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The impact of the introduction of Progress 8 on the uptake and provision of qualifications in English schools

Research Report

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Introduction

The recent introduction of new accountability measures in English schools, such as Progress 8, may have had an impact on the qualifications and subjects taken by students and offered by schools in England. The main headline measure by which schools are judged has been changed from the proportion of students achieving 5 or more GCSE grades A* to C (including English and maths) to a measure of the progress made by students between the end of primary school and the end of Key Stage 4. The new measure is based on performance in the best 8 subjects, which must include English and maths and at least 3 'EBacc' subjects. Schools were first subject to this new accountability measure in the 2015/16 academic year. This research investigates whether any effect has been found to date, in terms of changes to uptake and provision of different qualifications and subjects, and considers what the impact might be in the future.

The new measures – Attainment 8 and Progress 8

The introduction of Attainment 8 and Progress 8 was announced by the Department for Education in October 2013 (DfE, 2016). These new measures replaced the previous headline measure (the proportion of students achieving 5 grades A* to C at GCSE including English and Maths) and were meant to overcome some drawbacks of this measure. Firstly, there was felt to be too much focus by some schools on students around the grade C boundary, possibly at the expense of other students. The new measures are based on performance (average grade) in the best 8 qualifications, so should no longer be subject to this issue. Secondly, the previous accountability measures took no account of the background of students in a school. Progress 8 is a value-added measure, so takes account of the prior attainment of the students entering the school. It is now the main measure by which schools are ranked in the league tables.

In order to calculate Progress 8 for a school it is first necessary to generate a measure of each student's achievement in their best 8 qualifications, across the following three elements:

1. EBacc qualifications in maths and English
2. Three other EBacc subjects, from a choice of science subjects, computer science, history, geography or languages¹
3. Three 'other' qualifications, which can either be other EBacc qualifications, or can be from a DfE approved list, which include non-EBacc GCSEs as well as vocational qualifications²

This measure of achievement is known as Attainment 8 and is calculated as the total points score from all qualifications taken that meet these criteria (up to a maximum of 8 qualifications). Maths and English are double weighted in the calculation (although for English this is only the case if the student takes both English Language and English Literature, with the best grade double weighted). Students are allowed to take more than

¹ For a full list of EBacc subjects and qualifications see <https://www.gov.uk/government/publications/english-baccalaureate-eligible-qualifications>

² For a full list of approved vocational subjects and qualifications see <https://www.gov.uk/government/publications/vocational-qualifications-for-14-to-19-year-olds>

three EBacc subjects, with any over three being included in the 'other' element (as long as they are in the best 8 grades). Points scores for GCSEs are on a 1 to 8 scale (1=G, 8 = A*).

Progress 8 is calculated at student level by comparing achievement on the Attainment 8 measure with the average Attainment 8 score for students with the same prior attainment (as measured by the average Key Stage 2 (KS2) fine level for English and Maths). For example, if the mean Attainment 8 score for students with an average KS2 fine level of 5.1 was 59.3 points, then a student with a score of 67 would have a Progress 8 score of $(67-59.3)/10 = 0.77$. The total points score is divided by 10 to reflect the fact that Maths and English scores are double weighted³. A score of 0.77 means that the student achieved an average of three quarters of a grade better per subject than students with the same prior attainment. A school's Progress 8 score is just the average of their students' Progress 8 scores.

The floor standard, which is the minimum standard that schools should meet, is determined by the Progress 8 measure. A school with a Progress 8 measure of below -0.5 (and with the upper bound of the 95% confidence interval below 0) is deemed to be below the floor standard and may be subject to further scrutiny from Ofsted.

Other changes to accountability measures

The focus of this report is on changes to the uptake of qualifications and subjects in the last year, following the introduction of Progress 8. However, to provide some context and to give an indication of long term trends, results will be presented for all years from 2007/08 onwards. This time period includes some other important changes to accountability measures, such as the introduction of the English Baccalaureate (EBacc) performance measure in 2010 and the change to eligibility of qualifications following the publication of the Wolf review of vocational education (Wolf, 2011).

Data and method

Data was taken from the National Pupil Database (NPD) from each year between 2007/08 and 2015/16. The NPD is held by the Department for Education and consists of examination results for all students in all qualifications and subjects in schools and colleges in England, as well as student and school background characteristics such as age, gender, ethnicity and level of deprivation. Only qualifications that were eligible for league tables were included in the analysis. Any re-sits in the same subject and qualification were excluded, as we are interested in changes to uptake (and provision) of qualifications and not how many times the qualifications are taken. Data from independent schools, FE colleges, sixth form colleges and special schools were excluded, as these schools are not subject to the same accountability measures (at the end of Key Stage 4) as state-maintained schools and therefore have less incentive to alter their behaviour following changes to league tables.

The definition of uptake of a qualification (or subject) is whether or not a student who is at the end of KS4 in a particular year has taken the qualification at some point. Therefore qualifications taken in previous years are counted. E.g. if a student who was at the end of KS4 in 2015/16 took a GCSE in Core Science in year 10 (i.e. academic year 2014/15) then this counts as uptake in the 2015/16 data, rather than the 2014/15 data. This is for two

³ However many eligible qualifications are taken the total score is always divided by 10, so it pays for students to fill as many slots as possible.

reasons: firstly, students only appear in the NPD for a particular year if they are at the end of KS4; secondly, this method mirrors the calculation of Progress 8, which uses performance of students at the end of KS4 (including qualifications taken in previous years).

Similarly, the provision of a qualification in a particular year is defined as the proportion of centres where at least one student who was at the end of KS4 in that year took the subject in question at some point.

As well as an overall analysis of changes to uptake and provision, this research also investigated changes in different groups of schools. For this analysis schools were classified by school type, by attainment and by deprivation.

School type

Schools were classified using Edubase (the Department for Education's register of educational establishments) into three main categories in each year: comprehensive, secondary selective (grammar) and secondary modern. Schools which converted to an Academy (either before or during the period investigated) were included in their original categorisation because these retain their original admissions policies (e.g. Academies that were originally grammar schools still have a selective admissions policy).

To give an indication of the numbers in each category, Table 1 displays the number of schools (and students attending them) in each of the main three school types in 2015/16. The proportion of each school type was similar in each of the other years.

Table 1: Numbers of schools and students in each school type (all schools, 2015/16)

School type	No. of schools	% of schools	No. of students	% of students
Comprehensive	2,824	90.8	489,043	92.1
Secondary Selective	163	5.2	22,582	4.3
Secondary Modern	122	3.9	19,109	3.6

Thus, over 90% of the schools included were comprehensives and this accounts for 92.1% of students.

School attainment level

The average attainment within a school can be an important factor when decisions are made about which qualifications to offer. A school level attainment variable was created by calculating the school mean of the students' KS4 mean points scores⁴ (in each year). This was then used to classify schools (within each year) into one of three equally sized groups ('Low', 'Medium' or 'High').

Table 2 displays the number of schools, the number of students and the mean, minimum and maximum of the school average KS4 points score in each attainment group for the 2015/16 academic year.

⁴ This is calculated by assigning a points score to the grade achieved in each qualification (e.g. for GCSEs an A* grade is worth 8 points, an A grade 7 points and so on) and then averaging this score across all qualifications taken by a student.

Table 2: School attainment ranks (2015/16)

School attainment	No. of schools	No. of students	Mean	Minimum	Maximum
Low	1,038	154,556	4.2	1.2	4.7
Medium	1,039	184,216	4.9	4.7	5.1
High	1,039	192,300	5.7	5.1	8.0

School deprivation level

The income-related deprivation experienced by students was measured using the Income Deprivation Affecting Children Index (IDACI), which is reported for most students in the NPD. This measure indicates the proportion of children living in the immediate neighbourhood who are in low income families⁵. Thus, it varies from 0 to 1.

As with the attainment measure, this measure was recorded for each student and an average calculated for each school. Schools were then categorised into three equally sized groups ('Low', 'Medium' or 'High'). This measure was missing for some students and the school level measure was only calculated for schools where at least 50% of students did not have missing data.

Table 3 displays the number of schools, the number of students and the mean, minimum and maximum of the school average deprivation score in each attainment group for the 2015/16 academic year.

