butter.

Work out how many ounces of butter Kate needs to use.

(3)

ounces

(Total for Question 1 is 3 marks)



2 (a) Work out the value of $4x + 3$ when $x = 2$

(1)

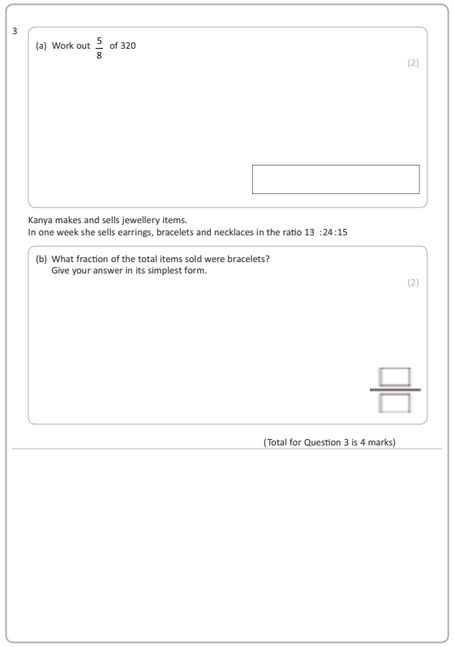
Here is a formula

$A = 5\sqrt{B}$

(b) Work out the value of A when $B = 16$

(2)

(Total for Question 2 is 3 marks)



3 (a) Work out $\frac{5}{8}$ of 320

(2)

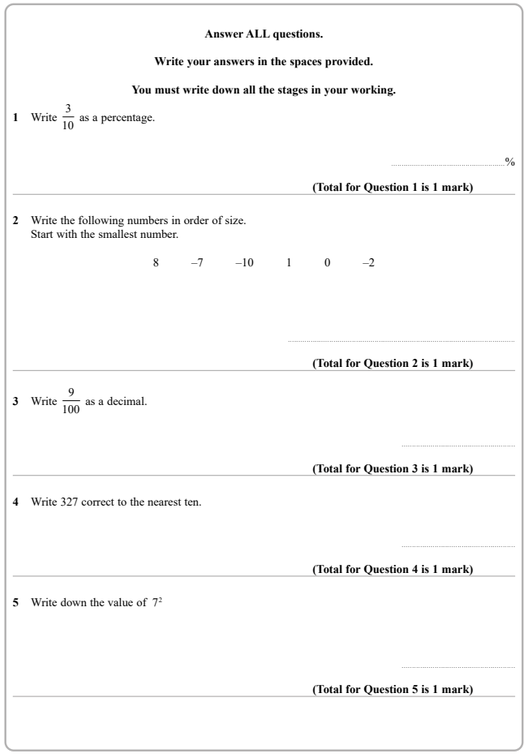
Kanya makes and sells jewellery items.
In one week she sells earrings, bracelets and necklaces in the ratio 13 :24:15

(b) What fraction of the total items sold were bracelets?
Give your answer in its simplest form.

(2)

(Total for Question 3 is 4 marks)

Figure 8: GCSE Maths Foundation Tier (First 5 Questions)



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Write $\frac{3}{10}$ as a percentage.

.....%

(Total for Question 1 is 1 mark)

2 Write the following numbers in order of size.
Start with the smallest number.

8 –7 –10 1 0 –2

.....

(Total for Question 2 is 1 mark)

3 Write $\frac{9}{100}$ as a decimal.

.....

(Total for Question 3 is 1 mark)

4 Write 327 correct to the nearest ten.

.....

(Total for Question 4 is 1 mark)

5 Write down the value of 7^2

.....

(Total for Question 5 is 1 mark)

As our focus groups revealed, apprentices tend to frequently encounter difficulties with academic mathematics, leading them to choose practical maths as an alternative path, yet this example shows they must nevertheless revisit academic maths through the current Functional Skills exam. Despite possessing the requisite skills, knowledge, and attitudes for their apprenticeship, some apprentices therefore discontinue their training due to this challenge. Functional Skills therefore often poses a hindrance to vocational progress.

Providing context for these abstract questions is not an overwhelming task. The advent of artificial intelligence (AI) tools will make it even easier. For instance, the use of generative AI was recently showcased at the Conference on Test Security, where questions created by AI were reviewed and adjusted by human experts (FE News, 2023). This process allows the development of individualised exams that are both robust and consistently indicative of the same skill level.

In our study, we utilised generative AI to craft context-specific questions, detailed in Appendix 3. As generative AI progresses, the customisation of these questions for a broader range of specific sector contexts will become increasingly effortless, presenting a promising opportunity for enhancing Functional Skills exams. In principle there is no reason why AI could not produce individualised applied questions in specific occupational scenarios, highlighting a direct connection between the subject and the work the learner is training for.

ANALYSIS OF FUNCTIONAL SKILLS MATHS EXAM REFORMS AND EXAM CONTENT

To delve deeper into the real impact of the Functional Skills reform in maths on exam content, we carried out a comprehensive content analysis, comparing Level 2 Functional Skills maths exams from both the legacy and current versions offered by four different awarding organisations. For each organisation, four past or sample exams were selected to represent the pre- and post-reform periods.

Using 31 samples, firstly, the number of the questions in the exams was calculated [5] before and after the reform to identify any change. Table 1 shows the number of questions differs based on the awarding organisations. As per the data, there were generally around 14 questions before the reform, which subsequently saw an increase to roughly 24 questions. Several awarding organisations boosted the number of questions by approximately 40%, equivalent to an increase of around 10 questions, despite the funded guided learning hours available increasing by only 25% (from 44 to 55 hours).

Table 1: The Number of Questions Within Functional Skills Maths Level 2

AOs	Before	After	Increase
1	14	24	10 (42%)
2	14	23	9 (40%)
3	21	27	7 (26%)
4	15	25	10 (40%)

Source: Created by AELP.

The substantial surge in question numbers can be primarily attributed to the additional inclusion of the new non-calculator section, showing that the incorporation of underpinning skills has played a crucial role in driving up the overall question count. Given the nature of these underpinning skills questions as straightforward and relatively lightweight in terms of scoring, they nevertheless contribute significantly to the expanded volume of questions.

5 Each question is counted separately, even if multiple questions are included in one query. 'Check your answer' type questions were excluded from the count

The 2019 reform brought about significant changes, not only by increasing the number of questions but also by introducing those without specific contexts or scenarios. The prevalence of these was measured both before and after the reform, with the results in Table 2.

Table 2: The Number of Abstract Questions in the Functional Skills Maths L2 Exams

AOs	Before	After		
		Non-Cal	Cal	Total
1	0	0	0	0 (0%)
2	0	1.2	3.5	4.7 (20%)
3	0	8.2	3.2	11.4 (41%)
4	0	5	5.7	10.7 (42%)

Note. Created by AELP.

Prior to the reform, none of the four sampled awarding organisations included abstract questions in their assessments. However, after the reform, some did so. The quantity of these abstract questions varied between different organisations. For example, some include five to eight questions in the non-calculation section and three to five questions in the calculation section. As a result, two awarding organisations integrated a total of 10 abstract questions following the reform, making up roughly 40% of the total number of questions. It is important to note that while three awarding organisations adopted abstract questions, Awarding Organisation C did not incorporate any such questions, even after the reform. This particular organisation includes foundational questions, but all of them are presented with specific contexts or scenarios.

Even prior to the reform, there was agreement across educationalists more generally that reformed FSQs may overly emphasise theoretical mathematical concepts rather than practical, applied skills, leading Functional Skills assessments to resemble GCSEs too closely.

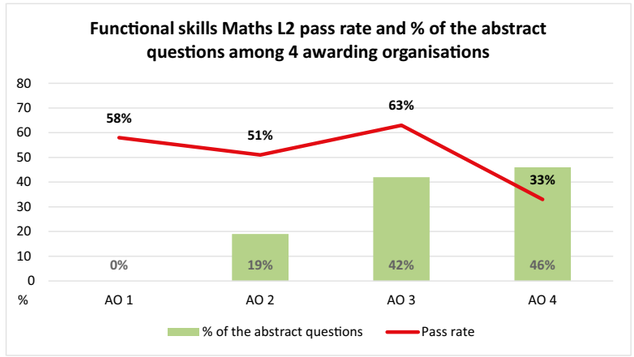
> *"[…] the reformed qualifications are moving away from applied knowledge and are placing an increasing emphasis on theory. They raised concerns that the reformed qualifications are becoming too similar to GCSE"*
>
> **Ofqual, 2018, p24**

> *"The notion of 'underpinning skills' in an applied context and problem-solving in an applied context' appears to be an attempt to map to the GCSE Mathematics assessment objectives. Functional Skills qualifications are not intended to be a GCSE-lite. Assessing problem solving in context automatically includes the assessment of 'underpinning skills' as learners need to be able to select appropriate mathematics and use it accurately"*
>
> **Mathematical Association, 2017, p11**

FSQs nevertheless underwent this significant transformation post-reform, adopting a more GCSE-like question format and losing much of their original functionality.

