Reformed design and technology GCSE subject content

Government consultation response

November 2015

Contents

Introduction

On 1 July 2015 the Department for Education published a consultation on proposed content for design and technology GCSE.

The proposed GCSE subject content aims to provide students with more fulfilling and demanding courses of study.

The consultation sought views on the following questions:

1. whether the revised GCSE offers a suitable level of challenge

2. whether the content reflects what students need to know in order to progress to further academic and vocational education

3. whether the amount of content in the qualification is appropriate and, if not, whether you have any suggestions for removing or adding content

We also asked whether the proposals have the potential to have a disproportionate impact, positive or negative, on specific students, in particular those with 'relevant protected characteristics' and have addressed these issues in the equalities analysis document, which can be found on the Impact Assessment results page.

The consultation ran for 8 weeks until 26 August 2015. It received 382 responses from schools, further and higher education institutions, employers, subject associations and the general public. We also met regularly with subject associations to help us understand their expert views in more detail.

Ofqual, the independent regulator, consulted in parallel on assessment arrangements for the subject. Ofqual's response to its consultation is available on Gov.uk.

The department has considered the evidence gathered and has worked with subject experts, awarding organisations and Ofqual to publish final subject content.

Previous consultation

We consulted on a previous draft of design and technology GCSE content between 25 September 2014 and 20 November 2014. Following the feedback from that consultation, and from subject experts involved in the reform process, the decision was made to delay first teaching of the subject to enable more time to develop the content. Results from the first consultation are at annex A. The results from this first consultation informed the subsequent changes to the draft we consulted on in July, and these are referenced in our response below.

Overview of reforms

The government is reforming GCSEs so that they are more academically demanding and knowledge based, and so that they set expectations which match those of the highest performing countries.

Reforms to GCSE qualifications are already underway. New GCSEs started to be taught from September 2015 in some subjects, and further subjects will be taught from September 2016. [Revised content for these subjects has been published by the department.](#)

Content is being developed for a further set of GCSEs to be taught from 2017. Content is currently under consultation for some of these subjects.

Summary of responses received and the Government's response

This section sets out the views that we have heard in response to the consultation on revised design and technology GCSE content which ran from 1 July 2015. It also sets out the decisions that have been taken to finalise the content in this subject.

The written responses and the views expressed by subject experts during the consultation period and throughout the development process have been important in shaping and strengthening the content. The Department has also worked closely with Ofqual to ensure that the subject content can be regulated.

Some respondents who provided written responses to the consultation chose only to answer a subset of the questions that were posed. Throughout the report, percentages are expressed as a measure of those answering each question, not as a measure of all responses.

Some responses were relevant to Ofqual's parallel consultation on GCSE and A level regulatory requirements and assessment arrangements. These issues will be addressed by Ofqual in its consultation response and are therefore not reported here.

Of the **382** responses we received for this consultation:

- 329 were submitted directly from teachers
- 1 was submitted on behalf of a subject association
- 4 were submitted on behalf of higher education institutions
- 4 were submitted on behalf of schools

- 1 was submitted on behalf of a college

- 2 were from parents

- 4 were submitted on behalf of organisations representing school teachers and lecturers

- 6 were submitted on behalf of awarding organisations

- 3 were submitted on behalf of local authorities

- 2 were from employers/business sector

- 26 were submitted from 'other'

A full list of the organisations that have responded can be found at annex B.

Question analysis

Question one – whether there is a suitable level of challenge

There were 367 responses to this question.

	Total	Percent
Yes	293	55%
No	94	26%
Not sure	70	19%

The majority (203, 55%) of responses to this question were positive about the level of challenge, with a number of respondents providing positive comments around the increase in science, technology, engineering and mathematics (STEM), and the way in which the changes will ensure the subject is up to date and rigorous.

Sixteen respondents (4%) raised the issue of textiles not being adequately represented in the draft. Most respondents commenting on this issue felt that the content did not enable enough depth of material or process knowledge for textiles and, as a result, would not enable adequate progression to a textiles A level or further study in textiles. A number of teachers who responded indicated that they would move to teaching the new art and design: textiles GCSE as an alternative to delivering this content.

The majority of negative comments were around the change to a single title (44, 12%) and/or concerns that this would mean the content would be far too broad (58, 16%). Concerns on this issue included that a lack of specialism would make it difficult to progress to A level; that content would not be covered in enough depth; and that specialist teachers would be unable to cover unfamiliar content.

Conversely, four respondents who commented positively said that good teaching at key stage 3 would make accessing the new content a natural progression.

Question two – whether the content reflects what students need to know in order to progress to further academic and vocational education

There were 329 responses to this question.

	Total	Percent
Yes	162	49%
No	106	32%
Not sure	61	19%

The most common response (162, 49%) was that the content would allow students to progress to further education. As in question one, many of these responses explicitly commented that they were pleased about the increased focus on STEM.

