Department for Education

GCSE, AS and A level subject content: equality analysis

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Contents

1. Introduction

This document assesses the equalities impact of new subject content for GCSEs in astronomy, business, economics, engineering, geology, psychology and sociology, and for AS and A levels in design and technology, environmental science, history of art, music technology, and philosophy. Impact is assessed by reference to the protected characteristics of pupils or students. Section 149 of the Equality Act 2010 requires the Secretary of State, when exercising functions, to have due regard to the need:

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

The relevant protected characteristics are disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation. Age is not a relevant protected characteristic in relation to pupils in schools.

Pupils with Special Educational Needs (SEN), pupils eligible for Free School Meals (FSM), pupils with English as an Additional Language (EAL), and looked after children are not groups covered specifically by the Equality Act (although pupils within those groups may otherwise share a protected characteristic), but have been included in this analysis wherever possible. This is because those groups can be over-represented among low attaining pupils and we are keen to ensure the difficulties they face are not unnecessarily compounded by qualification reforms. They have not been included as a proxy for groups with protected characteristics.

2. Engagement and involvement

In developing the new subject content, we asked awarding organisations to work with subject experts to establish what changes were needed to make sure the new qualifications are robust and rigorous. Subject experts included: Association of Art Historians; British Sociological Association; British Philosophical Association; British Psychological Society; Design and Technology Association; Music Education Council; and National Association for Music in Higher Education. The consultation proposals incorporated their suggestions for the new GCSEs in astronomy, business, economics, engineering, geology, psychology and sociology and new AS and A levels in design and technology, environmental science, history of art, music technology, and philosophy.

The public consultation opened on 16 July 2015 and closed on 24 September 2015. We received 1381 responses from a range of stakeholders, including schools, equalities groups and awarding organisations. The consultation response document published on the consultation website outlines how the views of the consultation respondents have been considered.

3. Description of the policy

The government is reforming GCSEs and A levels to ensure that they prepare students better for further and higher education, and employment. GCSEs are being reformed so that they set expectations which match those of the highest performing countries, with rigorous assessment that provides a reliable measure of students' achievement.

Reformed GCSEs will be respected qualifications in which students, employers and further and higher education institutions can have full confidence. They will provide students with more fulfilling and demanding courses of study. GCSEs will continue to be universal qualifications, entered by the same proportion of students as currently.

The new A levels will be linear qualifications that make sure students develop the knowledge and skills needed for progression to undergraduate study.

Reforms to these qualifications are already underway. GCSE subject content in English literature, English language and mathematics was published in November 2013, and the new qualifications are being taught from September 2015. GCSE subject content in ancient languages, geography, history, modern foreign languages, biology, chemistry and physics was published in April 2014. GCSE subject content in art and design, computer science, dance, music and physical education was published January 2015. GCSE subject content in citizenship studies, religious studies, food preparation and nutrition, and drama was published in February 2015. These new qualifications will be taught from September 2016. GCSE subject content in design and technology GCSE was published in November 2015 and will be first taught from 2017.

At AS and A level, subject content in art and design, biology, business, chemistry, computer science, economics, English language, English literature, English language and literature, history, physics, psychology, and sociology was published in April 2014. These new qualifications are being taught from September 2015. AS and A level subject content in modern foreign languages, ancient languages and geography was published in December 2014. AS and A level subject content in dance, music and physical education was published in January 2015. AS and A level subject content in drama and religious studies was published in February 2015. These new qualifications will be taught from September 2016. AS and A level subject content in mathematics and further mathematics was published in December 2014 and will be first taught from 2017.

We are currently considering consultation responses on a further range of GCSE, AS and A level subject content, also for first teaching in 2017.

GCSE, AS and A level reforms are not being introduced in isolation. Reforms across the education system will benefit all pupils and lead to improvements in teaching so that pupil performance will rise to meet the new higher standard. Many policies, for example the introduction of the Pupil Premium, SEN reforms, and the expansion of the academies

programme, have a particular focus on those pupils currently left behind. A summary of DfE's programmes to support teaching for pupils with SEN is set out at the annex.

4. Evidence base

Our analysis of the potential impact of the proposed GCSEs in astronomy, business, economics, engineering, geology, psychology and sociology, and of the proposed AS and A levels in design and technology, environmental science, history of art, music technology, and philosophy has been informed by:

i. meetings with employers, stakeholders, subject associations and awarding organisations
ii. a review of relevant literature, as referenced throughout the equality impact assessment
iii. responses to the following questions in our recent subject content consultation:
    - Do you think that any of the proposals have the potential to have a disproportionate impact, positive or negative, on specific students, in particular those with 'relevant protected characteristics'? (The relevant protected characteristics are disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation.) Please provide evidence to support your response

    - How could any adverse impact be reduced and how could the subject content of GCSEs and/or A levels be altered to better advance equality of opportunity between persons who share a protected characteristic and those who do not share it? Please provide evidence to support your response

5. Evidence review

The following summary of evidence draws on evidence in relevant literature, responses to the public consultation on the GCSE, AS and A level content, and views expressed by stakeholders in face-to-face meetings in developing subject content.

In total, 377 respondents to the public consultation answered the question about potential disproportionate impact on students with relevant protected characteristics (from 1381 respondents to the overall consultation). 184 stated that it would have a negative impact on those students with one or more protected characteristics. 115 said there would not be a disproportionate impact. 78 respondents were not sure if it would have a disproportionate impact.

In the sections which follow, we have considered those concerns which have been raised by respondents to the consultation alongside other issues which we have identified through our own consideration of the relevant issues. In all cases our consideration of the issues has been informed by our previous work with stakeholders in developing subject content and the relevant literature.

5.1 Increased demand across all GCSEs

Some respondents to the consultation responded that the draft content for some reformed GCSEs contains greater demand than the current criteria.

Impact

One respondent raised this point in relation to astronomy GCSE and one in relation to engineering GCSE, although the impact applies equally to all the GCSEs included in this impact assessment.

The government consulted on reforming key stage 4 qualifications in 2012 and published its response and its equality impact assessment on decisions early in 2013. The response stated that: reformed GCSEs should remain universal qualifications, accessible, with good teaching, to the same proportion of students as currently sit GCSE exams at the end of key stage 4. It also stated that at the level of what is widely considered to be a pass (currently indicated by a grade C) there must be an increase in demand to reflect that of high-performing jurisdictions. At the top end, the new qualification should prepare students properly to progress to A levels or other study. This should be achieved through more challenging subject content and more rigorous assessment structures.

This subject content was developed in the context of these decisions.

In relation to the concerns about GCSEs, DfE considered the evidence it had gathered during its September 2012 consultation on reforming key stage 4 qualifications, which indicated that a culture of high expectations is one of several consistent factors essential to high student attainment and good progress. The evidence suggested that, with the right teaching, all students will benefit from those higher expectations.