Figure 9 compares Functional Skills maths Level 2 pass rates and abstract question percentages across four awarding organisations. There is a negative correlation: as the percentage of abstract questions increases, the pass rates tend to decrease. AO 1, with no abstract questions, has a higher pass rate than AO 2, which has some abstract questions. AO 4, with the highest percentage of abstract questions, has the lowest pass rate. This suggests that more abstract questions could correlate with lower pass rates. However, this trend does not hold when including AO 3's data, which indicates that other factors might significantly impact pass rates. Therefore, the relationship between the percentage of abstract questions and pass rates is not straightforward.

Figure 9: Pass Rate for Functional Skills Maths L2 Across 4 Awarding Organisations



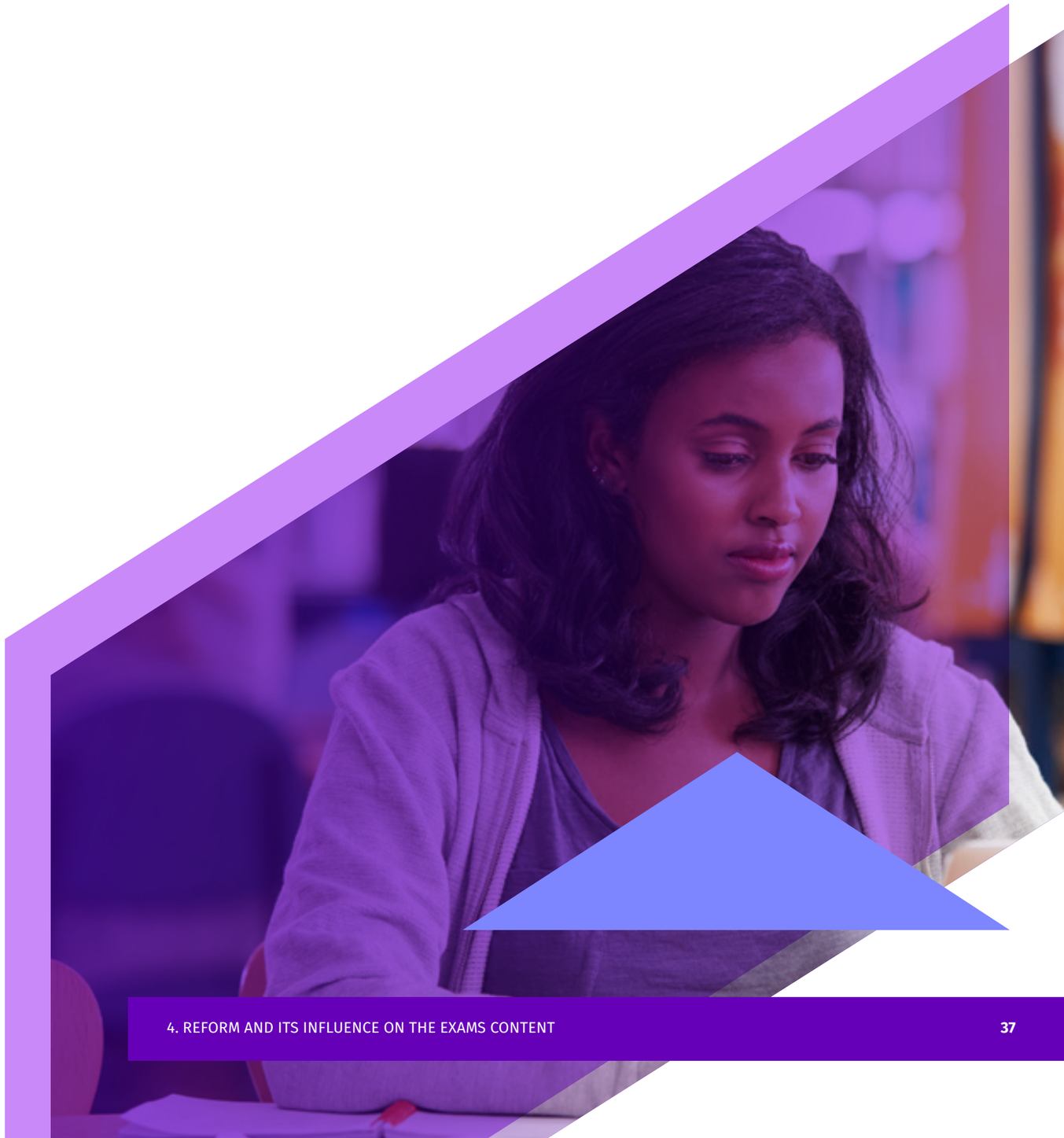
Note. Created by AELP using data from GOV.UK. Explore Education Statistics. [online] Available at: https://explore-education-statistics.service.gov.uk/data-tables/further-education-and-skills.

EVALUATION OF CHANGES IN FUNCTIONAL SKILLS MATHS EXAM DIFFICULTY

Ofqual (2022) investigated whether the level of difficulty of the Functional Skills items has changed between legacy exams and reformed exams, finding that they remained comparable and consistent across different assessment organisations. The inclusion of new content, such as underpinning skills and mathematical problem-solving without a calculator, did not seem to affect the difficulty (Keys and Holmes, 2022).

There have been criticisms of this research, specifically regarding its use of sample exams for the reformed exams. Some argue that these may not accurately reflect their true difficulty, thereby raising concerns about the research's validity. However, even ignoring those criticisms, the evidence from Ofqual that the reforms made the qualifications more robust is therefore negligible, whilst the evidence from our report indicates that they made Functional Skills drift further away from their intended purpose.

If the integration of context-free questions shows no discernible impact on the pass rate or robustness of the Functional Skills maths exam, it must be asked what gain there was from the 2019 reforms. Presenting mathematical content in an abstract academic manner, rather than a practical one, does not seem to improve a learner's vocational skills, evidenced by persistently lower-than-desired apprenticeship achievement rates. The reforms have instead reduced alternative pathways for those struggling with academic-style maths, creating additional challenges and barriers. Moreover, emphasising academic maths contradicts the DfE's pre-reform commitment to maintaining the contextualisation of English and maths skills within real-world work settings for functionality and relevance. The focus should instead be on preserving the accessibility of FSQs as a practical alternative for individuals less inclined toward academic maths to maintain their recognition and credibility.



5. Cost of Delivering Functional Skills

As part of this study, on our behalf Warwick University (Institute for Employment Research) conducted deep-dive interviews with a range of providers to ascertain costs of delivery of FSQs. The detailed methodology and sample information are provided in the appendix.

KEY FINDINGS OF THIS CHAPTER

- Compared to the funding received, most interviewed providers (particularly in apprenticeships) deliver FSQs at a loss.
- The biggest cost element are for tutors; therefore the highest costs per learner were for apprenticeship providers who deliver the provision one-to-one.
- Retakes can add additional costs of £46 for an apprentice, and £115 for learners on other provision, equating to several thousand pounds across a cohort.
- The ability to deliver at a surplus appears to be related to having a narrower range of provision in terms of the number of programmes and the level of provision, having lower proportions of learners with SEND, along with relatively high entry requirements. All these factors reduce learner choice and restrict equal opportunities.

COSTS OF DELIVERING FUNCTIONAL SKILLS

Providers on average make a loss on every Functional Skills qualification they deliver. Table 3 provides a summary of the costs of delivering functional skills qualifications: stand-alone qualifications (non-apprenticeship); and those embedded within apprenticeships. The minimum and maximum costs per learner for both types of qualification vary considerably. But, on average, the costs are lower than the amount of funding received. In 2022/23, providers were funded £724 for a standalone functional skills learner, and £471 for an apprentice studying functional skills. Several providers mentioned that these rates have stood since 2012 which implies a real terms decrease of 28% (due to inflation). In the 2023 Autumn Statement it was announced that apprenticeship functional skills rates would be raised to that of standalone provision (£724). However, this would still be below the average delivery costs per learner.