Table 3: School deprivation ranks (all schools, 2015/16)

School deprivation	No. of schools	No. of students	Mean	Minimum	Maximum
Low	1,034	191,271	0.11	0.03	0.15
Medium	1,034	173,957	0.20	0.15	0.26
High	1,034	165,773	0.37	0.26	0.71

In the following analysis changes to the overall volumes of qualifications over time will be investigated to give some context. However, the main interest is in changes to qualifications eligible for the Progress 8 measure. This will focus on qualifications eligible for each of the three groups that comprise the Progress 8 measure (English and Maths, EBacc qualifications and 'other' qualifications) and also on qualifications which are not eligible for Progress 8.

⁵ For further information on IDACI calculation, including definitions of children, families, and income deprivation, see <https://www.gov.uk/government/publications/english-indices-of-deprivation-2015-technical-report>

Results

Uptake of qualifications and subjects

Figure 1 presents the average number of qualifications (eligible for inclusion in league tables) taken by students between 2007/08 and 2015/16. This is measured in two different ways: firstly, a raw count of qualifications taken; secondly, a sum of qualifications in terms of GCSE sizes (e.g. a BTEC equivalent to three GCSEs).

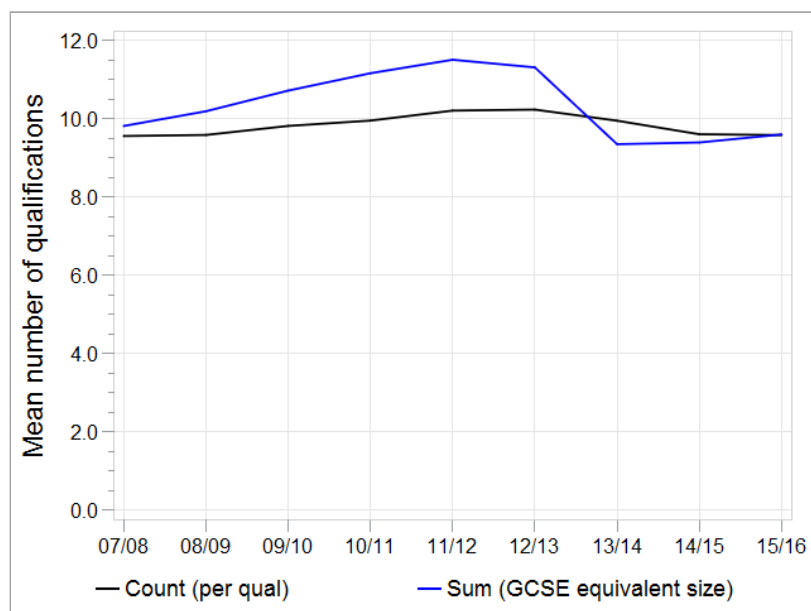


Figure 1: Mean number of qualifications taken (2007/08 – 2015/16)

This shows a steady increase in the average number of qualifications taken between 2007/08 and 2012/13, followed by a fall in the last three years. The average was highest in 2012/13 (10.3), but fell to 9.7 in 2015/16. This fall is likely to be mainly due to the outcomes of the Wolf review, with many vocational qualifications being excluded from league tables. Note also the much larger fall in the average number in terms of GCSE equivalents. This is again due to the Wolf review, with no qualifications permitted to be equivalent to more than one GCSE from 2013/14 onwards.

These volumes can be broken down further into types of qualifications. The uptake of GCSEs, which make up a large majority of the qualifications, is shown in Figure 2. The mean number of GCSEs amongst all students fell between 2007/08 and 2010/11 before increasing somewhat in more recent years. There was a slight increase in 2015/16 (from 7.8 to 8.0), which may be related to Progress 8.

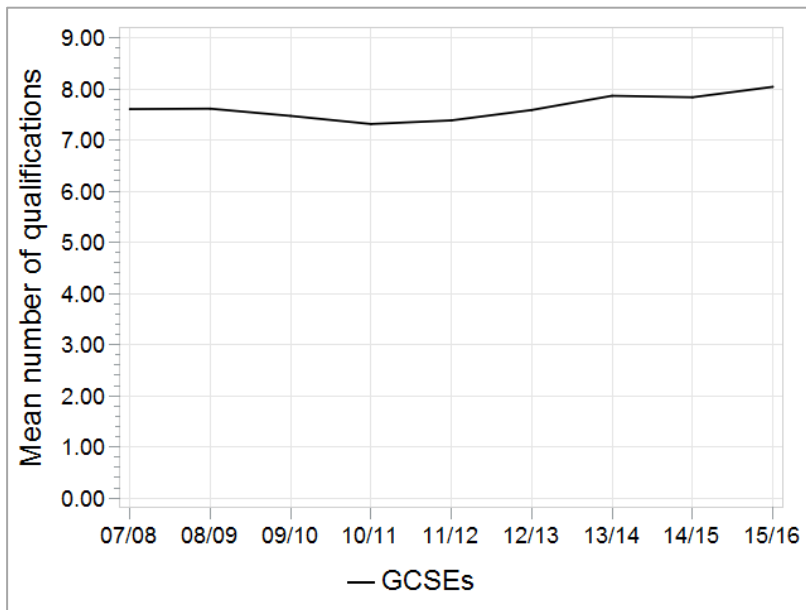


Figure 2: Mean number of GCSEs taken (2007/08 – 2015/16)

Figure 3 presents the uptake of the main other qualifications which at some point in the period were eligible for league tables. However, only some of these were eligible for inclusion in Progress 8. The qualifications are classified using the NPD categorisations.

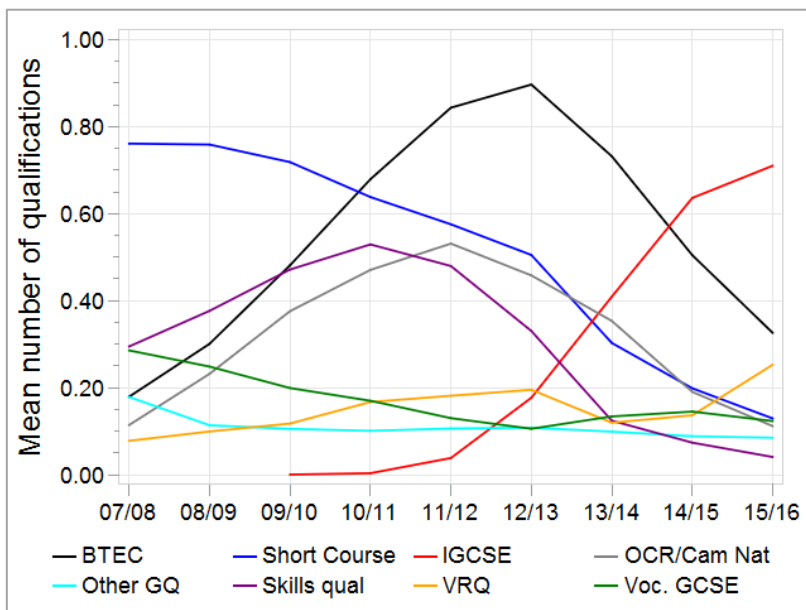


Figure 3: Mean number of non-GCSEs taken (2007/08 – 2015/16)

Several qualifications had big falls in uptake in recent years, particularly BTECs, OCR / Cambridge Nationals, GCSE Short Courses and Skills qualifications (which include Key Skills, Basic Skills and Functional Skills). These are likely to be partly a response to the league table changes following the Wolf Review, which led to a big reduction in qualifications eligible for league tables. The decline in these qualifications continued in 2015/16, but without any evidence that they have been affected by Progress 8.

Perhaps the most significant change in 2015/16 was the big increase in entries to VRQs (Vocationally Related Qualifications). On further inspection the increase was found to be mainly in qualifications in digital literacy known as European Computer Driving Licence (ECDL). These are controversial qualifications which some schools were apparently teaching to students in just a few days (Schools week, 2015). These have been dropped from inclusion in league tables from 2018/19 onwards so we would expect uptake of them to fall.

Progress 8 qualifications

Figure 4 shows the percentage of students who took the required number of each type of qualification for the full Progress 8. This shows that, from 2010/11 onwards the percentage increased quite steadily, which is likely to be partly due to the introduction of the EBacc performance measure. As expected there was a big increase in 2015/16 (up from 66.9% in 2014/15 to 80.6%). However, as this leaves nearly 20% of students who did not enter for the full Progress 8 it also suggests there is still room for increases in uptake of qualifications (although there will always be some low ability students who will be unlikely to take enough qualifications to fill their Progress 8 slots).