Those respondents that answered negatively were focused either on concerns around textiles (18, 6%), around the single title (43, 13%) or the breadth issue (60, 18%) as outlined above. Many of the responses were similar to question 1, and raised concerns that the broader content would not offer enough depth of knowledge on individual materials to progress to further learning.

A small number (five, 2%) of respondents felt that the content was too demanding, with particular concerns around schools being able to deliver the qualification, especially smaller schools with less equipment/specialist knowledge.

Question three - whether the amount of content in the qualification is appropriate and, if not, whether you have any suggestions for removing or adding content

There were 314 responses to this question.

	Total	Percent
Yes	134	43%
No	108	34%
Maybe	72	23%

The most common response (134, 43%) to this question was that the content was appropriate in terms of its size.

A number of people made suggestions for additional content. For example, seven respondents felt that there needed to be more reference to CAD-CAM. Two respondents felt that number systems needed to be included. Five respondents expressed some confusion around the inclusion of both products and prototypes.

Of the negative responses, as with previous questions, concerns were focused on the amount of content that would need to be covered – and 53 respondents (17%) felt that the content was too broad. 12 (4%) respondents were concerned about specialist teachers' ability to cover the unfamiliar content, and 15 (5%) raised concerns around the costs to schools to deliver this.

As with previous questions, a number of respondents (43, 7%) raised concerns about textiles not being adequately covered in the content.

Government response

Following careful consideration of the responses to the consultation we asked our expert drafters to work with subject experts, awarding organisations and Ofqual to strengthen the design and technology content. Feedback from both consultations focused on the decision to change the subject from a number of specialist titles under the design and technology 'umbrella' to a single, design and technology qualification with no individual titles. We understand that this is a major change to the subject, but it is a change that subject experts have told us is fundamental to bringing the subject up to date. The content now emphasises the iterative design processes that all students should understand and be able to demonstrate and which is at the core of contemporary practice. It will allow both breadth and depth of knowledge, without limiting students on the materials they can work with, enabling them to make choices appropriate to their design, rather than creating a design around a particular material. Changes have been made to the content to set out with absolute clarity the split between breadth and depth of study as set out in more detail below, and to respond to concerns that the change to a single title would mean depth of study would be lost. By ensuring students know and understand this core process, the new qualification will better prepare students for further study and careers in design.

A number of textiles teachers were concerned that the textiles content was not sufficient. Since the second consultation, the content has therefore been revised to ensure the appropriate balance between breadth of core knowledge and depth of study in particular areas. The content is clear that whilst students will still be able to work, in depth, within a chosen context – and this could mean a focus on textiles – in their made project, the aim of the contextual challenges is to allow students to apply the knowledge they have studied in a 'real-world' design context, without being constrained by a narrow range of material options.

In the original consultation, many respondents were concerned at the lack of focus on science, technology, engineering and maths (STEM) content. The revised content we consulted on therefore included strengthened technical requirements and now sets out, with greater clarity, the minimum mathematical and scientific knowledge that all students must be able to apply when studying design and technology. Responses to the revised draft in the second consultation were positive about this increased level of STEM content.

In response to specific comments in the second consultation, the reference to 'product and prototype' was also amended to 'prototype' throughout the document to ensure clarity around the final made outcome. The content was reviewed to ensure the full range of core technical knowledge has been adequately represented.

Overall, the changes we have made signify a significant reform from previous content and this may concern some teachers, many of whom will have a great deal of experience in the subject. Therefore, we have worked very closely with awarding organisations and the Design and Technology Association to understand the implications of the reforms. Certainly, as with all reformed GCSEs, there will be content which is new for many teachers, and design and technology departments will need to plan ahead to equip themselves with new knowledge, understanding and skills. This is also why we are publishing this content ahead of other 2017 subjects to enable schools to have as much lead-in time with new specifications as possible, to prepare for first teaching.

We believe that this new expertise will complement, not replace, the existing expertise that design and technology teachers already have. It will provide the context for enabling students to approach their work in new and exciting ways – drawing upon a broader understanding of design principles and materials and encouraging them to be more creative and innovative as a result. Within that context, students will still need to develop an in depth understanding of particular materials, tools and techniques and the existing expertise of design and technology teachers will be critical to that understanding.

Conclusion

We are grateful to all those who responded to the consultation and to those individuals who have worked with the Department to finalise subject content for these subjects. We believe that the changes made in response to the consultation appropriately address the issues raised and that the content we have published will provide young people with the high quality qualifications they deserve.

Annex A: Results of original consultation

Question 1 (c) - Is the revised GCSE content in design and technology appropriate?