Table 3: Average costs of delivery of FSQs

Type of provision	Functional skill	Minimum per learner	Maximum per learner	Average cost of delivery per learner	Average surplus/ (deficit) per learner[1]
Apprenticeship	English	£419	£1,243	£911	**-£440**
	Maths	£419	£1,154	£893	**-£422**
Non-apprenticeship	English	£404	£872	£744	**-£20**
	Maths	£404	£956	£763	**-£39**

Based on funding rate of £471 per apprentice and £724 for learners on standalone qualifications.

Source: Warwick IER

Table 3 does not include costs incurred for retakes, which can add an additional unit cost of up to £35 per learner (see Table 6 below).

Our research found that surplus or deficit levels varies depending on factors such as class size and delivery model. In general, larger class sizes reduced the unit cost of delivery. However, this does not necessarily work well for apprenticeships. This is because many apprenticeship providers are teaching FSQs to individual apprentices (or small groups) at an employer site, and so do not benefit from economies of scale. Online learning can reduce the costs of delivery but this is not always an appropriate option for some. This is especially the case for disadvantaged learners due to digital poverty, broadband coverage, and individual special educational needs.

Many larger providers cover these losses by, for example, cross-subsidising them using surplus generated in other provision. Some providers seek to break even across their whole provision, rather than individual programmes, and do not necessarily analyse the costs and funding of specific provision. As one provider said:

> *"We just do it, we've never broken (FSQ delivery costs) down. They (apprentices) need to achieve and it's our job to get them there. We'd be scared of seeing the results, and maybe it might start us thinking about not delivering. But we need to support them."*
>
> **ITP not for profit**

In the sections following, we examine our findings in more detail.

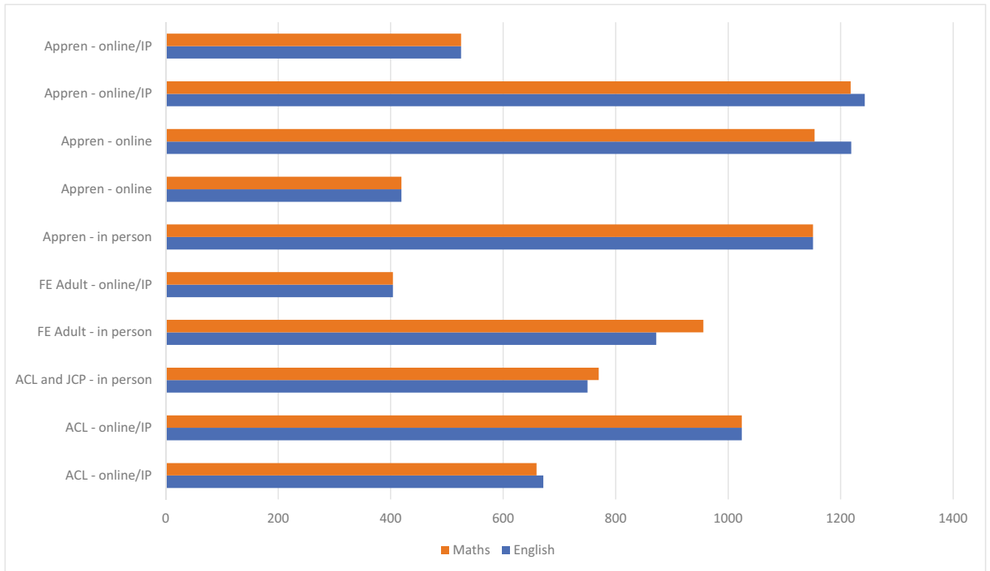
OVERALL COSTS OF PROVISION[6]

Providers were asked to provide the average total cost per learner for delivering maths and English functional skills by level. Providers were asked to include costs for initial assessment and diagnostics; tuition; registration and certification; delivery; and internal or external assessment.

Interestingly, not all providers were able to provide costs in this way and three did not provide any data at all. Some found it difficult (especially larger providers delivering a broad range of provision) to cost provision by learner and items of expenditure in this way, which can mask the financial effect such provision is having.

Figure 10 shows the overall costs of delivering functional skills provision based on the data given. This shows similar levels of cost for English and maths but a wide variation by type and mode of provision. This often relates to 'class sizes', and whether providers deliver their provision online or one-to-one in the workplace.

Figure 10 : Overall costs per learner of English and maths FSQ delivery (online and in-person)



Source: Warwick IER

There is little consistency in the costs of different types of provision. For example, in-person FE Adult provision costs per learner are sometimes lower than online digital apprenticeship provision, whilst rural provision is not necessarily more expensive than urban.

At an aggregate level the overall costs for maths and English qualifications were similar. Most providers said that costs did not vary by level, and this was true for all apprenticeship providers, but not for providers of other provision (three of whom provided cost data by level). For two providers, delivery of Entry level programmes was more expensive than Level 1 or 2 (by 5% in one case and 20% in another). However, a third provider said that delivering Levels 1 and 2 was 6% more expensive than for Entry level

6 Unless otherwise stated, references to "providers" in this section refer only to those who were involved in this study.

Table 4 shows fully itemised costs per learner:

Table 4: Itemised costs of provision per learner

Cost item	Functional skill	Minimum	Maximum	Average
Registration/Certification	English	£16	£25	**£20**
	Maths	£16	£40	**£22**
External/internal assessment	English	£1	£52	**£33**
	Maths	£0	£52	**£26**
Invigilation	English	£3	£60	**£25**
	Maths	£3	£30	**£20**
Tutor pay per hour	English	£13	£41	**£24**
	Maths	£13	£41	**£24**
Tutor pay total per learner	English	£49	£1,400	**£495**
	Maths	£49	£1,400	**£495**
Other costs - apprenticeship	Travel for learners and tutors; additional learner support; initial assessment			
Other costs - other providers	Initial assessment; IT licenses			

Source: Warwick IER

The wide variation across providers is not a function of their provision (apprenticeship or other) or delivery mode (online or in person), but more likely reflects the difficulties providers have in calculating costs per learner due to cohort differences (for example, roll on/roll off provision where providers deliver to several 'classes' per year each with different numbers), the types of learner and the additional support they need (which can often be unfunded), and differences in how providers pay for particular items. For example, the per learner costs for assessment ranged from £1 to £52. The former cost was given by an ACL provider who said that they bought licenses in bulk and each time they used one for an additional learner it cost them £1, but they did not include staff time in their costing. The latter cost was given by an apprenticeship provider who delivered only in person and included staff time.

The biggest component was, unsurprisingly, tutor time. Tutor pay per hour ranged from £13 per learner to £41. The former cost was for a provider that only delivered Level 2 functional skills online. The latter was given by two London based providers, one was an FE provider who delivered predominantly in person, and the other an apprenticeship provider who mostly delivered online. The costs per learner ranged considerably from £49 per learner to £1,400. The largest per learner cost figures (£900+) were all provided by apprenticeship providers who delivered online or in person provision one-to-one, which explains why, on average, the total FSQ costs for apprenticeship providers are higher than for providers delivering other provision.

Providers were asked to specify if they incurred any other significant costs. Two were identified: learner and/or tutor travel to learning centres, and initial assessment. These were mentioned by those providers who delivered mostly in-person provision.

These costings do not include retakes. When asked what percentage of their learners passed functional skills first time, providers reported that achievement rates vary significantly between types of provision, and English and maths as Table 5 shows.

Table 5: Percentages of learners passing FSQs at first attempt

Provision type	Functional skill	Minimum	Maximum	**Average**
Apprenticeships	English	19%	81%	**65%**
	Maths	7%	70%	**45%**
Non-apprenticeship	English	26%	86%	**61%**
	Maths	40%	70%	**56%**

Source: Warwick IER

The numbers of retakes is therefore concerningly high, compounding cost pressures for providers

> *40.5% pass first time, 7% pass 2nd time, 1.6% pass 3rd time, the rest fail"*
>
> **College**

> *Generally, for the entry levels, people do pass first time, and Level 1s for English and maths generally pass first time. But there's a lot of fails on the first time around and especially on the Level 2. So we do have a lot of resits in the maths Level 2"*
>
> **ITP – not for profit**

> *We get people on day release and in that day they have the vocational component, plus English and maths. More people fail so we have more resits. Typically the apprentices have lower accredited prior learning so need more support, but what happens is their learning gets compressed, so more fail and we get more resits unless they do it in the evenings. They are also a more diverse group of learners."*
>
> **ACL provider**

> *2-3 retakes, but some take 4-5. 50% don't pass at all and this is high"*
>
> **ITP for profit non-apprenticeship provider**

Table 6 shows the resits costs for English and maths. It shows the minimum and maximum impact on providers by subject and type of programme. As can be seen, each individual resit can cost up to £35 extra to deliver:

Table 6: Costs of FSQ retakes per learner

Provision type	Functional skill	Minimum	Maximum	**Average costs per learner resit**
Apprenticeships	English	£10	£46	**£19**
	Maths	£16	£46	**£35**
Non-apprenticeship	English	£26	£115	**£34**
	Maths	£22	£115	**£30**

Source: Warwick IER (figures rounded to nearest pound)

Furthermore, if apprentices enter at all then providers cannot claim the 20% of apprenticeship funding which is contingent on learners successfully attempting end-point assessment.