A discussion of this evidence can be found in the equality impact assessment we published in March 2013. Our review of research indicated that the following factors are shown to have the greatest impact on preventing and responding to low student attainment:

- effective teaching
- a culture of high expectations
- understanding and meeting the needs of all students
- engaging and relevant curriculum
- initial assessments and on-going monitoring
- effective transition
- appropriate infrastructure and
- accountability at all levels

Andreas Schleicher, Deputy Director for Education and Skills at the OECD, has said that a common factor in high-performing systems is “the belief in the possibilities for all children to achieve” and there is evidence that suggests that, with the right teaching, students will benefit from those higher expectations[1].

The intention of reform is to ensure parity of quality and challenge across all subjects. We wish to ensure that students studying GCSEs in astronomy, business, economics, engineering, geology, psychology and sociology will achieve a qualification whose value is recognised alongside other GCSEs and A levels, and which prepares them for further study or employment.

Conclusion

Our review of evidence indicates that a culture of high expectations is one of several consistent factors essential to high student attainment and good progress for all students, and particularly in responding to low student attainment. For this reason GCSE reform is specifically intended to raise the demand for all students, both more and less academically able. We feel the increased challenge is justified by the benefits we expect it to deliver in the form of higher attainment and better preparation for further study or employment.

We acknowledge that the increased demand may have a greater impact on some students who have protected characteristics which can make aspects of academic curricula more challenging; for example, pupils with dyslexia or those from other national backgrounds for whom English is not their first language. This may also have a variable impact on students of different racial groups, as some are over-represented in the English as an additional language and wider ‘disadvantaged’ category. However, we believe appropriate provision can, and should, be made to mitigate and support pupils with any additional challenge arising from increased demand, in order to enable those pupils to benefit from greater equality of opportunity that will come from attaining higher standards.

Appropriate provision includes good quality teaching and support to students experiencing difficulties, such as those with special educational needs or English as an additional language. The quality of SEN teaching is central to ensuring pupils with SEN are given the best possible opportunities to achieve results in any of the GCSEs, AS and A levels considered here. A summary of DfE’s programmes to support good teaching for pupils with SEN is set out at the annex.

[1] Ofsted (2009) Twelve outstanding secondary schools: Excelling against the odds, OECD (2010) PISA 2009 Results: What Makes A School Successful

Means of mitigation also include the Pupil Premium, which is additional funding given to publicly funded schools in England to raise the attainment of disadvantaged pupils and close the gap between them and their peers. This funding is awarded per eligible pupil. It is not ring-fenced and can be used to help support pupils in whatever way their disadvantage impacts on their ability to access, engage with, or succeed in programmes of study.

Further means of mitigation are already embedded in legislation or guidance, such as the Joint Council for Qualification's (JCQ) reasonable adjustments for candidates with disabilities or learning difficulties, which allow for exemptions where pupils are unable to participate in aspects of the course content.

Overall, DfE believes that all pupils will benefit from the higher aspirations, attainment outcomes and strong reputation expected of reformed GCSEs. It is of no benefit to any student to pass a qualification that does not provide evidence – for employers or others – of their competence and knowledge in key areas that are essential to progression.

There is no identified foreseen impact of increased demand in GCSE subjects on protected characteristics of: gender reassignment, pregnancy and maternity, religion or belief or sexual orientation.

5.2 Increased mathematical content

The draft content for reformed GCSEs in astronomy, business, economics, engineering, geology and psychology, and AS and A levels in environmental science and music technology contains greater mathematical content/knowledge that specifications must cover.

Impact

Some respondents to the consultation commented that this content would have an impact on students of different sexes.

Research has found that girls can lack self-belief and confidence in their abilities in STEM subjects relative to boys, particularly in maths and sciences (evidence from the Targeted Initiative on Science and Mathematics Education (TISME) (2013)). The values and practices of schools can also have a powerful influence on girls' decisions to study STEM subjects, as indicated by a 2012 report by the Institute of Physics (IOP).

Through our wider research we found that past research on maths performance highlighted a traditional performance gap in favour of boys (Mullis et al, 2004). However, internationally, in the past four decades the gender gap has narrowed or even reversed (Robinson and Lubinski, 2011). In England, there was very little gender difference in attainment at the highest grades (A*-C) in maths GCSE in 2014/15 (boys = 68%; girls = 70%) (DfE, 2015).

For science, in 2014/15, a slightly greater proportion of girls achieved A*-C grades in any science GCSE than boys, 76% compared to 71% respectively (DfE, 2015).

Girls are less likely than boys to be encouraged to study physics post-16 by teachers, family and friends (Mujtaba & Reiss, 2013) and gender stereotypes within schools and wider society contribute to the gender differences in physics and science uptake post-16 society (Archer et al, 2013b).The values and practices of schools can also have a powerful influence on girls' decisions to study STEM subjects. This is indicated in a 2012 report by the IOP (2012), which found that in 2011, 46 per cent of maintained co-educational schools sent no girls on to do Physics A level, in contrast to the figure for boys, which was just 12 per cent. Similarly, 80 per cent of all secondary schools sent no more than 2 girls on to do Physics A Level.

Although not a protected characteristic, our analysis of the evidence raised that the increased level of mathematical knowledge requirements could have an impact on SEN students.

Of the major STEM fields, mathematics is commonly identified in the literature as problematic for students with disabilities. Its visual nature, whether in terms of algebraic

equations with complex notation or geometric concepts such as lines and angles, can render much of mathematics education inaccessible to students with visual impairments. The attainment gap for SEN pupils in maths is evident in the published attainment data (DfE, 2014). 45.8% of pupils with SEN made the expected progress in English compared to 41.3% in mathematics. 78.4% of pupils with no SEN made the expected progress in mathematics compared to 76.8% in English.

Pupils with visual impairments (62.9% in both English and mathematics) and with hearing impairments (60.5% in English and 63.2% in mathematics) were the most likely to make the expected progress. Pupils with profound and multiple learning difficulties (2.5% in English and 1.9% in mathematics) and with severe learning difficulties (4.1% in English and 2.2% in mathematics) were the least likely to make the expected progress.
Pupils suffering from dyscalculia will potentially be disadvantaged. Mathematics disabilities frequently entail genetic, neurobiological, and epidemiological considerations (Shalev et al., 2001); yet developmental dyscalculia is typically understood as a brain-based disorder.

Our analysis of the evidence also showed that the increased level of mathematical knowledge requirements could have an impact on students of different racial backgrounds. Science and Maths A level are historically favoured by certain ethnic groups: pupil ethnicity is related to uptake of science and mathematics subjects (Rodeiro, 2007; DfE 2011). Certain ethnic groups were more likely to enter A level maths, with pupils of Indian, Other Asian or Chinese ethnic backgrounds having odds of continuation around four times higher than those of White British pupils.

Conclusion

We acknowledge that the increased demand in mathematical knowledge may have a greater impact on some students who have characteristics, such as dyscalculia, which can make aspects of academic curricula more challenging. However, this has always been a risk given that these subjects have traditionally included mathematical content, although this has now been set out more clearly and in more depth. We believe appropriate provision can, and should, be made to mitigate and support pupils with any additional challenge arising from increased demand in order to enable those pupils to benefit from greater equality of opportunity that will come from attaining higher standards.

