Department for Education

Revised Computer Science GCSE

Equality impact assessment

May 2024

Contents

The Public Sector Equality Duty

This document records the analysis undertaken by the Department for Education to enable Ministers to fulfil the requirements placed on them by the Public Sector Equality Duty (PSED) as set out in section 149 of the Equality Act 2010. The PSED requires the Minister to have due regard to the need to:

- eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act;
- advance equality of opportunity between people who share a protected characteristic and those who do not; and
- foster good relations between people who share a protected characteristic and those who do not.

These aims are also known as the three limbs of the PSED.

Introduction

In 2013, the Department for Education introduced the computer science GCSE. The subject content was later reformed as part of the Department's wider reform of GCSEs, and published in January 2015. The first reformed GCSE computer science examination took place in 2018.

GCSE computer science is designed to equip pupils with the knowledge they will need for the technological jobs of the future and supports progression into further education or employment. Students are taught how to understand and apply the fundamental principles and concepts of computer science, how to analyse problems in computational terms, and to write programs. Other areas of study include the components that make up digital systems, aspects of cyber security, the impacts of digital technology to the individual and to wider society, and how to apply mathematical skills relevant to computer science.

As a relatively new subject, the computer science GCSE saw a rapid increase in pupil entries during its first six years. In England, pupil entries have risen from 4,021 in 2013 to 87,932 in 2023[1]. This represents roughly 13% of the Key Stage 4 cohort.

Computer science faces particular challenges, often being taught by non-specialists, and almost one fifth of mainstream state-funded secondary schools do not enter any pupils for the GCSE. The quality of computing education is inconsistent, and this may decrease some pupils' enjoyment of the subject. More boys than girls choose the computer science GCSE, with the percentage of female pupil entries remaining relatively constant at just 21% since 2019. To improve the teaching of computing and

[1] Key stage 4 performance, Academic year 2022/23 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

drive up participation in computer science at GCSE and A level, the Department has invested over £100m in the National Centre for Computing Education (NCCE).

It has been eleven years since the computer science GCSE was introduced, and eight since it was reformed. Given the pace of technological change, increasing labour market demand and the need to remain world class, our intention is to refresh the subject content to ensure it remains up to date. The Department has worked closely with subject matter experts and awarding organisations in developing the proposed subject content, which:

- reflects advancements in technology and revises outdated subject content;
- revises areas of text to set out the required knowledge, understanding and skills more clearly;
- adds new introductory text to aid subject contextualisation and relevancy; and
- makes some changes to the overall structure (for example, introduces new sub-headings and bulleted lists) to improve coherence and sequencing.

Whilst the proposed subject content may appear different due to the changes set out above, essentially no new areas of study are introduced. A new reference to artificial intelligence, for example, simply makes it explicit that this must be included within the study of the impacts of digital technology. Such clarifications are introduced to ensure consistency across subject specifications on points of interest.

Following consultation, the final version of the subject content will be published on Gov.uk, replacing the current copy, currently estimated for January 2025. Together with the assessment objectives (determined by Ofqual) it provides the framework within which the awarding organisations create the detail of their specifications. First teaching of the revised GCSE is expected to commence from September 2026.

Consideration of the protected characteristics identified in the Equality Act 2010

The below sets out the positive and negative impacts we have identified when considering the different protected characteristics. Where we have not identified any impacts, we will be asking questions related to equalities in the consultation to ensure that we understand any impact on these groups. We will update this EIA if needed, before publishing the final subject content.

It is worth noting that pupil and teacher characteristics are not published by the Department on a subject by subject basis, and it is the case that cohorts for the computer science GCSE will also change over time, depending on pupil demand. As such, our rationale and evidence is based on the Key Stage 4 cohort more broadly, as well as the wider schools' workforce.

Age – neutral impact

Although GCSEs are designed for and typically taken by pupils aged between 14 and 16 years old, they are not restricted to this age group alone, and students outside of this age range can continue to enter computer science GCSE if they wish.

The revisions to the subject content will not require any additional specialist knowledge for teachers. All teachers, irrespective of age, will be provided with sufficient time to familiarise themselves with the content, ahead of first teaching.

We have not identified evidence that the revision of the computer science GCSE would result in a negative impact in relation to the protected characteristic of age.

Disability – neutral impact

In 2022/23, 16.5% of pupils at the end of key stage 4 in state-funded schools had a special educational need.[2] There are existing processes in place to support pupils who may require reasonable adjustments when taking their GCSEs. Some of the proposed revisions may support pupils with dyslexia, e.g., opening the requirement for text-based languages to also include visual-based languages. The Department does not hold data on the number of teachers with disabilities, however, we will ensure that all teachers have sufficient time to familiarise themselves with the revisions to the content. We have not identified evidence that the revised computer

[2] Key stage 4 performance, Academic year 2022/23 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

science subject content will result in a negative impact in relation to the protected characteristic of disability.