Three providers delivered GCSEs as well as Functional Skills (two FE colleges and an ACL provider). They did not report any significant extra costs of delivering FSQs compared to GCSEs, yet GCSE English and maths have higher funding rates than FSQs. Asked why they thought functional skills received less funding, one provider commented:

> *If I'm honest, it's because the Government reports on GCSEs …. Functional skills are an invisible qualification for invisible people"*
>
> **GFE provider, Urban area**

INITIAL ASSESSMENT

An important aspect of effectively delivering functional skills is assessing the correct level of existing learning used to place learners on the appropriate programme to ensure suitable levels of teaching and support.

Most providers use proprietary initial assessment software such as Basic Key Skills Builder (BKSB) and Skills Forward for both English and maths. Some have developed their own initial assessment processes believing that readily available software was not applicable to their learners (typically with lower levels of prior attainment), but this can add to overall costs of delivery.

For most apprenticeship providers an online assessment is the only one taken, and for one provider applicants need to achieve a certain mark before they would be recruited. For some apprenticeship providers, and those providers delivering ACL and FE provision, the use of proprietary tools was one element in a longer initial assessment process including interviews, and further tutor-led diagnostics during their first weeks on the programme. Those providers delivering ACL and FE provision to learners with higher prior attainment also facilitate initial assessment on paper or in rooms at their venues.

Some providers' funding depended on moving learners up to the next level of their prior attainment (for example, from Entry Level 3 to Level 1). However, initial assessments can contradict evidence of attainment (e.g. GCSE certificates); this is particularly an issue with centre-assessed grades awarded during the COVID-19 pandemic. One provider said that they may get a learner with a centre-assessed grade of Level 1 meaning that they must be put on a Level 2 programme. However, the initial assessment may place the learner at Entry Level 2 or 3, in which case they would have put the learner through two programmes - the first to get them to Level 1 and then the next to get them to Level 2 – despite only being funded for one. This unfunded element compounds the losses that FSQs tend to incur even without such additional support.

DOES FUNDING COVER THE COSTS OF PROVISION?

IN SUMMARY:

- Functional Skills qualifications are now funded at £724 each.
- Yet on average, they cost £763 to deliver.
- If a learner resits just once, this on average adds £35 on to the costs for no extra funding.
- Therefore a learner requiring just one resit could, even at the equalised funding rates, on average incur a loss to the provider of up to £69, or just under 10%.

The per learner cost data provided varies considerably across providers. On average, apprenticeship providers gave higher costs, mostly due to these providers calculating per learner tutor costs on a one-to-one delivery basis. However, even these costs represent only a partial picture. For example, they do not include certain costs associated with employing delivery and support staff, initial assessment and travel, and the additional costs of retakes. In the latter case the costs of the high levels of learners failing their assessments can add a significant expense of the retakes as well as reducing the level of funding of allied provision tied to successful completion.

Providers with learners with special educational needs or difficulties (SEND) were asked whether this added to the costs of delivering functional skills. Whilst most said it added to the cost, usually through a need for more tutor time and teaching sessions and a higher number of resits, this was often identified and funded through the Additional Learner Support (ALS) fund, which is worth £150/month for apprenticeship learners and £175 for adult learners paid to the provider. Other Government sources included High Needs Funding (for younger learners aged 16-25); the Tuition Fund (additional support during and in the aftermath of the COVID-19 pandemic for 16-19 learners). Providers also mentioned acquiring additional resources from local charities and their own fund raising activities. Three providers (two ITP profit and one FE college) said that it did not add to cost, but these tended to have the lowest proportion of SEND learners – costs were absorbed as it was felt the costs and complexity of applying for such funding would outweigh any benefit.

Whilst additional funding was available to support SEND learners' additional needs, providers made two points. Firstly, that the formal designation of SEND did not necessarily identify every learner with additional needs, nor all the additional needs that a learner may have. This is especially true of adult provision where providers rely on the learners self-identifying SEND requirements. Some providers also said that, within the AEB budget, the ALS was a limited pot and was distributed on a first come first served basis, meaning some learners with additional needs (whether formally identified or not) may not receive any additional support funding.

At the time of this research, the funding per learner for standalone FSQs was £724, and £471 for an apprentice. Our findings indicate that neither level of funding covers the average costs of provision for either apprenticeship or non-apprenticeship providers. Where SEND costs are not for whatever reason claimed by providers, such losses only increase.

CASE STUDIES – APPRENTICESHIPS

BOX 1: CASE STUDY - APPRENTICESHIP PROVIDER DELIVERING FSQS AT A LOSS

This national provider delivers apprenticeships predominantly online. Around half of their apprentices undertake functional skills, and 90% of these at Level 2. The provider delivers to learners in all three age groups, and 40% of their apprentices are diagnosed as having SEND for which they receive ALS. They have very low pass rates which have halved since the functional skills reforms were introduced:

Five years ago [the pass rate] was double this. Learners do struggle in terms of the new style since the reforms, especially across maths.

Whilst most apprentices pass English after one retake it can take three or four attempts for them to pass maths, incurring additional delivery cost for which they are not funded.

The provider does not have the resources of dedicated tutors to support apprentices, especially younger apprentices who leave school with lower level maths skills:

The amount to be done and taught to the learner to pass first time cannot be done in the current model. This would require us to have a dedicated functional skills teacher. But we cannot afford to employ them, so it is only when people fail the assessment that the functional skills specialist then comes in with 1-2-1 sessions.

In summary, if the apprentice fails functional skills the provider will commit additional support so that they eventually pass, but this is effectively unfunded – they therefore incur losses.

BOX 2: CASE STUDY - APPRENTICESHIP PROVIDER DELIVERING FSQS AT A SURPLUS

This apprenticeship provider is a national provider delivering apprenticeships in two subject areas through its online platform. They have no learners aged 16-18, and reported that all of their learners undertake English and maths FSQs, all of which are at Level 2. Five percent of their apprentices are diagnosed as having SEND but they do not draw down additional funding.

In part, the surplus is due to the high prior attainment of their intake: 60% already have Level 4+ qualifications. Four out of five learners therefore pass their English FSQs first time as do 50% of maths apprentices. Where learners retake the assessment they tend to pass first time. The reported surplus is £52 per apprentice but this drops to £10 if a learner retakes an assessment.

This is as a result of their recruitment processes. School leavers (at age 18) are not recruited if they do not have Level 2 in English and maths:

We are not in a position to progress candidates who do not currently have Level 2 English and maths. This is for two main reasons: it is not commercially viable to re-train apprentices in exams which they have recently taken. Secondly, there is a higher risk they will not pass their assessment, leading to non-completions.

Apprentices who are existing employees are asked for their English and maths certificates. If they cannot provide them the applicants are not recruited. Every other applicant undertakes an initial assessment but they must achieve a certain pass mark.

As a result, this apprentice provider can make a small surplus on apprenticeship FSQ provision, but only through rejecting thousands of applicants each year.

For apprenticeship providers, the ability to deliver at a surplus appears to be based on delivering a narrower range of provision in terms of the number of programmes and the level of provision, having lower proportions of learners with SEND, as well as having relatively high entry requirements. Those apprenticeship providers who operated a shortfall delivered both Level 1 and Level 2, had higher proportions of learners with SEND, delivered one-to-one, and had more open entry.

CASE STUDIES – NON-APPRENTICESHIPS

Most providers of other provision reported delivering FSQs at a loss.

BOX 3: CASE STUDY – NON-APPRENTICESHIP PROVIDER DELIVERING FSQS AT A LOSS

This provider is a large general FE college running the full range of provision: 16-18, adult learning and apprenticeships. The vast majority of its provision is in-person. Around 15% of its learners are undertaking FSQs. Around half of these are at Level 1 (for both English and maths) and most of the remainder are at Entry level (29% for English and 56% for maths).

Class sizes average 11.5 for English and 13.1 for maths. Entry level classes include mixed groups of learners and are smaller because these learners require additional support.