As information provided above sets out, the gap between boys and girls in relation to mathematical achievement has started to narrow, and in the case of GCSEs has even reversed. The DfE has been clear throughout the reform process that raising demand in GCSEs is key to raising attainment and ensuring comparability internationally.

Policy changes are not made in isolation – policies such as the Pupil Premium contribute

to enabling more disadvantaged students to be properly prepared for GCSEs. In relation to students in future years, the new primary National Curriculum for mathematics is focused on building firm foundations for all students, benchmarked against expectations in high-performing jurisdictions. The new curriculum places a greater emphasis on mental and written arithmetic, including teaching times tables early, written methods of calculation and applying mathematics to solve multi-step problems.

As all students benefit equally from the provisions of the National Curriculum, students of all ethnic, faith, sex and socio-economic groups will have the same exposure to this education. It is the responsibility of individual centres and teachers to ensure that students from all genders and backgrounds are given equal advice about their subject choices.

Overall, DfE believes that all pupils will benefit from the higher aspirations, attainment outcomes and strong reputation expected of reformed GCSEs. It is of no benefit to any student to pass a qualification that does not provide evidence – for employers or others – of their competence in key areas that are essential to progression.

There is no identified foreseen impact of more detailed maths content on protected characteristics of: gender reassignment, pregnancy and maternity, religion or belief, or sexual orientation.

5.3 GCSE Astronomy

Protected characteristic: religion or belief

The proposals for the reformed GCSE Astronomy included content about astronomical facts and data. The proposed subject content stated that 'specifications in GCSE astronomy require students to understand the various bodies which make up the Solar System, the Milky Way galaxy and our Universe, their interactions, and the processes which govern their formation and development. Specifications must require students to develop an understanding of the scientific processes involved in the discovery of these bodies and processes.'

Impact

One respondent out of 377 to the consultation raised concerns about the impact of these requirements on students with religious beliefs that may challenge the astronomical knowledge set out in the content. This respondent, however, also commented that the content should not be modified away from the accepted view of the scientific community in order to address this.

Many students will already have come into contact with scientific theories that challenge their beliefs, being exposed to theories of evolution as part of the national curriculum and in Academies[2], and content on the 'big bang' in physics GCSEs.

The Department has no reason to believe that studying the astronomy content will have an impact on students of any particular religious belief. As the respondent acknowledged, and stakeholders agree, this content is important in order to give students the appropriate knowledge and understanding of astronomy, and additionally AOs have emphasised that the content includes the requirement to 'understand how scientific methods and theories develop over time' which will allow students to look at how the subject and related theories have developed.

Conclusion

The Department is satisfied that any potential impact on students with particular religious beliefs is justifiable as the knowledge specified in the subject content is necessary for the study of GCSE astronomy. This subject is not compulsory at key stage four and as such there is no requirement for a student to take it if they feel the content conflicts with their

[2] The guidelines for The Academy Trust state that no view or theory should be taught as evidence-based if it is contrary to established scientific or historical evidence and explanations. https://www.gov.uk/government/publications/academy-and-free-school-funding-agreements-single-academy-trust

beliefs.

Observational skills

The proposals for the reformed GCSE Astronomy included the need to develop observational skills that will be assessed.

The reformed subject content stated that ‘examination papers must include questions that draw on the knowledge and understanding students have gained from observational work.’ These questions will have to account for 20% of the marks for the GCSE and should focus on the following knowledge, understanding and skills:

- planning an astronomical observation and describing how to carry it out safely and skilfully
- understanding the range of techniques and methods used in observational work
- analysing and interpreting qualitative and quantitative data from different sources
- evaluating the methods used and the data collected when carrying out an observation
- considering the validity and reliability of data in presenting and justifying conclusions

Impact

Two respondents out of 377 to the consultation raised a concern that the practical requirements of the proposed subject content might adversely impact on students from more disadvantaged or lower income families. They commented that the requirement for assessed observational skills will ‘substantially harm those in poorer schools, from poorer backgrounds’ and that those schools or children who don’t have access to a range of materials such as good telescopes may not be confident in answering observational questions. They also commented that students in cities without clear skies might find observational work more difficult.

As students are not self-preparing for examination but will be prepared by centres, socio-economic factors should not be barriers that affect a student’s ability to achieve in observational activities. Schools are responsible for providing materials, such as telescopes for making observations, and as such no disadvantage should exist. Additionally, as with the current criteria, the content has been developed so that a variety of observations can be made with the naked eye. Currently a number of candidates who enter GCSE astronomy live in cities with light pollution. Centres in these areas are aware of which observational activities work well in these conditions and can continue to advise their students accordingly. For these reasons the Department is content that there is no need to make changes to the observational skills components of the content.

DfE is confident that schools and colleges will have sufficient funding to teach all the practical elements required in the proposed new subject content, and can if necessary provide additional financial support where pupils are facing the greatest economic disadvantage.

Over the last three years, DfE has introduced a number of important changes to how local authorities distribute funding to schools. These changes have led to a more transparent funding system with more money being allocated based on the needs of pupils. For 2014-15, local authorities are allocating around 90% of schools funding based on the needs of pupils, compared with 71% of schools in 2012-13.

16 -19 funding is calculated using the EFA funding formula that incorporates factors including student numbers, student retention, higher cost subjects, disadvantaged students and area costs. This is supplemented by additional funding for high needs students, bursaries and other financial support awarded to individual students.

Means of mitigation include the Pupil Premium, which is additional funding given to publicly funded schools in England to raise the attainment of disadvantaged pupils and close the gap between them and their peers. This funding is awarded per eligible pupil. It is not ring-fenced and can be used to help support pupils in whatever way their disadvantage impacts on their ability to access, engage with, or succeed in programmes of study.[3]

Two respondents out of 377 to the consultation raised concerns that the practical requirements of the proposed subject content might adversely impact on students with disabilities. They asked whether the content is accessible for visually impaired students, giving the example that ‘a blind child would find doing enough observations to have the range of knowledge necessary to answer whatever observation question arose impossible.’

Our wider research also found evidence that the hands on nature of STEM education often equates to ‘eyes on’, as a large proportion of STEM education depends heavily on visual observation. Few laboratory instruments were originally designed to utilise the hands, skin, ears or nose to convey quantitative information, rather they depend on observation.

Candidates with a visual impairment will be able to apply for special consideration, working with centres and exam boards on an individual basis to meet their requirements. Additionally if they wish, students should have the ability to use aided telescopes for

[3] In the 2014 to 2015 financial year, schools will receive the following funding for each child registered as eligible for free school meals at any point in the last 6 years: £1,300 for primary-aged pupils and £935 for secondary-aged pupils. Schools also receive £1,900 for each pupil who has been looked after for 1 day or more, or has been adopted from care , or has left care under a special guardianship order, a residence order or a child arrangement order

observations. As the assessment is testing the theory behind the observational skills, and not the skills themselves, it is possible for all students to access the marks whether they have physically undertaken the observation or not. This means that students with disabilities will not be negatively impacted if they do not undertake the practical activity.