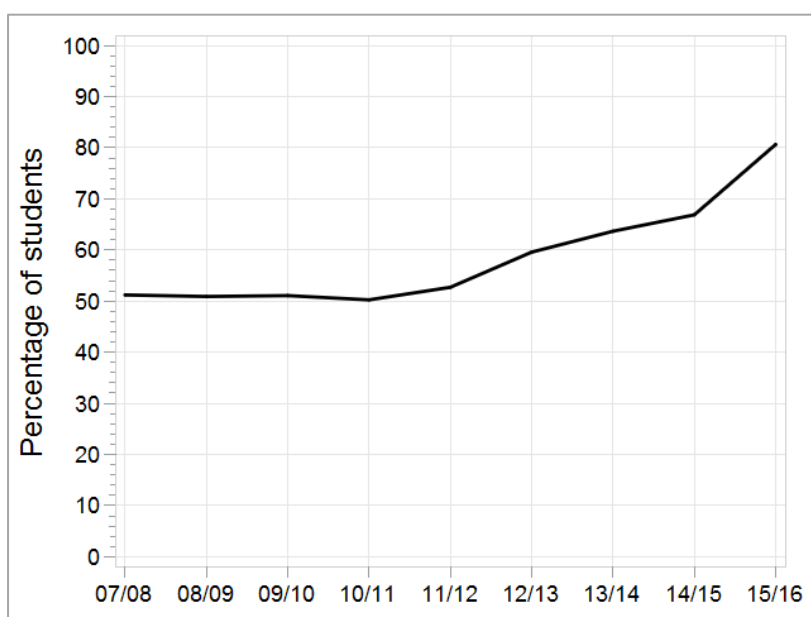


Figure 4: Percentage of students filling all Progress 8 slots (2007/08-2015/16)

Looking in more detail at the students who did not fill all their slots in 2015/16, Table 4 presents the numbers filling or not filling either the EBacc slots or the 'Other' slots.

Table 4: Students not filling all their Progress 8 slots

Filled EBacc slots?	Filled 'Other' slots		Total
	No	Yes	
No	21,230	72,277	93,507
Yes	8,652	648	9,300
Total	29,882	72,925	102,807

This shows that almost all (91%) of these students failed to fill all of their EBacc slots, of which about 23% also failed to fill their 'Other' slots. About 8% did fill all their EBacc slots, but failed to fill all their 'Other' slots (with the remainder not filling either their English or maths slot). Thus, most students were short of EBacc qualifications, rather than 'Other' qualifications.

Around 50% of these students were only short of filling all their slots by one EBacc qualification. In other words there were a lot of students who could have maximised their Progress 8 scores by entering one more EBacc qualification (as long as they achieved a grade higher than 'U').

The remainder of the analysis compares the uptake of qualifications in the three Progress 8 groups (English and maths, other EBacc and 'other') and uptake of qualifications not eligible for Progress 8.

English and Maths qualifications

As the National Curriculum already requires schools to offer English and maths qualifications to all students, we would expect the proportion of students taking these qualifications to change very little with the introduction of Progress 8. However, within English subjects there was some choice in 2015/16, with students able to take either separate qualifications in English language and English Literature, or a combined qualification (although the combined qualification will no longer be available after 2015/16). Furthermore, if both English language and English Literature are taken the highest grade counts in the Progress 8 measure and is double weighted. If only one of these is taken then it will not be double weighted. The eligibility rules may therefore have an impact on uptake.

Figure 5 presents the percentage of students taking each of the different English qualifications (eligible for Progress 8).

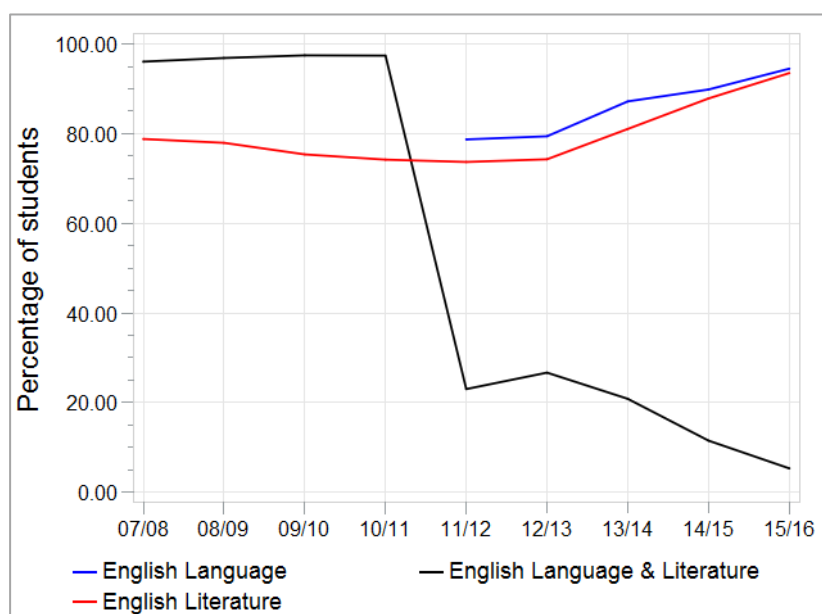


Figure 5: Mean number of English qualifications taken (2007/08-2015/16)

This shows that in the last three years there has been a steady increase in uptake of both English Literature and English Language and a steady decrease in uptake of the combined qualification. The fact that in 2015/16 almost all students took both English Language and English Literature may be partly due to the introduction of Progress 8 (with the requirement to take both in order to get the double weighting). Previously, lower ability students would have been more likely to take either the combined qualification or English Language only.

EBacc, 'Other' qualifications and non-eligible qualifications

Figure 6 presents the mean numbers of qualifications: i) eligible for the EBacc slots (excluding English and Maths); ii) eligible for the 'other' slots and; iii) not eligible for Progress 8.

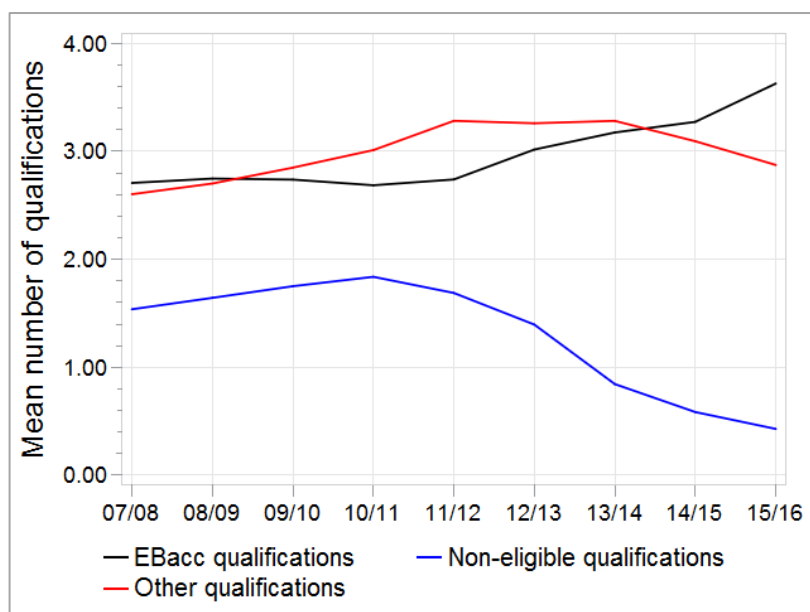


Figure 6: Mean number of qualifications taken, by qualification type (2007/08-2015/16)

Whilst the number of EBacc qualifications has been increasing for a few years, the introduction of Progress 8 seems to have provided an extra boost in 2015/16 (increasing from 3.2 to 3.6). Meanwhile the mean number of qualifications eligible for the 'Other' slots fell in both of the last two years. This suggests that students are generally already taking enough 'Other' qualifications to fill the Progress 8 slots, but are short of EBacc qualifications.

The uptake of qualifications not eligible for Progress 8 has been falling since 2010/11 (likely to be due to previous changes to league tables). This trend continued following the introduction of Progress 8.

Given that the Progress 8 measure requires students to take at least three EBacc subjects (excluding English and Maths) it is interesting to consider how many of these subjects students take. Figure 7 presents the percentage of students taking each number of EBacc qualifications.