Just over one quarter of English learners pass first time compared to 45% of maths learners. The number of retakes has increased since the reforms. Only half of their English learners successfully complete their programmes as do 55% of maths learners.

This provider delivers at a loss. The main reasons given were:

For 16-18 learners: Functional Skills are squeezed into study programmes alongside the substantive qualification, tutorial, and Employability, Enterprise, Entrepreneurship and Pastoral (EEEP):

The numbers taking functional skills have increased by 12% since 2022/23 and much higher proportions are doing both.

For those on Level 3 programmes the substantive qualification is larger and so there is even less time available.

This provider has contemplated moving some provision online, but (due to the needs of their learners) they believe that this would still require a tutor to offer one-to-one support, in which case students would be better served by coming into the college.

For adult learners: the shortfall is mostly due to the increase in retakes due to the rising failure rates.

Since the alignment with GCSEs more people fail and so more have to do resits. Functional skills qualifications are harder to pass because the language shows a lack of understanding of adults who take them. For example, one maths question asked about measuring a gazebo; my students don't have a garden never mind a gazebo. And English questions asking people to write letters to their headmaster about school children! It would be fine for GCSE but not for Entry Level 2 and 3.

The provider also believes that the current level of guided learning hours (GLH) is insufficient for their adult learners who require twice the amount if they are to pass first time.

As a result of constraints on the funded time available for delivery and the rising numbers of those requiring FSQs and retakes, delivery is therefore running at a loss.

BOX 4: CASE STUDY – NON-APPRENTICESHIP PROVIDER DELIVERING FSQS AT A SURPLUS

This provider is a large general FE college running the full range of provision: 16-18, adult learning and apprenticeships. The vast majority of its provision is in person. Data was provided only for the 2% of adult learners undertaking FSQs (16-18 year olds do not undertake them). The vast majority of these are at Level 2. Average class sizes are relatively large (17 learners), although Entry level class sizes for maths are smaller (five learners, in part due to the low intake). Entry level classes include mixed groups of learners and are smaller because these learners require additional support.

Pass rates are 65% for English and 55% for maths. For those who don't pass first time, most learners do pass on their first retake. Pass rates have fallen since the reforms as assessments (especially in maths) are perceived as harder.

Whilst the provider delivers at a surplus overall this is dependent on class sizes, with smaller class sizes running at a loss. The provider has a cut point below a class size of ten learners:

One of the problems we've got is that often we get very small groups and that's the challenge really. Particularly when we're in the community, we'd like to have a minimum of 10, but sometimes it's even smaller than that. We run them if we feel like we need to for the right reasons, but usually 10 is our cut off.

This provider therefore delivers FSQ at a surplus but relies on larger class sizes to do so. This limits the individual attention that learners may need.

A key differentiating factor for whether FSQs are viable for non-apprenticeship providers also seems to depend on their range of provision. Those in surplus were based on a much narrower range of courses, and in one instance had class sizes almost double the average of other providers. Providers running at a deficit also tended to have higher levels of SEND learners requiring more support and longer programmes. They also describe lengthier initial assessment processes involving online and in-person assessments during the first days of provision, adding to cost.

HOW ARE FUNDING SHORTFALLS ADDRESSED?

Our researchers found that many providers had not previously analysed the costs in such detail before and tended to look at costs across the organisation to adjudge whether they broke even. One apprenticeship provider commented::

> *"We just do it, we've never broken it down. They need to achieve and it's our job to get them there. We'd be scared of seeing the results, and maybe it might start us thinking about not delivering. But we need to support them".*
>
> **ITP not for profit**

Where funding clearly did not meet provider costs, respondents were asked how they address this. Essentially, this is most usually done by cross-subsidising from other provision:

> *"All the money we are given goes into one pot so overall everything breaks even."*
>
> **General FE college**

> *"We have other curriculum offers that support this, where we over achieve on our target. It's all one pot so we cross-subsidise, but overall we run close to the wire."*
>
> **ACL provider**

The ability to deliver FSQs at a surplus appears to be based on delivering a narrower range of provision in terms of the number of programmes and the level of provision, having lower proportions of learners with SEND, as well as having relatively high entry requirements. The costs provided by the providers who ran a surplus were based on a much narrower range of courses and, in one of these, had class sizes almost double the average of other providers.

Providers running a deficit also tend to have higher levels of SEND learners who required more support and longer programmes. They also describe lengthier initial assessment processes involving online assessments but then in person assessments during the first days of provision.

Providers are sometimes able to accommodate the shortfall because they cross-subsidise from other programmes and break even as a whole. This infers that smaller and more specialised providers are more likely to incur and be unable to address financial losses in FSQ delivery. This means that choice of provision will become increasingly limited to bigger generalised providers, limiting learner choice and potentially overall social mobility, whilst potentially impacting on the quality of more specialist and niche provision.

6. Conclusions & Recommendations

SUMMARY OF FINDINGS

CHALLENGES IN FUNCTIONAL SKILLS ENGLISH AND MATHS QUALIFICATIONS

Traditional apprenticeships encounter more challenges from Functional Skills than newer ones, primarily due to a significantly lower percentage of apprentices possessing prior GCSE qualifications.

Training providers identified the critical issue as a lack of contextualisation, seen in the absence of ties to vocational environments and a disconnect from real-world scenarios. This deficit in real-world context raises concerns about the applicability of overall FSQ content in professional and practical settings, rendering it unsuitable for either.

An academic shift has heightened the resemblance between FSQs and GCSEs, posing a challenge for apprentices who may not have excelled in academic English and maths. The 2019 reform brought about a significant change in maths exam papers by introducing foundational skills, resulting in a substantial increase in the inclusion of abstract questions, exceeding 40% in some cases, but this has come at the cost of real-world applications, disrupting the traditional balance of exams. This creates a notable hurdle in terms of attitude and motivation, emphasising the need for context or scenarios in questions. Abstract maths questions can discourage learners, making it crucial to incorporate real-world scenarios in assessments for engagement. This alteration blurs the line between Functional Skills and GCSEs, undermining their intended distinction.

There are concerns around exclusive reliance on the single assessment method, featuring extensive summative exams in English and maths. Insisting on passing all three English exams consecutively may overlook individual strengths and hinder overall success. The binary pass/fail nature of Level 2 maths assessments raises concerns, calling for recognition of specific strengths even without an overall pass.

The exclusion of English and maths from off-the-job training time in apprenticeships compounds these challenges, extending apprentices' time away from the workplace and diminishing employer commitment to the program. This encourages employers and providers to seek those who hold English and maths qualifications on recruitment, limiting opportunities for those who struggled in academic English and maths at the GCSE level.

IMPACT OF THE 2019 REFORM ON THE FUNCTIONAL SKILLS MATHS EXAM

According to a Ofqual (2022) study, the difficulty level of Functional Skills exams has remained consistent post-reform, but this overlooks the potential impact on learners' motivation and attitudes. Despite the reform's goal of boosting the recognition of Functional Skills for employers, feedback suggests an unexpected trend: more employers and training providers now require GCSEs as prerequisites for apprenticeships to prevent these studies being undertaken during the programme.

Originally conceived as an alternative to GCSEs, with a focus on practical everyday skills, the unintended consequence of the reforms has been a shift towards an academically oriented approach. This contradicts the preferences of employers, providers, and apprentices. The reforms seem to be potentially diminishing apprentices learning in English and maths, as they appear to place more emphasis on qualification counting rather than fostering a deeper focus on learning. It is crucial to differentiate Functional Skills in terms of content, purpose, target audience, and skills development. The primary objective should be to empower learners, especially those without GCSEs, rather than erecting barriers.

COST OF DELIVERING FUNCTIONAL SKILLS

The cost of delivering Functional Skills varies based on the type and mode of provision, posing challenges for providers in accurately assessing costs per learner and expenditure items. Data indicates that most providers experienced a shortfall in delivery compared to received funding, particularly impacting apprenticeship providers. Despite funding set at a maximum of £724, delivering online Functional Skills for apprenticeships can cost up to £1,250 per learner, while other provisions ranged up to £1,025.

Apprenticeship provider costs remained consistent regardless of provision level, with primary expenses including tutor costs, where one-to-one incurred the highest per-learner expenses. Retake costs, notably £46 for apprentices and £115 for other learners, also play a significant role. Although the funding for apprentices without a Level 2 English and maths qualification will rise by 54% to £724 in January 2024, this increase only applies to new apprentices, not those already in the programme.