DfE recognises that there may be challenges for students with certain physical disabilities, as there can be with all subjects that have practical components. However, there is effective legislation and guidance in place to mitigate potential adverse impacts on disabled students. Awarding Organisations are already experienced in ensuring that specifications are accessible to disabled students and that assessment can be modified for students with physical disabilities as necessary and appropriate.

Section 96 of the 2010 Equality Act outlines the specific obligations for qualifications bodies and includes the duty to make reasonable adjustments to the extent specified by the appropriate regulator (in this case Ofqual). Ofqual allows reasonable adjustments to qualifications in the form of an exemption for a student from up to 40% of the marks available for a qualification. In light of Ofqual's determination, the JCQ's "Adjustments for candidates with disabilities or learning difficulties" allow an exemption agreement to be reached by an awarding body, before the examination, for a candidate to miss a component or components amounting to no more than 40% of a GCSE or A level qualification.

DfE is confident of the ability both of Awarding Organisations to mitigate against adverse impact on students with physical disabilities and of teachers to provide differentiation and support to those students facing additional challenge because of physical disabilities.

Conclusion

We have concluded that the observational skills required for the proposed reformed GCSE Astronomy are reasonable and justifiable to equip pupils with comprehensive knowledge and understanding in this field. The observational skills requirement already exists in specifications, so Awarding Organisations will be experienced in ensuring accessibility. There is legislation and guidance in place to mitigate any potential adverse impact on pupils with physical disabilities and targeted needs-based funding should help mitigate any disadvantage to pupils from low income families.

Reforming the content for astronomy GCSE will ensure that the subject has the necessary depth and demand, and focus on observational skills valued by experts. Increased demand will have a positive impact by allowing all students to benefit from higher aspirations, attainment and the strong reputation of reformed GCSEs.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, race, sex and sexual orientation. We also have not encountered any

issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.4 GCSE Business

Protected characteristic: sex

One respondent out of 377 to the consultation raised concerns about the impact of content on take up by female students. They commented that business is considered to be a male subject 'as the majority of students that study' the subject are male and that 'there is nothing in the proposals that appear to address this' in order to make it more attractive to female students.

Impact

Of students who took GCSE business studies in 2014/15, 42,761 were male and 31,190 were female. This gender difference of 11,571 is smaller than previous years (13,195 in 2013/14, 12,320 in 2012/13). Further, the percentage of student achieving the highest grades is higher for females: in 2014/15 4% of females achieved an A* and 16.1% an A, in comparison to 2.5% of males achieving an A* and 12% an A in the same year.

We have carefully considered whether the subject content particularly discourages or encourages any particular sex to take the qualification. After considering this the Department is clear that the content contains the key knowledge, understanding and skills required in this subject, and does not contain any content that would particularly discourage either sex from taking the qualification.

The revised GCSE business content requires students to understand specific mathematics knowledge. As outlined in the section above the increased demand of the mathematical content is needed and should not have an impact on the take-up of this subject by each sex.

On the issue of gender, which has been raised as a key issue within the consultation, DfE believes it is important to ensure that GCSEs are accessible to all students, regardless of their gender. Working to break down gender imbalances is vital to ensure that both girls and boys have access to the same education and career opportunities. Equality is as much about equality of aspiration as it is about equality of opportunity. The changes to this subject will, we hope, enable all students to consider progression and career pathways they may previously not have considered or have been able to access.

The possible perception of business as a 'male' subject should be addressed, if necessary, where possible and appropriate through the design of the specifications based on this content and the marketing of these specifications by the Awarding Organisations. As all students benefit equally from the provisions of the National Curriculum, students of all ethnic, faith, sex and socio-economic groups will have the same exposure to business education. It is the responsibility of individual centres and

teachers to ensure that students from all genders and backgrounds are given equal advice about their subject choices.

Conclusion

The Department has concluded that the subject content for business GCSE including the additional demand from the mathematical content is appropriate in the light of any potential impact on the take-up of the subject by different sexes.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of disability, gender reassignment, pregnancy and maternity, race, religion or belief, and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.5 GCSE Economics

Protected characteristic: sex

Similar to the response for GCSE business, one respondent out of 377 to the consultation raised concerns about the impact of the revised GCSE economics content on the take up by female students. They said that economics is considered to be a male subject 'as the majority of students that study' the subject are male and that 'there is nothing in the proposals that appear to address this' in order to make it more attractive to female students.

Impact

Of students who took GCSE economics exam in 2014/15, 6,379 were male and 3,077 were female. The percentage of students achieving the highest grades was comparable for both genders: in 2014/15 5.2% of females achieved an A* and 22.9% an A, in comparison to 5.8% of males achieving an A* and 22.2% an A in the same year.

As above in relation to business GCSE, we have no reason to believe that any of the revised subject content would particularly discourage female students from taking the qualification. The possible perception of economics as a 'male' subject should be addressed, if necessary, where possible and appropriate through the design of the specifications based on this content and the marketing of these specifications by the Awarding Organisations.

The revised GSCE economics content includes the introduction of detailed requirements for specific quantitative skills, for example: calculation of percentages and percentage changes, including interest on savings; and interpretation and use of economic data, such as unemployment figures, exports and imports. 10% of the total marks in the qualification will now be allocated to this. As outlined in the response to astronomy GCSE, past research on maths performance highlighted a traditional performance gap in favour of boys but that gap is narrowing and in some cases reversing.

As outlined in the section above the increased demand of the mathematical content is needed and should not have an impact on the take-up of this subject by each sex.

Conclusion

The Department has concluded that the subject content for GCSE economics, including the additional demand from the mathematical content, is appropriate in light of any potential impact on the take-up of the subject by different sexes.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of disability, gender reassignment,

pregnancy and maternity, race, religion or belief, and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.6 GCSE Engineering

Protected characteristic: sex

One respondent out of 377 to the consultation raised concerns about the impact of the content on the take up by female students. They said that 'the subject already has a predominantly male entry and there is a concern that the draft content will not reverse this trend.' They gave the example that they thought that renaming the 'global context' section 'the impact of modern technology' would provoke further concern.

Impact

As above in relation to business and economics GCSE, we have no reason to believe that any of the revised subject content would particularly discourage female students from taking the qualification. The possible perception of engineering as a 'male' subject should be addressed, if necessary, where possible and appropriate through the design of the specifications based on this content and the marketing of these specifications by the Awarding Organisations, as well as by schools encouraging take-up by female students.

Conclusion

As above, the Department has concluded that the subject content for GCSE engineering including the additional demand from the mathematical content is appropriate in light of any potential impact on the take-up of the subject by different sexes.

In addition, as part of an overarching aim to encourage more girls to take up STEM subjects, the department is funding a number of programmes, including for example a programme of Big Bang Near Me activities (a local version of the National Big Bang Fair) delivered by Engineering UK to reach more than 80,000 young people and achieve a 50:50 split of boys and girls participating.

Ability

One respondent to the consultation raised concerns about the impact on students of different abilities. They said that 'less able students may become disaffected in GCSE Engineering if the specifications become too demanding as they seek to meet the requirements in this proposal.'