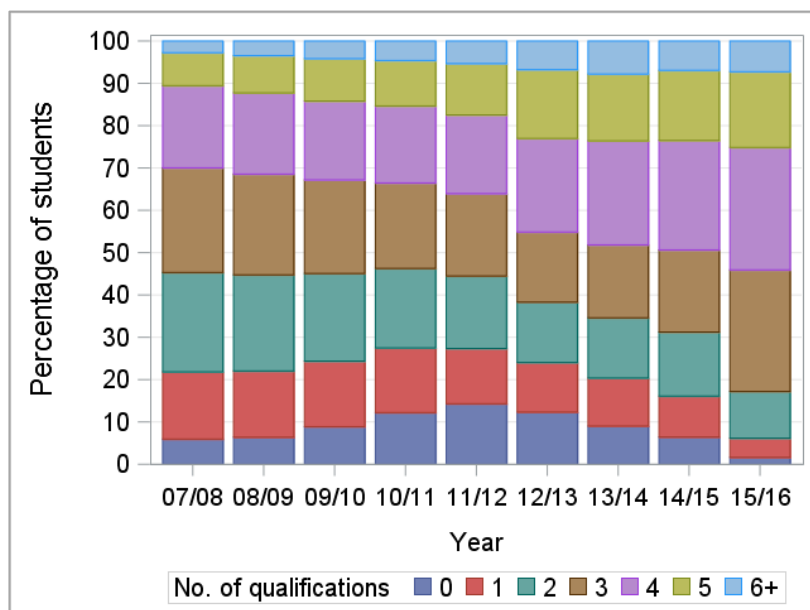


Figure 7: Distribution of the number of EBacc qualifications taken, excluding English and Maths (2007/08-2015/16)

The trend since 2010/11 is for increasing numbers of students taking at least 3 EBacc subjects, probably due to the introduction of the EBacc performance measure and the outcomes of the Wolf report. However, there was also a clear jump up in 2015/16, with 82.8% taking at least 3, compared with 68.8% in 2014/15. This is likely to be a consequence of Progress 8. It is interesting that this still leaves almost 20% who did not take the required number of EBacc qualifications.

Figure 8 presents the percentage of students taking the most popular EBacc subjects.

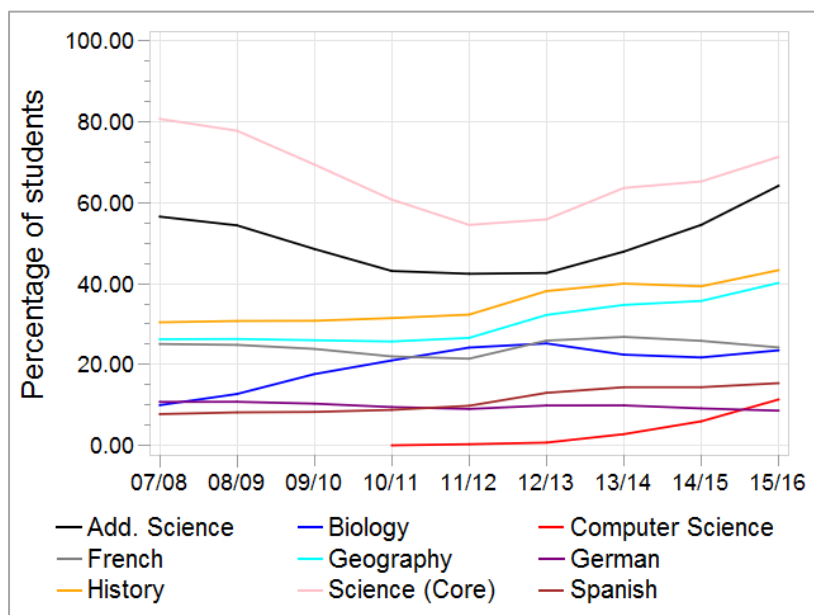


Figure 8: Percentage of students taking EBacc subjects (2007/08-2015/16)

For the separate sciences only Biology uptake is included, as uptake of Chemistry and Physics is almost identical (i.e. if you take one you are very likely to take all three). Since 2012/13 uptake of EBacc qualifications in Core and Additional Sciences, Computer Sciences, History and Geography have been increasing. However, each of these seemed to have an extra boost in 2015/16, which is likely to be due to the introduction of Progress 8. In particular some schools may have switched over to Core / Additional Sciences from BTEC Applied Sciences (which is not an EBacc subject). Interestingly there was no similar increase in uptake of separate sciences or modern foreign languages, which may be due to the perception that these subjects are harder than many other GCSEs. Unlike the EBacc performance measure, there is no requirement to enter for a language to fill the EBacc slots in Progress 8.

Progress 8 allows for three non-EBacc qualifications to be counted. It is possible therefore that there will be increases in uptake of qualifications in the 'Other' category following the introduction of Progress 8. However, it should be noted that for a lot of students some of the three spaces will be taken up by EBacc qualifications anyway.

Figure 9 presents the distribution of the number of 'other' qualifications eligible for inclusion in Progress 8. English qualifications for students taking both English language and English literature are not included in this figure. As mentioned in the introduction, students taking both English language and English literature can only count the best grade as part of the English and maths slot, but are allowed to include the other English qualification as part of the 'other' slot.

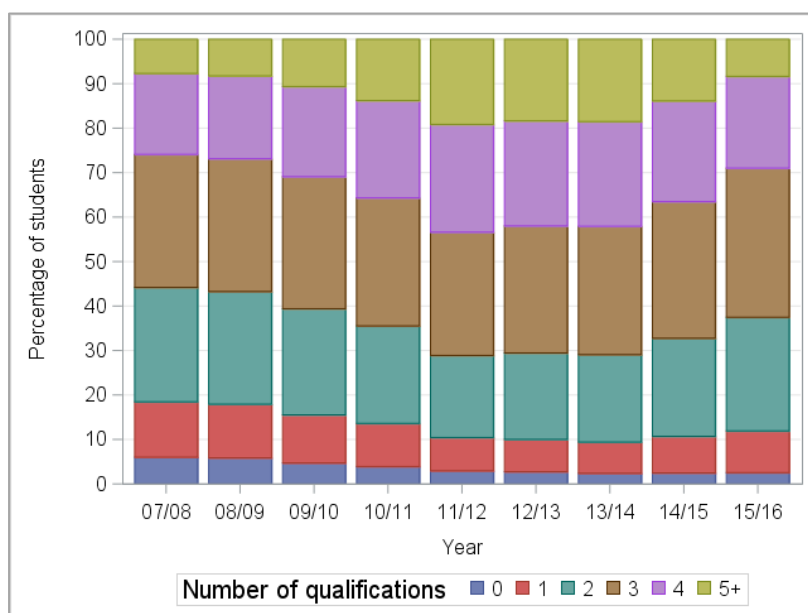


Figure 9: Distribution of the number of 'other' qualifications taken (2007/08-2015/16)

Since 2013/14 there has been a significant fall in those taking 5 or more of these qualifications, and an increase in the numbers taking one or two. In terms of the numbers taking at least 3 this has fallen from 70.9% in 2013/14 to 62.5% in 2015/16. This may be in part due to increasing uptake of EBacc qualifications.

The subjects in the 'Other' group can be divided up into GCSE and non-GCSEs. Figure 10 presents uptake of the most popular GCSE subjects eligible for the 'Other' slots.