Providers achieving a surplus correlated with offering a narrower programme range, lower proportions of learners with Special Educational Needs and Disabilities (SEND), and relatively high entry requirements. Deficit-running providers often had higher levels of SEND learners, requiring more support, longer programmes, and extended initial assessments. To cope with shortfalls, providers resorted to cross-subsidising from other programmes or just aimed to break even at an aggregate level.

Since 2014, funding for stand-alone FSQs has remained at £724, while the same qualification within an apprenticeship attracted only £471. In autumn 2023 the government announced that, from January 2024, this difference would be abolished, and all FSQs would attract the higher rate. The report emphasises that FSQs have consistently incurred a financial loss over time, leading to the unsustainable practise of cross-subsidising against unrelated funding streams, and that this equalisation of funding will not resolve this problem. The report underscores the need for a more sustainable approach to support this crucial aspect of skills policy.

RECOMMENDATIONS

In light of our research findings, policymakers amongst government, the FE sector and employers should consider the following recommendations to improve the effectiveness and efficiency of Functional Skills Qualification:

1 ENSURE THE DIFFERENTIATED PURPOSE OF FUNCTIONAL SKILLS IS MAINTAINED IN PRACTICE

Functional Skills qualifications should uplift learners irrespective of their academic backgrounds. Crucially, they should serve as practical alternatives to GCSEs, focusing on essential everyday life and work competencies. Instead of tying FSQs to academic standards, highlighting their unique market relevance is key. By underscoring their real-world applications to employers and educational bodies, we bolster their market prominence and enhance their recognition and credibility, ensuring that Functional Skills have a distinct value and a clear strategic strategic market position and purpose.

2 INCREASE EXAM QUESTION CONTEXTUALISATION

FSQ require a greater focus on integrating real-world scenarios and practical applications into exam content. This emphasis fosters the creation of learning materials and tests that showcase the practical relevance of Functional Skills across industries, helping learners grasp the applicability of these skills in their respective vocational fields. This enhances motivation, engagement, and the acquisition of transferable skills.

The integration of AI can further refine Functional Skills assessment by generating context-specific scenarios tailored to different sectors. AI has the potential to easily streamline the process of contextualisation by generating sector-specific scenarios. To harness the potential of the evolving AI landscape, it is recommended that government and regulators adopt this approach.

3 REVIEW THE STRUCTURE OF LEVEL 2 FUNCTIONAL SKILLS MATHS QUESTIONS

The complexity of some current scenario questions necessitates a more approachable structure. Intricate scenario questions should therefore be broken down into multiple segments to enhance clarity and alleviate cognitive strain. Furthermore, it should also be ensured that a comprehensive range of topics is covered in exams, promoting consistency and diminishing the influence of luck, fostering a fair assessment environment for all students.

4 PROMOTE DIVERSE ASSESSMENT METHODS AND IMPROVE RECOGNITION OF PARTIAL SUCCESS

Diversifying assessment methods, such as formative assessments and project-based evaluations, enhances the holistic evaluation of learners, accommodating diverse needs. By offering a broader array of assessment methods, educators can effectively cultivate and recognise the diverse strengths of learners.

To enhance the fairness and motivation of maths exams, we recommend moving beyond the binary pass/fail system. For instance, if a student falls short in a Level 2 test but excels in certain aspects, granting them a pass in Level 1 would still acknowledge their proficiency. This fosters a more positive learning experience and would provide a better outcome.

5 INCORPORATE ENGLISH AND MATHS COMPONENTS OF APPRENTICESHIPS INTO THE OFF-THE-JOB APPRENTICESHIP TRAINING DEFINITION.

The exclusion of English and maths qualifications from off-the-job training definitions in apprenticeships has been a longstanding debate. Employers generally do not appreciate front-line on-the-job training to include training towards a qualification that is increasingly academic in nature, that is in many ways unsuited to the job in question. This underscores the need to incorporate training for these subjects into off-the-job training within apprenticeships, as they can otherwise be inadequately addressed in on-the-job settings. Structured training programmes for apprentices could include job-specific Functional Skills training during off-the-job training, supplemented by additional learning opportunities that specifically support the attainment of FSQs. Combining these elements would create a comprehensive and effective learning experience for all apprentices, ensuring they acquire the necessary skills and qualifications for success in their chosen field.

6 CONSIDERATION SHOULD BE GIVEN AS TO THE ROLE FUNCTIONAL SKILLS QUALIFICATIONS SHOULD PLAY IN THE AWARD OF APPRENTICESHIPS.

No 16-19 programme of study requires English and maths qualifications as an exit requirement except apprenticeships. No convincing rationale has been put forward why this should be the case, particularly given their removal as exit requirements from T Levels in 2022. Other approaches merit consideration, including study towards literacy and numeracy qualifications as a condition of funding, or of developing tailored English and maths programmes related to specific occupational scenarios so that the skills that taught are tailored and embedded within the training that is given, rather than being set on a "one-size fits all" basis.

7 UPRATE FUNDING FOR FUNCTIONAL SKILLS QUALIFICATIONS BY AT LEAST 10%.

The funding rate for Functional Skills, even at the recently modified level within apprenticeships, is insufficient to cover delivery costs having not previously been amended since 2014. It is not acceptable that funding rates for such fundamental skills have not attracted any revision at all in nearly a decade. Had the full rate of £724 been increased in line with inflation (as reported by www.microtrends.net) over this period, it would now stand at over £875 – even this would be insufficient to cover average costs of delivery.

Whilst acknowledging that a large increase in the funding rate may not be practical in the current financial climate, it is not unreasonable to propose an immediate increase of 10% which would bring the rate to around £796 with a view to further increases in subsequent years. DfE should also develop a consistent methodology that monitors the costs of delivery in relation to the funding allowed in order to properly inform future funding decisions for FSQs.

IN SHORT:

Functional Skills are not currently doing the job they set out to do, and are severely under-funded. As a result, the country is funding qualifications that bear increasingly little relevance to the workplace scenarios they were designed to map to, in a way that unhelpfully blurs the line between academic and vocational learning styles. Providers cannot sustain the rate of losses they incur in delivering these qualifications and as a result, learners are being disadvantaged every day.

The following quotes share perspectives on the current state of Functional Skills; they are not currently doing the job they set out to do and learners, particularly apprentices, are being disadvantaged every day as a result.

> *"Functional skills are an invisible qualification for invisible people"*
>
> **GFE provider, Urban area**

> *"It would be beneficial to progress and develop their skills, but we come back to the whole thing that [FSQs] are actually holding people back from achieving apprenticeship qualifications"*
>
> **Foundation and Functional Skills**

> *"Apprenticeship provision is for lots of learners who are non-academic - that is why they have gone down the apprenticeship road. Stop trying to tinker with apprenticeships to bring them in line with an academic programme. It was never an academic programme"*
>
> **Public and Third Sector**

> *"This is not skills for life; it is teaching to a test"*
>
> **Pittock, 2023**

References

Ahmed, A. and Pollitt, A. (2007). Improving the quality of contextualized questions: an experimental investigation of focus. Assessment in Education: Principles, Policy & Practice, 14(2), pp.201–232. doi: https://doi.org/10.1080/09695940701478909

Association of Employment and Learning Providers (2023). Rising the Standard: Sectoral Approaches to Raising Apprenticeship Achievement Rates. [online] Available at: https://www.aelp.org.uk/media/v1npyfvg/aelp-cg-raisingthestandard.pdf

Casey, H., Cara, O., Eldred, J., Grief, S., Hodge, R., Ivanic, R., Jupp, T., Lopez, D. and Mcneil, B. (2006). 'You wouldn't expect a maths teacher to teach plastering…' Embedding literacy, language and numeracy in post-16 vocational programmes -the impact on learning and achievement. [online] Available at: https://dera.ioe.ac.uk/id/eprint/22311/1/doc_3188.pdf

Cavaglia, C., Mcnally, S. and Ventura, G. (2022). The Recent Evolution of Apprenticeships: Participation and Pathways. [online] Centre for Vocational Education Research. Available at: https://cver.lse.ac.uk/textonly/cver/pubs/cverdp039.pdf

Dalby, D. and Noyes, A. (2015). Locating mathematics within post-16 vocational education in England. Journal of Vocational Education & Training, [online] 68(1), pp.70–86. Available at: https://core.ac.uk/download/pdf/162659954.pdf

Department for Education (2014). Statistics: national achievement rates tables. [online] GOV.UK. Available at: https://www.gov.uk/government/collections/sfa-national-success-rates-tables

Department for Education (2018). Functional Skills English and mathematics subject content Government consultation response. [online] Department for Education. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/684220/Functional_Skills_Reform_Consultation_Government-Response.pdf