Impact

As outlined in the section above the increased rigour in GCSEs is needed and should not have an impact on students with protected characteristics.

Conclusion

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of disability, gender reassignment, pregnancy and maternity, race, religion or belief, and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.7 GCSE Geology

Protected characteristic: religion or belief

The proposals for the reformed GCSE geology included content about 'the origin and development of life', including 'the evolutionary change in zone fossils over time', 'the diversity in the evolution of life from the fossil record' and 'major extinction events which punctuate the evolution of life on Earth'.

Impact

Two respondents out of 377 to the consultation raised concerns about the impact on students with certain religious beliefs. They commented that the emphasis on evolution, geochronology and the origin and development of life may conflict with particular religious beliefs. They did not however recommend removing this content, and commented that the emphasis was 'inevitable and appropriate' and that it is essential to the study of the subject.

As in astronomy GCSE, many students will already have come into contact with scientific theories that challenge their beliefs, being exposed to theories of evolution as part of the national curriculum and in Academies[4], and content on the 'big bang' in physics GCSEs.

As with in GCSE Astronomy, the Department has no reason to believe that studying this revised content will have an impact on students of any one particular religious belief. As the respondent acknowledged, and stakeholders agree, this content is core to the study of geology and therefore we are content to keep this in the GCSE.

Conclusion

As above on astronomy GCSE, the Department is satisfied that any potential impact on students with particular religious beliefs is justifiable as the knowledge specified in the subject content is necessary for the study of GCSE geology. This is a voluntary subject and as such there is no requirement for a student to take it if they feel the content conflicts with their beliefs.

Protected characteristic: disability

The proposals for the reformed GCSE geology content included that 'the knowledge, understanding and skills required in paragraphs 8 and 9 should be developed through

[4] The guidelines for The Academy Trust state that no view or theory should be taught as evidence-based if it is contrary to established scientific or historical evidence and explanations. https://www.gov.uk/government/publications/academy-and-free-school-funding-agreements-single-academy-trust

regular hands-on practical activities and fieldwork. GCSE geology specifications must ensure that students undertake a minimum of two days of work in the field. Awarding organisations must require evidence that this fieldwork has been undertaken. This should be in the form of a written statement from centres.'

Impact

One respondent out of 377 to the consultation raised concerns about the impact on students with disabilities. They commented that 'as fieldwork is a fundamental part of the geology subject content, which we support strongly, there is a risk of impact on disabled students' participation.' They suggested that the risk could be managed at a local level to ensure that field activities allow the full participation of all students, and that specifications should be written to allow centres the flexibility to design fieldwork tasks that are accessible to all students.

Research evidence shows that disabled pupils can face difficulties on geology fieldwork trips. Fieldwork environments can impose daunting physical barriers on disabled students, which can mark out differences in students' bodily capabilities (Hall et al, 2004). In addition there is evidence that unfamiliar environments create specific barriers for some disabled people (Birnie & Grant, 2001). Fieldwork may also pose challenges for visually impaired pupils, where tasks such as taking accurate notes in non-classroom environments, tasks that involve the use of multiple senses, group work and recording data and making mathematical calculations can be problematic (Shepherd, 2001).

Conclusion

As with the astronomy GCSE, DfE recognises that there may be challenges for students with certain physical disabilities, as there can be with all subjects that have practical components. However, there is effective legislation and guidance in place to mitigate potential adverse impacts on disabled students. This includes the JCQ's "Adjustments for candidates with disabilities or learning difficulties", which allow an exemption agreement to be reached by an awarding body, before the examination, for a candidate to miss a component or components amounting to no more than 40% of a GCSE or A level qualification. DfE is confident of the ability both of Awarding Organisations to mitigate against adverse impact on students with physical disabilities and of teachers to provide differentiation and support to those students facing additional challenge because of physical disabilities.

The practical and field work requirement already exists in specifications, so Awarding Organisations will be experienced in ensuring accessibility. Awarding Organisations are already experienced in ensuring that specifications are accessible to disabled students and that assessment can be modified for students with physical disabilities as necessary and appropriate.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, race, sex and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.8 GCSE Psychology

Sensitive topics

The proposals for the reformed GCSE psychology included compulsory content on abnormal psychology, requiring students to study 'examples and definitions of abnormal behaviour and problems associated with defining abnormality'. Students were required to study 'two of the following disorders: Clinical Depression, Schizophrenia, Addiction, or Autism Spectrum Disorder' and 'for the two disorders, students must know and understand: characteristics according to the International Classification of Disease (ICD); a biological explanation; a psychological explanation; and treatments'.

Impact

Two respondents out of 377 to the consultation (including the British Psychological Association (BPA)) raised concerns about the impact of studying sensitive topics on students of this age. They suggested that abnormal psychology should be removed as a topic at this level, as it could potentially cause harm to students. They questioned whether 'the topic areas covered are appropriate for learners in this age group' and suggested that 'a shift in focus to psychological well-being, as opposed to abnormal psychology may be more appropriate'. They also suggested that 'if clinical disorders are to be included, it may be more appropriate as a discussion to explore different interventions and psychological therapies that may be used…rather than in-depth study of diagnostics in relation to specific clinical disorders.'

In response to this feedback, and through engagement with the BPA, Awarding Organisations have made changes to the final content to ensure it is appropriate. The Awarding Organisations have changed the emphasis of the content covered under abnormal psychology to be focused on psychological problems. The topic has been renamed and content changed to allow students to learn about psychological health and now gives an opportunity for students to cover a more balanced view of mental health, including how people deal with mental health issues through the study of two of the problems listed. As suggested, students will explore interventions and psychological therapies for these problems and how these improve mental health. This has retained the demand of the abnormal psychology section, while amending the content to ensure it is appropriate for the age-range of the students and does not negatively impact on students. AOs have replaced 'phobias' with 'addiction' as it is of more appropriate rigour, and stakeholders were keen that teachers had the option of one problem that may be less sensitive to teach.

Conclusion

Awarding Organisations have worked with stakeholders to made changes to the content to make sure that the topics covered are appropriate for students of GCSE age. The

Department is satisfied that this final content is appropriate and will not have an impact in relation to any protected characteristic.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, disability, race, sex and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.9 GCSE Sociology

Diversity

One respondent raised concerns about the impact on students from diverse backgrounds. They commented that there was an ‘imbalance in the draft’ that the voices and work of those from protected groups were not included in the content. They commented that black sociology, the sociology of disability and queer theory could be included to address this.

Impact

The reformed sociology GCSE content requires students to know and understand ‘different views on factors affecting life chances including social class, gender, race and ethnicity, sexuality, age disability, religion and belief’. This allows for the study of the suggested topics above. As a subject, sociology encourages students to engage with issues like ethnicity, gender and sexuality in relation to key social topics. For example the section on family diversity includes specific reference to single sex families, and the section looking at factors affecting educational achievement includes specific reference to social class, gender and ethnicity. Awarding organisations can include other sociological concepts relating to protected groups and characteristics within their specifications, and teachers are encouraged to include a wide variety of ideas and theorists in their teaching.