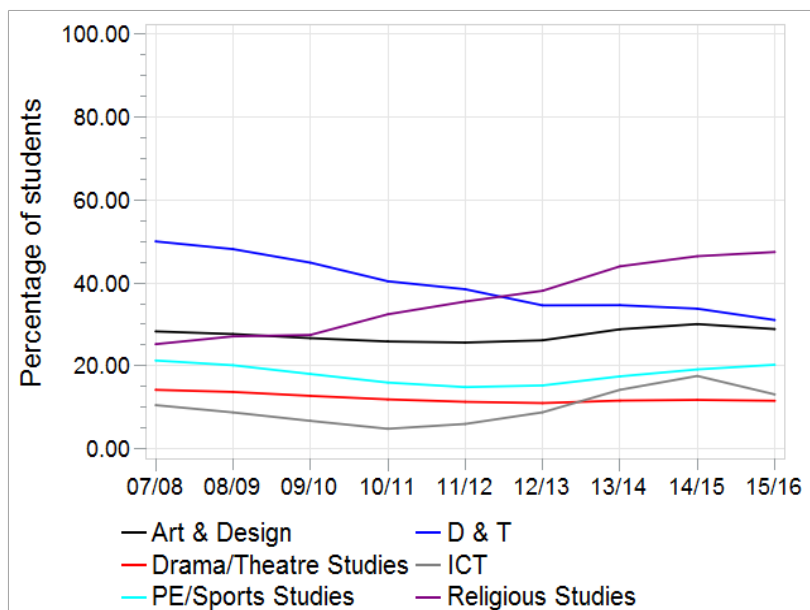


Figure 10: Percentage of students taking non-EBacc GCSEs (2007/08-2015/16)

For most of these subjects there was little change in uptake in 2015/16. The uptake of GCSE religious studies increased steadily over the period, whilst uptake of D & T declined throughout. However, the subject that seemed to be most affected by Progress 8 was GCSE ICT, which had increasing uptake until 2014/15 before a big decrease in 2015/16. This is probably because there is an alternative GCSE in Computer Science which is now eligible for the EBacc slots. There was an increase in entries in this subject in 2015/16 (see Figure 8).

Figure 11 presents the uptake of most popular non-GCSEs eligible for the 'Other' slots. Many of these qualifications have seen decreases in entries since around 2011/12/13. Particularly big falls were seen in uptake of the OCR / Cambridge National in ICT and BTEC in Applied Sciences. These may be partly a consequence of Progress 8, as other similar qualifications are eligible for the EBacc slots (e.g. GCSEs in Core Science and Computer Science). The subject that increased in uptake over the past two years (a VRQ in Computer Appreciation / Introduction) is the ECDL mentioned earlier in this report.

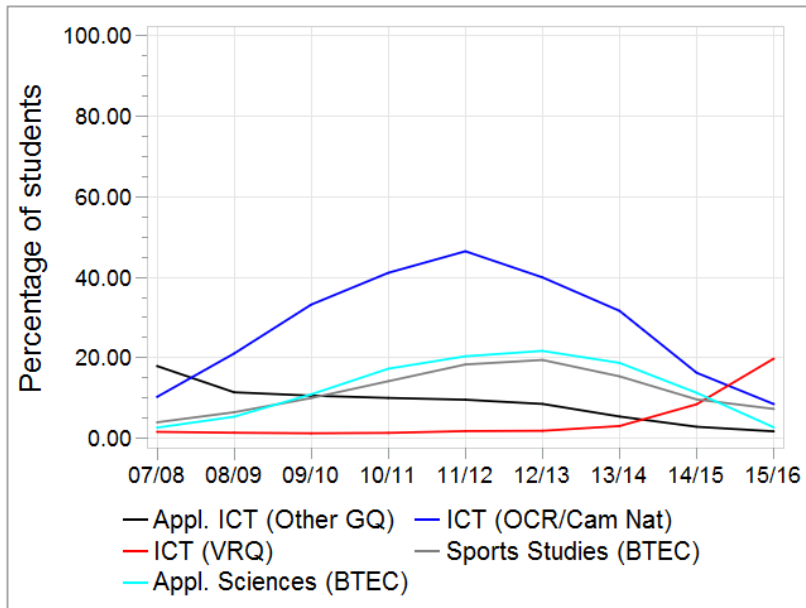


Figure 11: Percentage of students taking 'Other' subjects (2007/08-2015/16)

Finally in this section, Figure 12 presents the uptake of the most popular subjects which are not eligible for Progress 8. Not surprisingly, uptake of all of these has been falling in recent years.

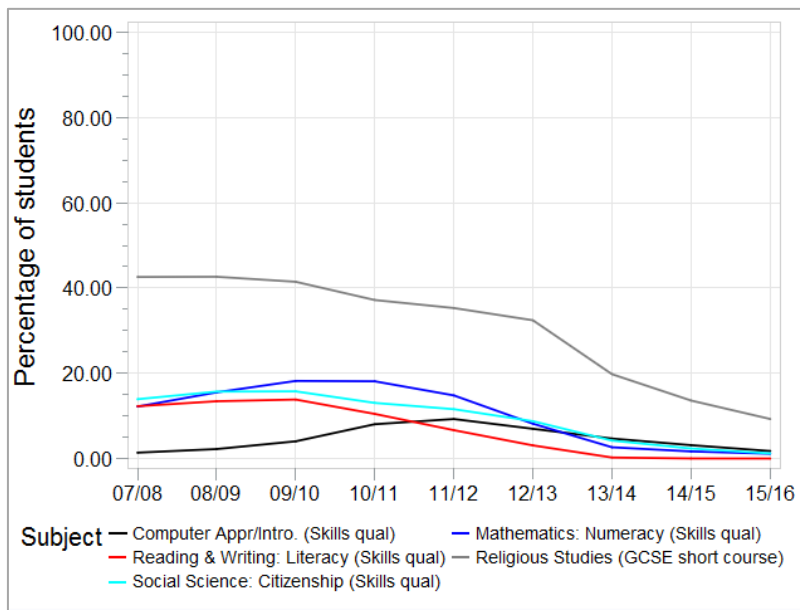


Figure 12: Percentage of students taking non-eligible subjects (2007/08-2015/16)

Uptake by school factors

Figure 13 presents the percentage of students achieving full Progress 8 entries, by school type. This shows that that almost all selective schools students would have taken the required qualifications to fill their Progress 8 slots in each year. In contrast the percentages for comprehensive or secondary modern school students were much lower at the start of the period before increasing since 2010/11. The increase in percentage of students in 2015/16

(likely to be due to Progress 8) was clearly only in comprehensive and secondary modern schools.

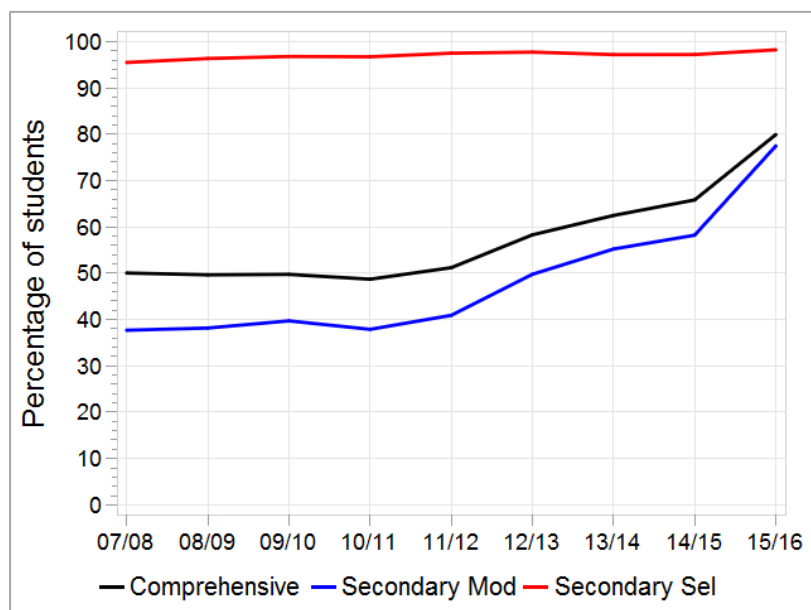


Figure 13: percentage of students achieving full Progress 8 entries, by school type (2007/08-2015/16)

Figure 14 presents the average number of EBacc and ‘Other’ qualifications taken by students in different school types.