Department for Education (2019). Functional Skills qualifications. [online] GOV.UK. Available at: https://www.gov.uk/government/collections/functional-skills-qualifications

Education & Training Foundation (2014). Effective Practices in Post-16 Vocational Maths Final Report. [online] Education & Training Foundation. Available at: https://www.et-foundation.co.uk/wp-content/uploads/2014/12/Effective-Practices-in-Post-16-Vocational-Maths-v4-0.pdf

Education & Training Foundation (2015). Making maths and English work for all. [online] Education & Training Foundation. Available at: https://www.et-foundation.co.uk/wp-content/uploads/2015/03/Making-maths-and-English-work-for-all-25_03_2015001.pdf

FE News (2023). Where is test security going in the age of AI? [online] FE News. Available at: https://www.fenews.co.uk/exclusive/where-is-test-security-going-in-the-age-of-ai/ **[Accessed 2 Nov. 2023]**

FFT Education Datalab (2023). GCSE results 2023: The main trends in grades and entries - FFT Education Datalab. [online] FFT Education Datalab. Available at: https://ffteducationdatalab.org.uk/2023/08/gcse-results-2023-the-main-trends-in-grades-and-entries/

GOV.UK (2023). Apprenticeships and traineeships, Academic Year 2021/22. [online] explore-education-statistics.service.gov.uk. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/apprenticeships-and-traineeships

GOV.UK. (n.d.). Explore Education Statistics. [online] Available at: https://explore-education-statistics.service.gov.uk/data-tables/further-education-and-skills

GOV.UK. Statistics: national achievement rates tables. [online]. Available at: https://www.gov.uk/government/collections/sfa-national-success-rates-tables

Higton, J., Sandhu, J., Stutz, A., Patel, R., Choudhoury, A. and Richards, S. (2019). English for speakers of other languages: Access and progression. [online] Department for Education. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811750/English_for_speakers_of_other_languages.pdf

House of Lords (2023). Requires improvement: urgent change for 11–16 education. https://publications.parliament.uk/pa/ld5804/ldselect/ldedu1116/17/17.pdf. https://hummedia.manchester.ac.uk/institutes/mui/igau/lower_attainers_working_paper_oct2018.pdf

Keys, E. and Holmes, S. (2022). Reformed Functional Skills Mathematics: Evaluation of Difficulty. [online] Ofqual. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1088903/6922_Reformed_functional_skills_mathematics___evaluation_of_difficulty.pdf

Learning and Work Institute (2021). Getting the basics right The case for action on adult basic skills Learning and Work Institute. [online] Learning and Work Institute. Available at: https://learningandwork.org.uk/wp-content/uploads/2021/10/Getting-the-basics-right-LW-report.pdf

Mathematical Association (2017). Reforming Functional Skills qualifications in English and mathematics. Mathematical Association.

Office of Qualifications and Examinations Regulation (2018). Analysis of responses to our consultation on Functional Skills Qualification reform -English and mathematics: Analysis of responses to our consultation on Functional Skills Qualification reform -English and mathematics. [online] Ofqual. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/695230/FSQ_analysis_of_policy_consultation_responses_FINAL.pdf

Office of Qualifications and Examinations Regulation (2021). Guidance: Functional Skills Mathematics. [online] Ofqual. Available at: https://assets.publishing.service.gov.uk/media/608018b7e90e076ab573a0e7/6775_-_2_FSQ_Maths_Guidance_210421.pdf

Office of Qualifications and Examinations Regulation (2022). Reformed functional skills mathematics: evaluation of difficulty. [online] Ofqual. Available at: https://assets.publishing.service.gov.uk/media/62c6a69fd3bf7f3004d17f4c/6922_Reformed_functional_skills_mathematics___evaluation_of_difficulty.pdf

Pittock, S. (2023). Functional Skills are not fit for the purpose of qualifying apprentices. [online] feweek.co.uk. Available at: https://feweek.co.uk/functional-skills-are-not-fit-for-the-purpose-of-qualifying-apprentices/ [Accessed 23 Oct. 2023].

Robey, C., Woodhouse, J. and Downes, S. (2016). Functional Skills Reform Consultation: Findings of the learner focus groups. [online] Education & Training Foundation. Available at:
https://www.pyetait.com/wp-content/uploads/2019/08/Learner-focus-groups-report-FINAL.pdf

UK Parliament (2020). Apprenticeship statistics for England. [online] commonslibrary.parliament.uk. Available at:
https://commonslibrary.parliament.uk/research-briefings/sn06113/

Velthuis, S., Lupton, R., Thomson, S. and Unwin, L. (2018). The characteristics and post-16 transitions of GCSE 'lower attainers'. [online] The University of Manchester. Available at:
https://hummedia.manchester.ac.uk/institutes/mui/igau/lower_attainers_working_paper_oct2018.pdf

Williams, J., Hadjivassiliou, K., Marvell, R., Green, M. and Newton, B. (2017). Effective curriculum practice below level 2 for 16- to 17-year-olds | Institute for Employment Studies (IES). [online] Available at:
https://www.employment-studies.co.uk/resource/effective-curriculum-practice-below-level-2-16-17-year-olds

Appendices

APPENDIX 1: NOTES ON FOCUS GROUPS AND CONTENT ANALYSIS RESEARCH METHODOLOGY CONDUCTED BY AELP AND AOC

FOCUS GROUPS

AELP and AoC conducted focus groups to understand the challenges faced by training providers in delivering Functional Skills. AELP conducted six groups between July and September 2023, using AELP member groups specialising in Logistics and Transport, Land-based Industries, Hospitality & Catering, Digital & IT, Public & Third Sector, and Foundation & Functional Skills. Participants were mainly independent training providers, with around 12 people in each group.

AoC conducted three groups with college providers; two with apprenticeship providers and one with 16-18 Adult Education Budget (AEB) providers. Each focus group consisted of approximately six participants and lasted for about one hour, taking place in October 2023.

CONTENT ANALYSIS OF FUNCTIONAL SKILLS MATHS PAST PAPERS

To examine the impact of the Functional Skills reform on the content of Functional Skills maths exams, we analysed a total of 31 Level 2 past papers and sample exams sourced from four different awarding organisations – 15 from the pre-reform period (2016-19) and 16 from the post-reform period (2019-22). The following Table provides a description of the past papers and sample exams that were included.

Past Papers and Sample Exams Sampled From 4 Awarding Organisations

AOs	Before	After
1	3 (n.d) Sample test	4 (2019-20) Past paper
2	4 (2018) Past paper	4 (n.d) Past paper
3	4 (2016-17) Sample test	4 (2019-20) Sample test
4	4 (2018-19) Past Paper	4 (2021-22) Past paper

Source: Created by AELP.

APPENDIX 2: NOTES ON METHODOLOGY AND SAMPLE INFORMATION FOR CASE STUDY RESEARCH CONDUCTED BY WARWICK UNIVERSITY (IER)

OVERVIEW OF PROVIDERS

Table below provides a brief description of the 11 case study providers. Apprenticeships providers varied in the breadth of their programmes, ranging from two subject areas to nine .

One provider was interviewed twice, once for their ACL provision and separately for their apprenticeship provision. Therefore, whilst there are 11 providers data was collected for five apprenticeship providers and seven providers of other provision.

SAMPLE OF CASE STUDY PROVIDERS

Provider type	London	Other urban	Rural
ITP for profit	Online apprenticeship national provider, two subject areas	Online and in person delivery, national apprenticeship provider, six subject areas	In-person regional apprenticeship provider, nine subject areas
			In-person regional FSQ provider
ITP not for profit	Online and in-person regional FSQ provider	Online and in-person delivery, national apprenticeship provider, four subject areas	-
	Online and in-person delivery, regional FSQ provision within		
ACL	-	Online and in-person delivery, regional FSQs[1]	Online and in-person delivery, regional FSQ provider
		Apprenticeship provider, five subject areas	
GFE	In person regional functional skills and apprenticeship provider in nine subject areas	Online and in-person delivery, regional FSQ and apprenticeship provider, nine subject areas	-

[7]

Source: Warwick IER Delivery mode, geography and level of provision

DELIVERY MODE, GEOGRAPHY AND LEVEL OF PROVISION

Most providers only delivered within the region in which they were based, with the ACL and FE providers delivering predominantly to the catchment area of their own local authority. Three providers delivered nationally as a result of their online provision. Most delivered a combination of online and in-person provision. For some apprenticeship providers the mode of delivery varied by subject area. For example, subjects such as digital could be more readily delivered online whereas health and care provision was best delivered in person.