Conclusion

The content requires students to know and understand issues relating to ‘society, socialisation, norms. values, roles, labelling, discrimination, power and authority’ and expects that students develop knowledge of a variety of social structures and social issues, including those relating to protected groups The Department is therefore satisfied that this final content is appropriate and will not have an impact in relation to these students.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, sex and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.10 Design and Technology AS and A level

A range of respondents commented on issues that will be addressed by Ofqual's consultation on assessment and as they are formally the responsibility of Ofqual we do not propose to address or respond to them here.

A range of respondents commented on subjects that were outside the scope of this equalities analysis as they were not related to equalities. For this reason, we do not propose to address or respond to them here.

Protected characteristic: sex

Four respondents out of 377 raised concerns about the impact on students of different genders. Of those, one respondent mentioned that D&T has a male bias in participation, while three respondents raised concerns that the changes to textiles – historically a more popular topic with girls - would put off male students from studying the topic. One respondent commented that 'in subjects such as textiles, it is generally seen as a more girl based course' and that students should be made 'aware from a young age that all subjects can be taught to both genders.' Another commented that the 'combining of all material areas of D&T will deter lots of female uptake who specifically want to study Textiles.' One respondent also commented that the gender balance has 'been improving for a number of years'.

Impact

Girls currently outperform boys on all existing design and technology subjects, yet more boys than girls choose to enter GCSE examinations in these subjects. As Ofsted (2011, p.23)[5] highlight, "the need to tackle this difference is critical". Following consultation comments, the name of the topic has been changed from 'fashion design and development' to 'fashion and textiles' which might go some way to mitigate this.

It is possible that boys and girls may be less interested in traditionally gendered areas of subject matter (see above on which topics girls/boys currently favour), but if these are overcome, the increased knowledge might lead to a breaking down of gender boundaries which will have a positive impact.

The respondent is correct that the gender balance in the subject has been improving, which is encouraging. In the 2013-14 academic year 5,032 females and 6,801 males took

[5] Ofsted (2011). *Meeting technological challenges? Design and technology in schools 2007-10.*

D&T[6]. This is in comparison to 6,326 females and 8,552 males who took the subject in the academic year ending 2011. Further, females are most likely to achieve the highest grades: in 2013 4.5% of females achieved an A* and 16% an A, in comparison to 3.2% of males achieving an A* and 12.2% an A in the same year.

Conclusion

As stated in the response to other subjects, the Department is satisfied that the content for design and technology AS and A level is gender neutral and that the content is appropriate in light of any potential impact on the take-up of the subject by different sexes. Some of the comments relating to sex arose from a misconception that students must study all three specialist routes. We have made changes to clarify that this is not the case and students remain free to choose the route they wish to study. The perception of certain topics in D&T being 'male' or 'female' should be addressed, if necessary, where possible and appropriate through the design of the specifications based on this content and the marketing of these specifications by the Awarding Organisations, as well as by schools encouraging take-up by students of both genders.

On the issue of gender, which has been raised as a key issue within the consultation, DfE believes it is important to ensure that AS and A Levels are accessible to all students, regardless of their gender. Working to break down gender imbalances is vital to ensure that both girls and boys have access to the same education and career opportunities. Equality is as much about equality of aspiration as it is about equality of opportunity. The changes to this subject will, we hope, enable all students to consider progression and career pathways they may previously not have considered or have been able to access.

Removal of food technology from the design and technology AS and A level

There were 160 respondents to the consultation who made comments about the equalities effect of food not going ahead as an endorsed title in the design and technology AS and A level.

Protected characteristic: sex

Thirty respondents raised concerns about the removal of food technology on students of different genders. Within this, 26 respondents commented that this would disadvantage female students, while three said it would affect both genders as food A level is taken by both male and female students.

[6] Source: 16-18 attainment data, DfE

Impact

As above, the Department is encouraged that the gender balance of students studying design and technology AS and A level looks to be improving. DfE is confident that the content of the reformed AS and A level will appeal to students of both genders, and that any gender gap should be addressed, if necessary, where possible and appropriate through the design of the specifications based on this content and the marketing of these specifications by the Awarding Organisations.

Protected characteristic: disability

Eight respondents raised concerns about the impact on students with disabilities including dyslexia and SEN students, as these students prefer the more practical and less academic teaching style of the food technology course.

Impact

As outlined above in response to other subjects, we acknowledge that the increased demand in scientific and mathematical knowledge of the design and technology AS and A level may have a greater impact on some students who have characteristics, such as dyscalculia, which can make aspects of academic curricula more challenging. However, the Department is satisfied that food not going ahead as an endorsed title will not have a particular impact on students with disability or SEN.

Awarding Organisations are already experienced in ensuring that specifications are accessible to disabled students and that assessment can be modified for students with physical disabilities as necessary and appropriate. Schools will need to ensure that if they offer vocational food qualifications, they put the appropriate mitigations so that students with disabilities are not disadvantaged.

Protected characteristic: religion or belief

Six respondents raised concerns about the impact on students of different cultures or religious beliefs as food technology looked at cultural and religious beliefs and how they affect food choice and preparation.

Impact

The Department has no reason to believe that the removal of food technology as an option in the design and technology content will have an impact on students of any particular culture or religious belief. Understanding the practices of different religious groups forms part of religious studies GCSE, AS and A level, and could therefore include teaching around dietary practices. The Department has concluded that the knowledge

specified in the subject content is necessary for the study of AS and A level design and technology, and that studying it will not have an impact on the protected characteristics.

Protected characteristic: pregnancy and maternity

Five respondents raised concerns about the impact on students who are pregnant or breastfeeding as food technology looked at the nutrition for pregnancy and lactation.

Impact

The Department does not believe that qualifications are the most appropriate place for students who are pregnant or breastfeeding to find out information about pregnancy or breastfeeding. Schools can choose to teach parenting skills in their PSHE lessons. The non-statutory programme of study for PSHE education enables schools to teach young people about the roles and responsibilities of parents and the value of family relationship. Cooking is also compulsory at key stage 3 and as part of this teachers will cover nutrition, diet and where food comes from.

Pregnancy support can be found via students' usual health service providers, and DfE is confident that there are appropriate provisions by Ofqual, the Joint Council for Qualifications and the awarding bodies in place to avoid any detrimental impact to pupils with these characteristics.

Socio-economic status

Two respondents raised concerns about the impact on students from low socio-economic backgrounds, as knowledge about health and nutrition is needed in families from lower income households.

Impact

As outlined above in relation to astronomy GCSE, economic factors should not be a barrier that affects students' ability to achieve in this qualification.

The Department is satisfied that any potential impact of removing food technology on students of low socio-economic status is justifiable, and students can gain knowledge about health and nutrition from the new GCSE in Food Preparation and Nutrition, and various vocational qualifications. As set out above, cooking is also a compulsory element of KS3 study.