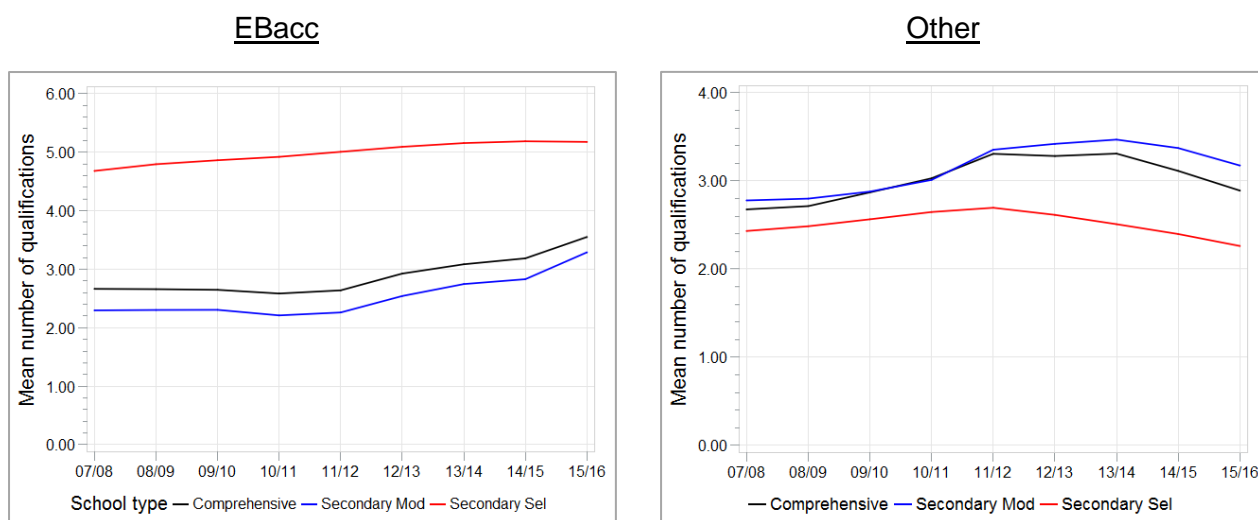


Figure 14: Mean number of EBacc and Other qualifications taken, by school type (2007/08-2015/16)

The overall increase in uptake of EBacc qualifications since 2011/12 (and particularly in 2015/16) is almost all in comprehensive and secondary modern schools, with uptake in secondary selective schools barely changing. Again, this is likely to be because most selective school students take the required number of EBacc qualifications already. In terms of the uptake of ‘Other’ subjects, these have fallen in all school types in the last two years, although slightly more in comprehensive schools than in other school types.

Students in selective schools took many more EBacc qualifications on average and slightly fewer other subjects.

Figure 15 presents the percentage of students with full Progress 8 entries, by school attainment group. All three groups show an increase in 2015/16, but this is larger in the low and medium attaining schools, which is likely to be because the percentages were much lower in these schools in previous years than in high attaining schools. In 2015/16, students in high attaining schools were still most likely to enter for the full eight qualifications, probably reflecting the fact that more able students tend to take more qualifications (and are more likely to take several EBacc qualifications).

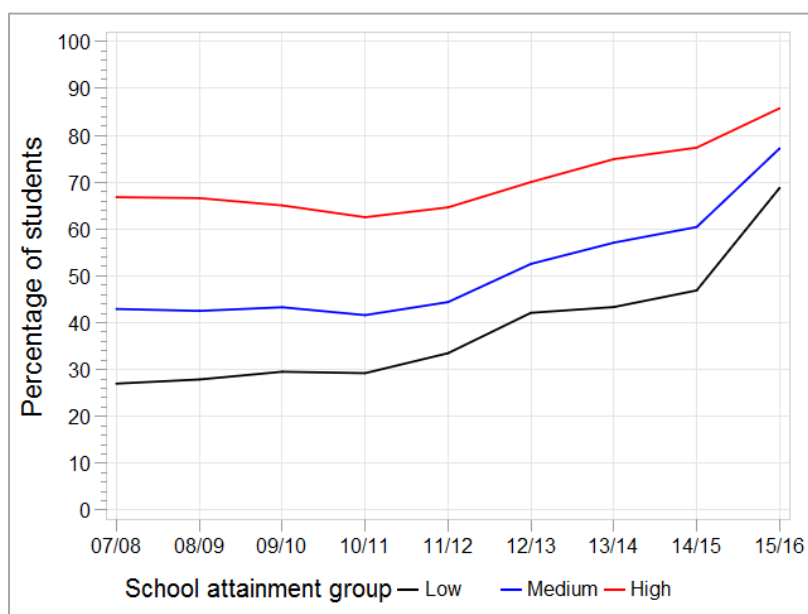


Figure 15: percentage of students achieving full Progress 8 entries, by school attainment group (2007/08-2015/16)

Figure 16 presents the mean number of qualifications eligible for the EBacc and Other slots taken by students, by school attainment group. Uptake of EBacc qualifications increased more in low and medium attaining schools than in high attaining schools in 2015/16. This is likely to be because these schools had to increase the number of EBacc subjects studied by their students in order to achieve the highest possible Progress 8 scores. Uptake of qualifications eligible for the 'Other' slots increased at the start of the period investigated, before falling in recent years. Students in schools in the low and medium attaining groups had the highest mean in 2015/16.

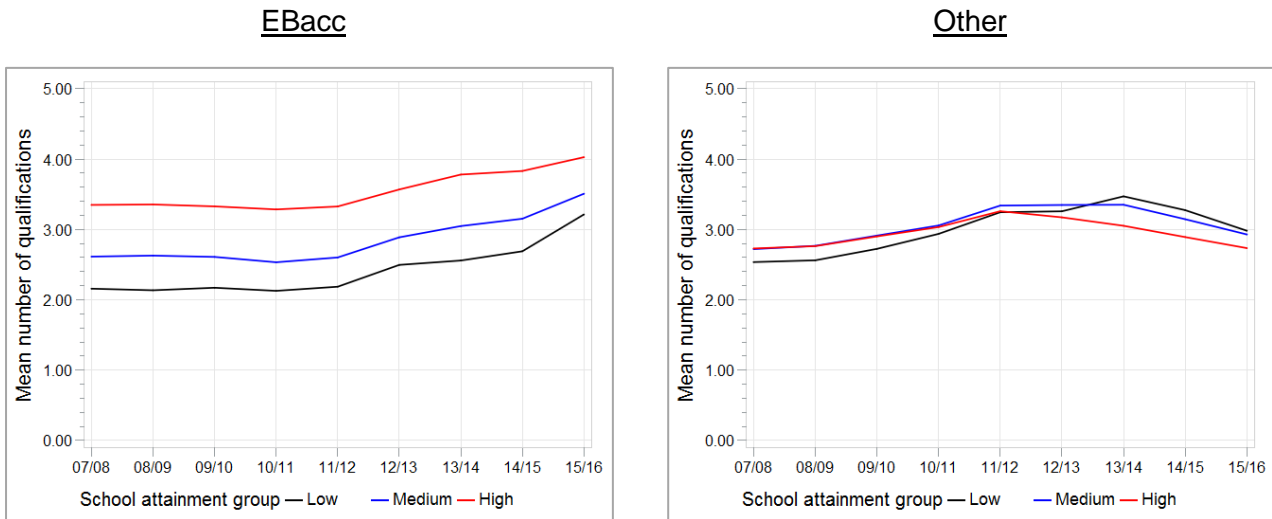


Figure 16: Mean number of EBacc and Other qualifications taken, by school attainment group (2007/08-2015/16)

Figure 17 presents the percentage of students with full Progress 8 entries, by school deprivation group. The increase in percentage seen in 2015/16 was larger in the medium and high deprivation groups than in the low deprivation group. This is because schools with students experiencing higher levels of deprivation tend to be those with lower attainment levels.

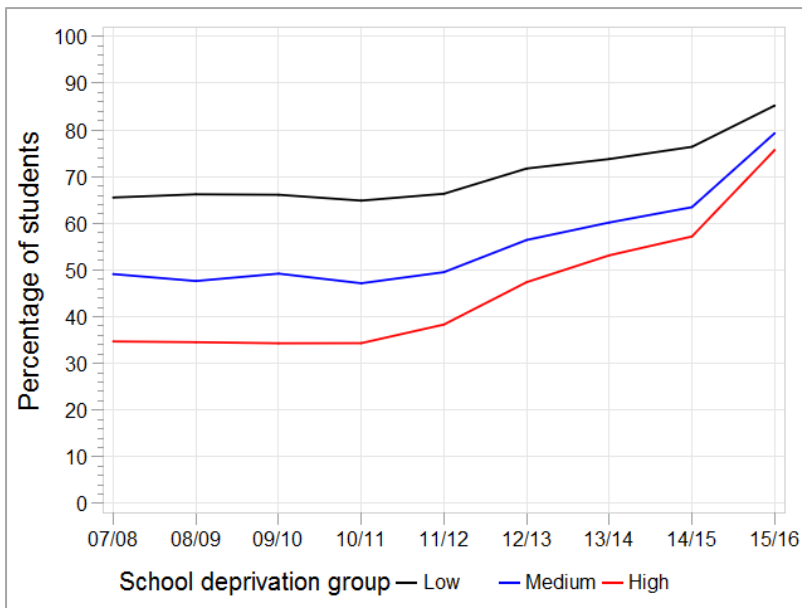


Figure 17: percentage of students achieving full Progress 8 entries, by school deprivation group (2007/08-2015/16)

Figure 18 presents the numbers of EBacc and 'Other' qualifications taken by students, by deprivation group. This shows an increase in uptake of EBacc qualifications in 2015/16 in all three groups, with a bigger increase amongst students in schools in the medium and high deprivation groups. Students in the least deprived schools tended to take more EBacc qualifications on average, whilst those in the most deprived schools took the fewest. Uptake

of 'Other' qualifications increased in all deprivation groups until 2011/12, before falling between 2013/14 and 2015/16.