There was no differentiation in the way providers delivered their functional skills provision compared to their other types of provision i.e. if they delivered their main provision in a hybrid way, that is how they delivered Functional Skills.

Respondents varied enormously in total number of learners; ranging from 130 to over 20,000, with a median of 3,100 learners. Unsurprisingly, the FE colleges and ACL providers had the largest number of students, although one of the ITPs had just under 6,000 learners. Providers also varied considerably in the number of their functional skills learners; from fewer than 50 to almost 1,250, with a median number of 285. The number of functional skills learners as a proportion of total learners ranged from 9% (ACL) to two thirds (supported employment).

The majority of providers delivered across all age groups (16-18, 19-24 and 25+). All providers bar one delivered to the 25+ age group, all delivered to 19-24 learners and all but three delivered to 16-18 learners. Most of the providers delivered across the full range of levels from Entry Level 1 (which eight providers delivered) to Level 2 (11 providers).

LEARNER NUMBERS AND TYPE

From the providers able to report full data, there were just over 4,700 learners undertaking English and just under 6,100 studying maths. Around half of both groups (47%) were at Level 2. The spread of provision varied between the types of providers, with apprentices taking higher level functional skills programmes (predominantly at Level 2), and ACL and FE students mostly at Level 1 but with significant proportions at Entry Levels 1 or 2.

The delivery model also differed between apprenticeship, and non-apprenticeship provision. When asked about average class sizes, apprenticeship providers said that this was not relevant as functional skills was delivered online and/or one-to-one when tutors met with their apprentices often at their workplace. The seven providers of other provision said their average English in-person class sizes were 10 learners, but this ranged between 17 (in an FE college) to five. This latter provider (an ITP for profit) said that the low class sizes were partly due to delivering in rural areas, but also high levels of drop-off between people who sign up and those who attend. This was also true of their Jobcentre Plus (JCP) provision because, since the pandemic, JCP no longer mandates their referrals to attend. In-person class sizes did not appear to vary by level, in part because learners of mixed abilities were often learning together. Class sizes did not vary between English and maths.

All but one of the providers delivered functional skills to learners with special educational needs and disabilities (SEND). The proportion of SEND learners varied considerably from 100% (for the supported employment provider) to 5% for two apprenticeship providers. Apprenticeship providers had much lower proportions of SEND learners (an average of 7% of functional skills learners) than ACL and FE providers (15%).

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7 These were the same ACL provider but two interviews were undertaken, one with their ACL curriculum Manager and a separate interview with their Apprenticeship Manager.

APPENDIX 3: AI-GENERATED QUESTIONS TAILORED TO SPECIFIC SECTORS

Prompt
I have the following question on an exam paper.

[Insert question here]

Could you make a similar style question but relate it to [insert specific sector] instead, please feel free to change the units and the entire context of the question.

ORIGINAL FSQ TEST QUESTION

Mina runs a football club.
She needs to order size 3, size 4 and size 5 footballs in the ratio 6 : 2 : 1

Mina needs to order a total of 180 footballs.

(a) Complete the order form for Mina.

HAIR & BEAUTY

Certainly! Here's a similar style question related to the hair and beauty sector:

Sara manages a hair and beauty salon.

She needs to order hair products in the ratio of 5 : 3 : 2 for shampoos, conditioners, and hair treatments, respectively.

Sara needs to order a total of 120 hair products.

(a) Complete the order form for Sara.

ORIGINAL FSQ TEST QUESTION

Ryan is doing a project about sugar at school.
He wants to compare the amount of sugar in grapes with the amount of sugar in cookie dough.

Ryan finds this information

- grapes weighing 92 g contain 15 g of sugar
- cookie dough weighing 610 g contains 110 g of sugar.

Ryan thinks that there is a higher percentage of sugar in the cookie dough than in the grapes.

Is Ryan correct?
Show why you think this.

CONSTRUCTION

Certainly, here's a question similar in style but related to construction:

Liam is working on a construction project for his class. He wants to compare the amount of cement in concrete blocks with the amount of cement in a bag of cement powder. Liam finds this information:

- A concrete block weighing 20 kg contains 2 kg of cement.
- A bag of cement powder weighing 25 kg contains 12 kg of cement.

Liam thinks that there is a higher percentage of cement in the bag of cement powder than in the concrete blocks.

RETAIL

Certainly! Here's a similar style question related to Retail and Commercial Enterprise:

Sarah is conducting a study about profit margins in a retail store. She wants to compare the profit margins of two products: Product A and Product B.

Sarah gathers the following information:

- Product A costs the store $8 to purchase, and it is sold for $15, resulting in a profit of $7 per unit.
- Product B costs the store $22 to purchase, and it is sold for $40, resulting in a profit of $18 per unit.

Sarah is wondering whether there is a higher percentage profit margin in Product A or Product B.

ICT

Certainly! Here's a question related to the Information and Communication Technology (ICT) sector:

Emma is analyzing data storage capacities of different devices for a research project. She wants to compare the storage capacity of a solid-state drive (SSD) with the storage capacity of a USB flash drive. Emma finds this information:

- A solid-state drive with a storage capacity of 500 GB has 480 GB of usable space.
- A USB flash drive with a storage capacity of 64 GB has 60 GB of usable space.

Emma believes that the solid-state drive has a higher percentage of usable storage space compared to the USB flash drive.

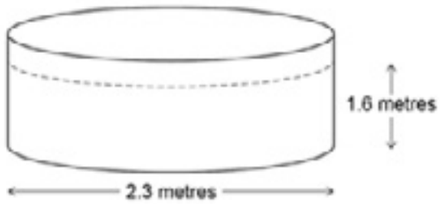
Feel free to use this information to create questions for your exam paper related to the ICT sector.

ORIGINAL FSQ TEST QUESTION

Garden Pool

Chen has a pool in his garden.

Chen's pool is cylindrical.



The diameter of the pool is 2.3 metres.

Chen wants the depth of the water to be 1.6 metres.

The hosepipe fills the pool at a rate of 50 litres every 4 minutes.

1000 litres = 1 cubic metre

How many minutes will it take for the pool to go from empty to the required depth?"

EDUCATION

Certainly, here's a similar-style question related to education and nursery teachers:

"Nina is a nursery teacher planning an activity for her students. She wants to create a cylindrical playpen for them. The playpen needs to have a base diameter of 1.5 meters and a height of 0.8 meters. Nina plans to fill the playpen with colored balls, and she wants to know how long it will take to fill the playpen.

She has a ball dispenser that releases 30 balls every 2 minutes. Nina knows that the playpen can hold 500 balls, and she wants to ensure it's completely filled.

Given that 100 balls can fit in 1 cubic meter, how many minutes will it take for Nina to fill the playpen from empty to the desired height?"

HEALTH

Certainly, here is a similar question related to the Health, Public Services, and Care

In a local healthcare facility, there is a cylindrical tank used to store clean water for purposes. The tank has a diameter of 1.5 meters. The facility requires the tank to b with 2.2 meters of clean water for daily medical procedures. The filling process is c using a medical-grade pump, which can deliver 30 liters of water every 5 minutes.

If 1000 liters is equivalent to 1 cubic meter, calculate the total time it will take to fill

ORIGINAL FSQ TEST QUESTION

Asha swims 1 km each time she goes to the pool.

She always records how long this takes her.

The table shows her data for 10 swims.

Time taken to swim 1 km (minutes)	Number of swims
25 < time ≤ 26	2
26 < time ≤ 27	4
27 < time ≤ 28	4

Estimate Asha's mean time to swim 1 km

LOGISTIC AND TRANSPORTATION

Certainly, here's a similar question related to the logistics and transportation sector:

"John works as a delivery driver for a logistics company. He records the time it takes to complete a delivery route of varying distances. The table below shows his data for 12 different delivery routes:

Distance of Delivery Route (miles) Time to Complete Route (hours)
50 < distance ≤ 60 3
60 < distance ≤ 70 5
70 < distance ≤ 80 6

Estimate John's mean time to complete a delivery route."

AGRICULTURE

Certainly! Here's a similar style question related to the agriculture and horticulture sector:

"Samuel is a farmer who records the time it takes to harvest one acre of wheat on his farm. He has collected data for 12 different harvests. The table below shows the time it took for each harvest:

Time taken to harvest 1 acre of wheat (hours) Number of harvests
5 < time ≤ 6 3
6 < time ≤ 7 5
7 < time ≤ 8 2
8 < time ≤ 9 2

Estimate Samuel's mean time to harvest 1 acre of wheat."

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