	Total	Percent
Yes	38	17%
No	139	63%
Not sure	42	19%

Of the **219** people who responded to the consultation, the majority, 139 (**63%**) felt that the proposed content was not appropriate, with the rest of the respondents split fairly equally between 'yes' and 'not sure'.

The main issues raised were around the proposal to create a single D&T title– **75 (34%)** respondents were concerned that the move away from separate titles based on material areas would mean a watering down of knowledge, and greater focus on breadth being achieved at the cost of depth of study.

There were concerns that the lack of specialism at GCSE would mean students would not be able to progress to their chosen fields at A level/HE, and that HEIs/colleges would not understand the knowledge that had been covered in a single title as they do currently with separate specialist titles. Most respondents who commented on this issue were concerned that as a specialist teacher, they would require extensive CPD to enable them to teach the core subject effectively. Many respondents linked the lack of specialism leading to an eventual decline in schools employing D&T teachers as pupil numbers would likely drop.

There were concerns around the pressures the proposed changes would put on school resources from **25 (11%)** of respondents - for example, because of the need to have a multi-functioning workshop to cover the wider breadth of study.

49 respondents **(22%)** raised the issue of STEM not being appropriately covered in the proposed content, with many respondents concerned about the focus on design meant a decreased focus on technology, and that vital technological or engineering knowledge would be lost. Many felt this would have a detrimental effect on the UK PLC as we are lacking people with these skills in the current job market.

27% of respondents raised concerns around the proposed 'areas of interest', with many suggesting these were inflexible by mirroring too closely current material areas or being concerned that there was a lack of comparability between the areas. Many felt these suggested focus areas were uninspiring and lacking in challenge. Some respondents mentioned the APPG in Engineering's proposed areas of study as a more effective list of focus areas.

Annex B: list of respondents to the consultation on design and technology

AQA

Archbishop Tenison's CofE High School

BCHS

Belfairs Academy

Berkhamsted School

Beverley Grammar School

Birkdale senior school

Blatchington Mill School

Blenheim High School Epsom

Bournemouth School for Girls

Buckinghamshire County Council

Burnham School

Cardinal Hume Catholic School

Carmel Priory School

CBEC

Christleton High School

City of London School for Girls

CJ learning Ltd

Collingwood College

Colton Hills Community School

Cooper School

Cranbourne school

Creative Skillset

David Lister School

Debenham High School

EDS

Engineering the Future/Education for Engineering

Ermysted's Grammar School

Goffs school

Harris Academy Bromley

Harwich and Dovercourt High School

Haywood academy

Heartlands High School Helston Community College

Henry Box School

Highcliffe School

HMSG

James Dyson Foundation

Jumeirah English Speaking School, Dubai

Kesteven and Sleaford High School Selective Academy

Kimberley School

Kings college school

Kingstone High School

Kingswood School

Launceston College

Lavington School

Lawrence Sheriff School

Leeds Beckett University

Leventhorpe School

Lordwilliams's School

Lytham St. Annes

Magdalen College School

Mascalls Academy

Mortimer Coll

New Wave Concepts Limited

Northgate High School

Nottingham Trent University

Oaklands Catholic School and Sixth Form

Oaklands School

OCR (Oxford Cambridge and RSA Examinations

Oriel High School

Our Lady's Convent High School

Park House School

Penair School

Penrice Academy

Pershore High School

Pittville School

Practical Action

Priory School

QE School

Lavington School

Lawrence Sheriff School

Leeds Beckett University

Leventhorpe School
Lordwilliams's School
Lytham St. Annes
Magdalen College School
Mascalls Academy
Mortimer Coll
New Wave Concepts Limited
Northgate High School
Nottingham Trent University
Oaklands Catholic School and Sixth Form
Oaklands School
OCR (Oxford Cambridge and RSA Examinations
Oriel High School
Our Lady's Convent High School
Park House School
Penair School
Penrice Academy
Pershore High School
Pittville School
Practical Action
Priory School
QE School
Queen Elizabeth's
Ridgeway School
Sacred Heart High School
Saint Cecilia's
Sawtry Community College
Stover School
Sew-It fashion Technology
Silverdale Secondary School, Sheffield.
Sir Bernard Lovell school
St Mary's, Menston
St Michaels High School
St Peter's School
STEM consultant
Steyning Grammar School
Stowe School
Stratford Girls' Grammar School

The Textile Institute
The 6th Form College Farnborough
The All Party Parliamentary Design and Innovation Group
The Design and Technology Association
The Douay Martyrs school, Ickenham
The Latymer School
The Making Project
The Regis School
The Taunton Academy
The Westgate School
Trinity School
Ulverston Victoria High School
University of Cambridge & Eton College
Uxbridge High School
Waldegrave School
Welland Park Academy
Wilmslow High
WJEC
Wootton Upper School
Yardleys School

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