Gender reassignment – neutral impact

The Department does not hold statistical data on pupils, or teachers, by gender reassignment. Based on ONS data from 2021, 262,000 people indicated their gender identity was different from their sex registered at birth, accounting for 0.5% of the population.[3] We have not identified evidence that the revised content would result in a negative impact to the protected characteristic of gender reassignment.

Marriage and Civil Partnership – neutral impact

We do not hold data for either pupils or teachers, by marriage or civil partnership. We have not identified evidence that revising the subject content of the computer science GCSE, which is already being taught, would result in a negative impact in relation to the protected characteristic of marriage and civil partnership.

Pregnancy and maternity – neutral impact

We do not hold data for pupils, or teachers, by pregnancy and maternity. Revising the subject content of a subject that is already taught is not anticipated to have any impact in relation to the protected characteristic of pregnancy and maternity.

Race (which includes nationality) – neutral impact

In 2022/23, pupils from the White major ethnic category made up 72.9% of pupils at the end of Key stage 4 in state-funded schools (of those where ethnicity data was provided). 12.3% of pupils were from the Asian ethnic category, 6.4% were from the Black ethnic category, 6.2% were from the Mixed ethnic category and 2.2% were from Other ethnic categories.[4] Statistical data on race is not published on a subject level, however, research from BCS, The Chartered Institute for IT, found that ethnic minority representation was higher amongst IT specialists (18%) than the workplace as a whole (12%) in 2020.[5]

[3] Gender identity, England and Wales - Office for National Statistics (ons.gov.uk)
[4] Key stage 4 performance, Academic year 2022/23 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)
[5] Ethnicity: Key findings | BCS

The changes to the computer science GCSE subject content are not anticipated to have a negative impact in relation to the protected characteristic of race (which includes nationality).

Religion or belief – neutral impact

We do not hold data on pupils, or teachers, by religion or belief. We have not identified evidence that the revised computer science subject content would result in a negative impact, in relation to the protected characteristic of religion or belief.

Sex – positive impact

In the academic year 2022/23, 48.8% of pupils at the end of Key stage 4 in state-funded schools in England were girls and 51.2% were boys.[6] At present, 21% of those choosing GCSE computer science are girls.

Some of the recommended revisions are intended to improve real-world relevance and contextualisation of the subject. It is possible that such revisions may have a positive impact on the number of girls choosing GCSE computer science[7], promoting the advancement of equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it.

In academic year 2022/23, 76% of teachers in the schools' workforce identified as female.[8] We have not identified evidence that the revised computer science GCSE would result in a negative impact in relation to the protected characteristic of sex.

Sexual Orientation – neutral impact

We do not hold data on pupils, or teachers, by sexual orientation, nor is it readily known for children under 16. Based on ONS data, 11.1% of 16-24 year olds classed themselves as lesbian, gay, bisexual or other (LGBO) in 2022[9]. We have not identified any evidence that the revised computer science GCSE would result in a negative impact in relation to the protected characteristic of sexual orientation.

[6] Key stage 4 performance, Academic year 2022/23 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

[7] (PDF) Who wants to be a computer scientist? The computing aspirations of students in English secondary schools (researchgate.net)

[8] School workforce in England, Reporting year 2022 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

[9] Sexual orientation, UK - Office for National Statistics (ons.gov.uk)

Equalities analysis

As a result of our analysis, we find that we should proceed as planned to consult on draft revised content for the Computer Science GCSE.

The GCSE subject content requirements apply equally to all pupils undertaking this qualification regardless of particular protected characteristics or socio-economic status. We have not identified any groups who share particular protected characteristics where the subject content of the revised computer science GCSE could have a negative impact.

In all characteristics we do not envisage any negative impact on the three limbs of the PSED. The computer science GCSE will have no adverse or disproportionately negative impact on people who share a protected characteristic in gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation.

Protected characteristic	Positive	Negative	Neutral*	No impact
Disability			X	
Pregnancy and maternity			X	
Marriage or civil partnership			X	
Race			X	
Religion or belief			X	
Sex	X			
Sexual orientation			X	
Gender reassignment			X	
Age			X	

*A decision which maintains a positive impact and/or doesn't introduce a negative impact can be assessed as Neutral.

Next steps

The computer science GCSE is already taught in schools across England, by teachers of all protected characteristics, to students of all protected characteristics. Whilst the Department is responsible for creating the GCSE subject content, it will be for awarding organisations to re-develop their specifications for accreditation by Ofqual, where necessary. Assessment arrangements are for Ofqual to determine. Awarding organisations will determine and provide the necessary resources to support schools. Stakeholder organisations will also support its teaching.

Once we have analysed responses from the public consultation, we will decide whether to proceed with changing the subject content, and whether to make and revisions to our proposals. This Equality Impact Assessment will also be kept under review and if new relevant information comes to our attention, it will be considered and factored into this assessment. The public consultation on the subject content will also include one or more questions on equalities impacts.

Department for Education

About this publication:

enquiries https://www.gov.uk/contact-dfe
download www.gov.uk/government/publications

Follow us on Twitter: @educationgovuk
Connect with us on Facebook: facebook.com/educationgovuk