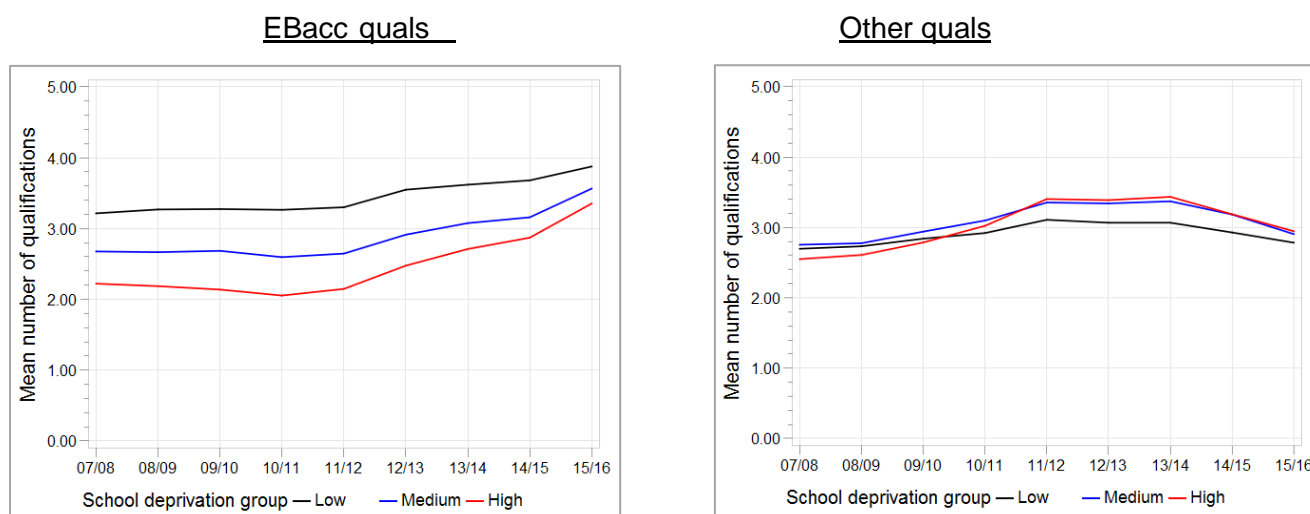


Figure 18: Mean number of EBacc and Other qualifications taken, by school deprivation group (2007/08-2015/16)

Provision of qualifications and subjects

The provision of qualifications and subjects clearly has a big impact on uptake as students cannot usually take subjects if their school does not offer it. The introduction of Progress 8 may have impacted on provision as schools may decide to drop some qualifications that are not eligible for the performance measure. They may also decide to switch to some qualifications which are eligible.

As before, the following analyses exclude special schools, colleges and independent schools. The number of schools included was fairly consistent between years, varying between 3,055 (in 2012/13) and 3,146 (in 2007/08).

In each year virtually all schools offered at least one GCSE, so there is no need to present this data here. Figure 19 presents the percentage of schools offering non-GCSE qualifications. Despite the drop in uptake of BTEC qualifications in recent years (see Figure 3), provision has barely declined at all, with over 80% of schools offering these. In contrast, OCR/Cambridge Nationals, GCSE Short Courses and Skills qualifications all had decreases in provision in recent years. The provision of VRQs saw a big increase in 2015/16, which is mainly due to increased provision of the ECDL.

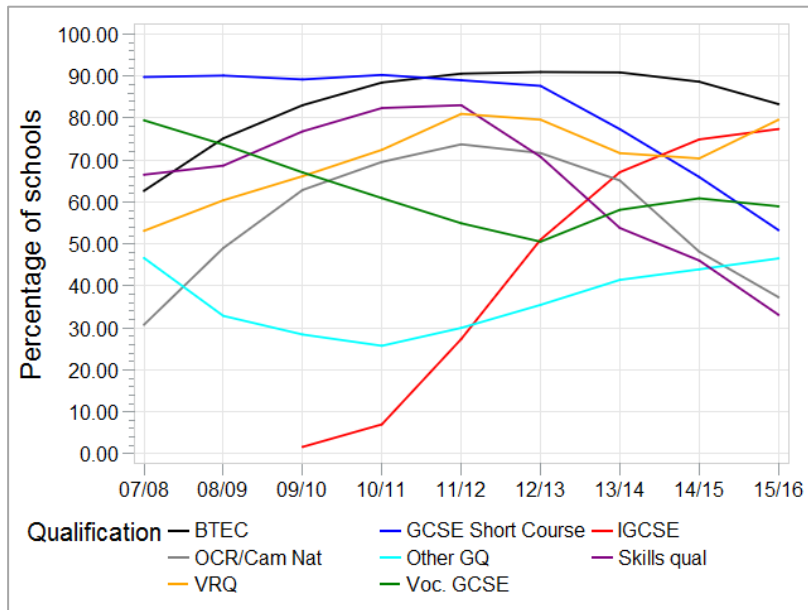


Figure 19: Provision of non-GCSE qualifications (2007/08-2015/16)

EBacc and 'Other' qualifications

Figure 20 presents the distribution of the number of EBacc qualifications (including English and Maths) offered by schools. For the purpose of this analysis, different subjects in the same qualification (e.g. GCSEs in History and Geography) are counted as separate qualifications.

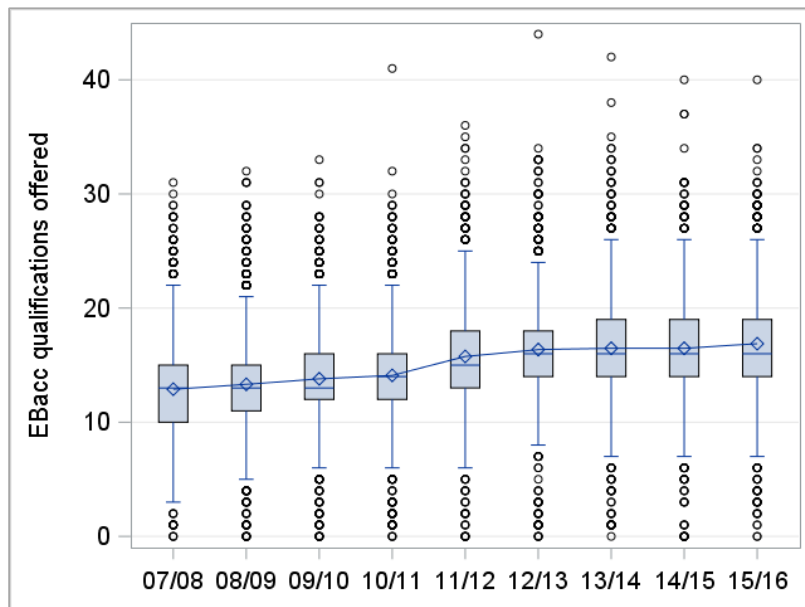


Figure 20: Distribution of no. of EBacc subjects offered by centres (2007/08-2015/16)

The average number of EBacc qualifications offered was around 13 to 17 in the period looked at. Schools offering very high numbers of EBacc subjects (above 30) tended to offer a large number of languages. The figure shows an increase in the average number offered by schools between 2010/11 and 2012/13. This is probably at least partly due to the

introduction of the EBacc performance measure. There was also a small increase in 2015/16, which is likely to be due to Progress 8.