Conclusion

Food technology has been removed as an endorsed route within design and technology, as feedback from higher education practitioners and subject experts indicated that it did

not fit comfortably within this subject. For students wishing to study a food-related subject at this stage, there are already a number of high-quality vocational and technical qualifications available post-16, including those with a focus on food nutrition. For those students wanting to progress to a career in food, there are career-specific vocational and technical qualifications, for example in confectionary/butchery. For students wishing to progress to a degree in food nutrition or food science, top universities offering food science/nutrition related courses have told DfE that they are looking for students with science qualifications for entry to their courses, rather than food-related A levels.

As students wishing to study food-related courses at degree level can study science A levels to prepare them, and there are alternative qualifications available at KS5, the Department is satisfied that this change will not have an impact on students of any particular protected characteristics.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, disability, race, and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.11 Environmental Science AS and A level

No respondents to the equalities questions raised concerns about the impact of the revised environmental science AS and A level on the protected characteristics.

Our review of the literature found certain dexterity and mobility considerations needed to be considered in relation to the reformed environmental science content. The reformed content required students to undertake experimental and investigative activities; evaluate methodology, evidence and data; and know and understand how to use a wide range of experimental and practical instruments, equipment and techniques. These requirements for dexterity and mobility may have an impact on students with protected characteristics. Dexterity impairments may impair use of hands, which may range from fine motor skills to digit-specific issues to the complete inability to use the hands. Only a small body of recent literature specifically addresses accommodations for dexterity issues, particularly technologically advanced accommodations, and most of that available literature focuses on therapy and rehabilitation rather than mainstream classroom integration.

As outlined in the response to other subjects, DfE recognises that there may be challenges for students with certain dexterity issues, as there can be with all subjects that have a practical component. These considerations have always existed under the legacy A level model, and DfE is confident that there is legislation and guidance in place to support pupils with physical disabilities in managing the performance requirements and allowing for mitigating actions where there are specific challenges. This includes the JCQ's "Adjustments for candidates with disabilities or learning difficulties", which allow an exemption agreement to be reached by an awarding body, before the examination, for a candidate to miss a component or components amounting to no more than 40% of a GCSE or A level qualification. DfE is confident of the ability both of Awarding Organisations to mitigate against adverse impact on students with physical disabilities and of teachers to provide differentiation and support to those students facing additional challenge because of physical disabilities.

For further information please see the Department's equality analysis in relation to practical work in GCSE sciences.

Conclusion

DfE is satisfied that there are the necessary and appropriate provisions in place to allow students with dexterity issues to study environmental science AS and A level.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, race, sex and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.12 History of Art AS and A level

Visual Impairment

The draft content for history of art AS and A level required students to respond to images, and there is a new requirement in the final content for students to respond to unseen images.

Impact

No respondents to the equalities questions raised concerns about the impact of the revised history of art AS and A level on the protected characteristics.

Our review of the literature found that the evidence on visual representations of data in STEM may also apply here (see page 18). The evidence suggested low vision and blindness present numerous challenges to classroom teaching. Students with low vision may find graphics difficult or impossible to access when presented on a classroom whiteboard or projector (Borland & James, 1999). Compounding this problem is the possibility that low-vision students may not even seek accommodations for a variety of personal reasons, even though they may acknowledge privately that they need them (Richardson, 2009). Student with partial or no sight may find the requirement to respond to unseen images challenging.

The content does not include a list of artworks that students must study, as this is detail that is more appropriate in the specifications. The Awarding Organisations are able to include non-visual art (for example that incorporates texture or sound) in their specifications. Students are required to study sculpture as one of the types of artwork studied in unseen.

Whilst students with permanent visual impairment are not eligible for special consideration, as this is for temporary conditions only, exam access arrangements provide access for students with permanent conditions, for example, visually impaired students.

Any potential adverse impact on pupils with disabilities needs should be mitigated with appropriate teacher differentiation and support. The Department is confident there is legislation and guidance in place to support pupils with visual impairment in managing the performance requirements and allowing for mitigating actions where there are specific challenges. Awarding Organisations are already experienced in ensuring that specifications are accessible to disabled students and that assessment can be modified for students with physical disabilities as necessary and appropriate.

Conclusion

As above, DfE is satisfied that there are the necessary and appropriate provisions in place to allow students with disabilities to study history of art AS and A level.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, race, sex and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.13 Music Technology AS and A level

Protected characteristic: disability

One respondent to the consultation, the Music Education Council (MEC), raised concerns about the impact on students with disabilities. They commented that music technology is also a 'creative practice' and 'this aspect of music technology is available to a wide cohort of learners who may have been excluded from more 'traditional' forms of music education by disability or socioeconomic/cultural factors.' They noted that music technology can be 'used as a creative tool for learners with disabilities and/or learning difficulties'.

Impact

Following this feedback, AOs have worked with the MEC to understand and address their comments in the content. Some changes have been made to emphasise that students would be engaging creatively with the content. For example, specifications must now encourage students to 'understand the principles of sound and audio technology and how they are used in professional and creative practice', and 'develop as effective and independent students, and as critical, creative and reflective thinkers with enquiring minds'. The DfE and MEC are content that these amends satisfy the concerns raised in the consultation, and that the final content will not have a specific impact on students with disabilities.

As outlined in the response to other subjects, DfE recognises that there may be challenges for students with a hearing impairment, as there can be with all subjects that have a practical component. However DfE is confident that there is legislation and guidance in place to support pupils with physical disabilities in managing the performance requirements and allowing for mitigating actions where there are specific challenges. This includes the JCQ's "Adjustments for candidates with disabilities or learning difficulties", which allow an exemption agreement to be reached by an awarding body, before the examination, for a candidate to miss a component or components amounting to no more than 40% of a GCSE or A level qualification. Our broader review of the research also found that the National Deaf Children's Society (NDCS) highlights good practice for making music accessible to deaf children and young people which is available online. DfE is confident of the ability both of Awarding Organisations to mitigate against adverse impact on students with physical disabilities and of teachers to provide differentiation and support to those students facing additional challenge because of physical disabilities.

Conclusion

Awarding Organisations have worked with stakeholders to made changes to the content to make sure that the content is appropriate for students with disabilities. The Department

is satisfied that this final content is appropriate and will not have an impact in relation to any protected characteristic.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, race, sex and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

5.14 Philosophy AS and A level

Protected characteristic: religion or belief

The proposals for the reformed philosophy AS and A level required students to study 'The metaphysics of God', including content on 'the concepts of omnipotence, omniscience and omnibenevolence and timelessnesss/being within time; issues arising from the attribution of these concepts to a being (God)' and an associated reading list of nine philosophical texts.

Impact

Two respondents out of 377 to the consultation raised concerns about the impact of students with religious beliefs. They commented that the content 'will affect those students who wish to avoid Religious Studies or religion but enjoy Philosophy.' They also commented that 'the Philosophy of Religion also favours Christian responses to arguments for the existence of God' which excludes those from other religions and that the current content for the 'Metaphysics of God is exclusively focussed on Christian readings and requires significant review to be inclusive for a diverse array of religions'.

In developing this content, AOs consulted Higher Education representatives and the British Philosophical Association (BPA). They were clear that the philosophy of religion is one of the key areas for students studying philosophy to know and understand. When AOs were drafting content, they were mindful to ensure it was distinct from religious studies A level. A full explanation of how the subjects differ is included in the consultation response document. For example, in AS and A level philosophy students do not study the God/Gods of particular religious traditions, but instead study the conceptual coherence and the validity/soundness of arguments relating to the existence of a being (who we call God).

The content includes a range of philosophical viewpoints, and does not favour arguments from particular religious traditions. The Metaphysics of God section is concerned with the concept of god within classical theism and not with the particular understanding of gods within any particular religious tradition. The readings are classic statements of philosophical positions, selected to reflect philosophical approaches and do not relate to a particular religion.

Conclusion

The Department has concluded that the knowledge specified in the subject content is necessary for the study of philosophy AS and A level. We are also satisfied that including this content will not have an impact on students with protected characteristics.

Diverse backgrounds

The draft content for philosophy AS and A level contained only male philosophers.

Impact

One respondent to the consultation raised concerns about the impact of students from diverse backgrounds. They commented that ‘there are long running issues in Philosophy with the inclusion of women and minorities’ and that the content should have an inclusive reading list that includes female philosophers and minority/ethnic philosophers.

Following consultation responses, AOs have engaged with the British Philosophical Association to include new theorists into the content, including Anita Avramides and Lisa Shapiro. Further detail of which theorists are studied is a matter for the specifications, which is where the respondent’s point can be further addressed if necessary.

Conclusion

Awarding Organisations have worked with stakeholders to made changes to the content. The Department is satisfied that this final content is appropriate and will not have an impact in relation to any protected characteristic.

None of the respondents to the consultation raised any concerns about detrimental impact on students with the protected characteristics of gender reassignment, pregnancy and maternity, and sexual orientation. We also have not encountered any issues in our research to give rise to concerns in relation to any of these protected characteristics.

6. Summary

We believe that overall the proposals for reformed subject content examined in this equality impact assessment will have a positive impact on equality of opportunity by providing respected qualifications in which pupils, employers and further and higher education providers can have full confidence.

Equalities considerations have been taken into account before, during and after the process of developing new content. In examining the evidence and opinions we have collated, we believe the final changes proposed are objectively justified because they will have the effect of improving standards. Where concerns have been identified about the potentially negative impact of content, we have responded to the concerns as set out above.

Increasing demand across all GCSEs, including those which have traditionally had a significant practical component, is intended to help achieve parity in the value to students of all qualifications and in the perception among employers and further/higher education institutions of the qualifications' worth. We are confident that where this presents challenges to students with protected characteristics, there are a number of appropriate and available means of mitigation, which have been outlined in the section on increased demand.

We also believe that appropriate careers guidance and support can be used to help foster engagement in relation to those with particular protected characteristics with subjects they may not perceive as relevant to them. This is relevant in relation to the proposals for GCSEs where there is a gender gap, where it is important for teachers and careers advisors to make clear the value of any particular qualification to all relevant careers in order that boys and girls alike can make informed decisions about studying it.

DfE believes that every subject should be accessible and appealing to all students regardless of ethnicity, sex, faith, disability, sexual orientation, pregnancy or maternity. Rather than accede to perceived preferences among different groups, DfE strives for a climate in which no subject is, or is seen to be, better suited to students with any specific characteristics. Equality is as much about equality of aspiration as it is about equality of opportunity. Furthermore, where practical impediments present obstacles to any particular group's participation or success, every effort has been made to ensure that mitigating action can be, or has been, taken.

As well as considering each subject individually, we have also given consideration to any potential cumulative impact of the changes across subjects. As we are confident that any possible adverse impacts identified in relation to individual subjects have appropriate means of mitigation, we have no reason to believe there will be any additional impact at the cumulative level.

Annex: DfE programmes to support effective teaching for pupils with SEN

The quality of teaching is central to ensuring that pupils with SEN and Disabilities are given the best possible opportunity to achieve good results in their GCSE and A level studies. As well as reforming qualifications, DfE is committed to supporting the development of teachers' skills in meeting SEN. These include:

- Ensuring all ITT programmes train teachers to teach both mainstream and pupils with SEND. In order to be awarded qualified teacher status (QTS), trainees must satisfy the Teachers' Standards, which include a requirement that they have a clear understanding of the needs of all pupils, including those with SEN, and are able to use and evaluate distinctive teaching approaches to engage and support them. Teachers themselves tell us that the quality of training for SEN is improving. The majority of new teachers rate this aspect of their training as good or very good and this proportion is consistently increasing. Over eighty per cent of both primary and secondary trained teachers who responded to the latest NQT survey reported that their induction had supported them to teach pupils with special educational needs in their classes (DfE, Annual NQT Survey 2014).

- Following Sir Andrew Carter's independent review of the quality and effectiveness of initial teacher training (ITT) courses, the Secretary of State appointed an independent working group made up of expert representatives from the sector to develop a framework of core ITT content. This includes considering Sir Andrew's recommendations around the SEND content of the proposed framework.

- We have also funded 10 Teaching Schools and their ITT partnerships, to initiate, develop and implement innovative additions to their training programmes, to enhance the skills and knowledge of SEN for prospective teachers. The outcomes of these test and learn projects will be reported on at the end of this year.

- We have developed specialist resources for initial teacher training through the National College for Teaching and Learning (NCTL) and advanced level online modules on areas including autism and speech and language needs, to enhance teachers' knowledge, understanding and skills.

- Between 2009 and 2014, we funded almost 11,000 new National Association for Special Educational Needs (Nasen) SENCOs to undertake the master's-level National Award for SEN Co-ordination.

- We have also awarded contracts totalling more than £2.5m a year to a number of sector specialists, including the Autism Trust, Communications Trust, Dyslexia SpLD

Trust and National Sensory Impairment Partnership (NatSIP) to support the implementation of the SEN reforms and provide information to schools and teachers.

- Nasen continues to run its SEND Gateway which was launched in May 2014. This is an online portal offering education professionals free, easy access to high quality information, resources and training for meeting the needs of children with SEN and disabilities. We are also funding Nasen (2015-16) to develop a free universal offer of SEN CPD for teachers including early years to post 16 which will meet the requirements of providing high quality teaching as described in the SEND Code of Practice. This will enable every teacher to access a package of online learning which takes an enquiry-based learning approach to effectively identifying and meeting the needs of children and young people with SEN.

- The Department is also supporting the charity AfA3As to make the highly successful Achievement for All (AfA) approach available widely. It now provides whole-school support to around 2000 schools to improve outcomes for pupils with SEN and disabilities. We are also supporting them to provide leadership support to an additional 1200 schools and online support to around 10,000 schools to plan and manage the reforms as well as to close the gap for children and young people with SEN.

- In 2014 and 2015 we provided £5.5m per year, to support a 10% increase in the number of training places for educational psychologists (132 per annum). This will increase to £6.1m per year, raising the number of training places further, to 150 in 2016 and again in 2017.

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