Figure 21 presents the percentage of centres offering each of the most popular EBacc subjects (all GCSEs). The only notable increase in provision in recent years was in Computer Science, which is likely to be because the qualification became eligible for the EBacc, and so schools moved over from the ICT GCSE. For the most popular subjects (sciences, history and geography) over 90% of schools offered the subject before the introduction of Progress 8, so there was little scope for increases in provision. However, there was a small increase in provision of Biology in 2015/16, following a significant fall in the three previous years.

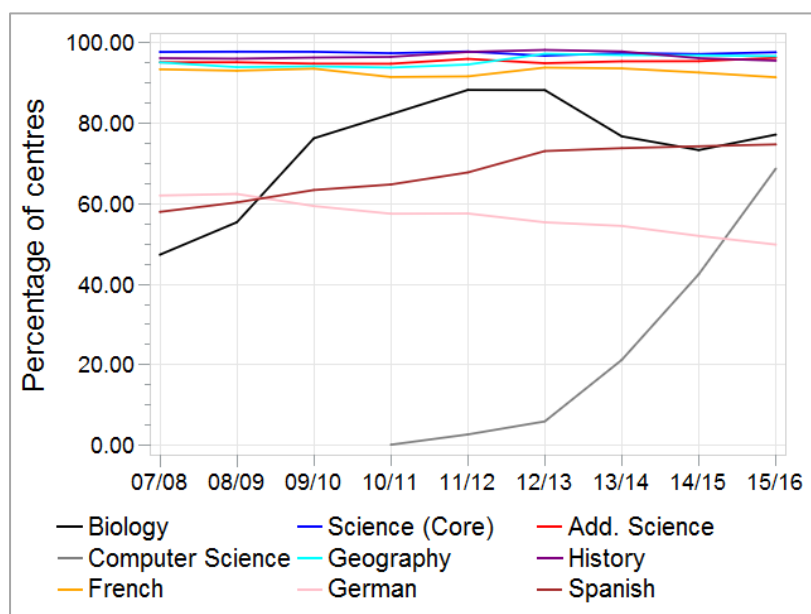


Figure 21: Provision of EBacc subjects offered by centres (2007/08-2015/16)

Figure 22 presents the distribution of the number of qualifications eligible for the ‘Other’ slots. The average number of qualifications offered varied between around 11 and 14. Centres tended to increase their provision of these qualifications up until 2013/14. There was a reduction in the mean in the last two years, perhaps as a consequence of Progress 8 if schools moved over from ‘Other’ qualifications to EBacc qualifications.

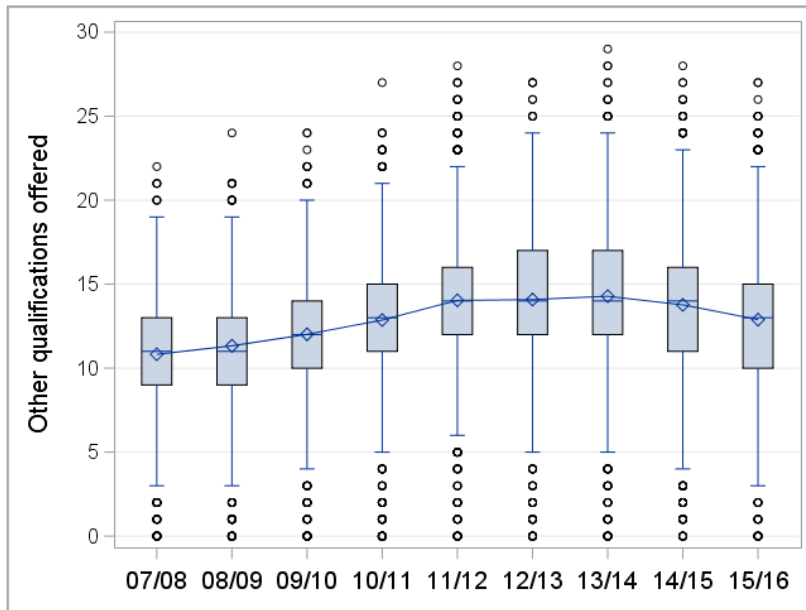


Figure 22: Distribution of no. of 'Other' subjects offered by centres (2007/08-2015/16)

Figure 23 presents the percentage of centres offering the most popular non-EBacc GCSEs. Figure 24 presents the same for the remaining 'Other' subjects.

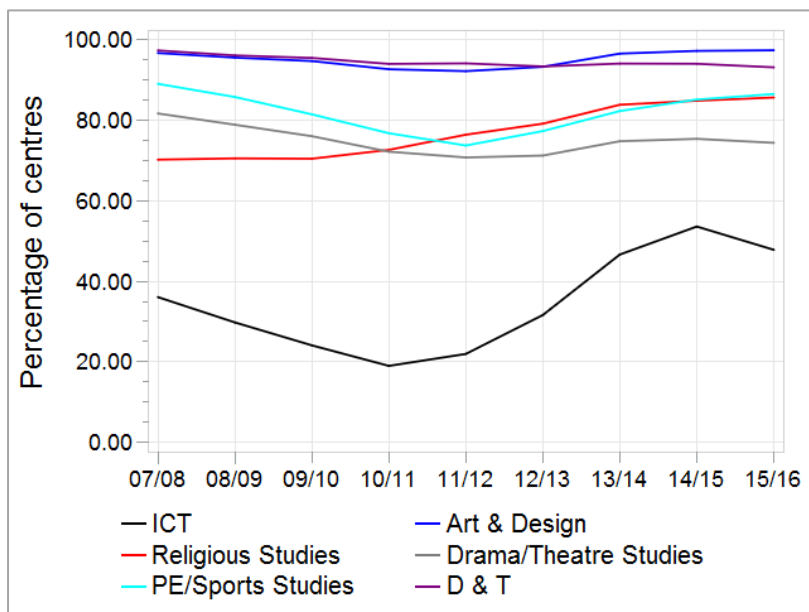


Figure 23: Provision of non-EBacc GCSE subjects offered by centres (2007/08-2015/16)

The provision of most of the non-EBacc GCSEs barely changed in 2015/16. The only significant change was a reduction in provision of ICT, presumably due to schools moving over to the Computer Science GCSE which is eligible for the EBacc.

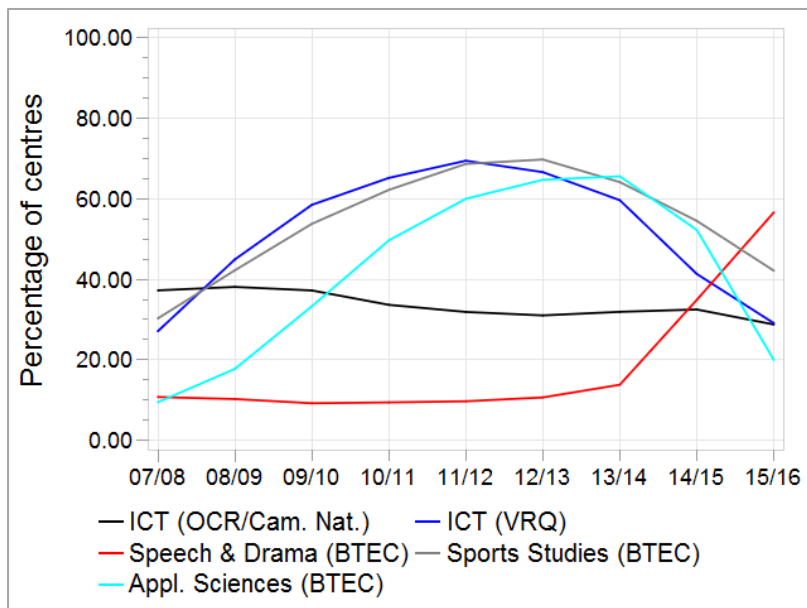


Figure 24: Provision of 'Other' subjects offered by centres (2007/08-2015/16)

Most of the 'Other' subjects saw falls in provision from 2012/13 or 2013/14 onwards, and continued to do so following the introduction of Progress 8. Therefore it is difficult to judge how much of the fall was due to the impact of Progress 8. However, there was a particularly big fall in provision of Applied Sciences BTEC in 2015/16, which makes it more likely that this was due to Progress 8, perhaps with schools switching over to Core Science because it is eligible for the EBacc slots. The big increase in provision of the VRQ in ICT was mainly due to more schools offering the ECDL.

Provision by school factors

Figure 25 presents the mean number of EBacc and 'Other' qualifications offered by schools of different types.

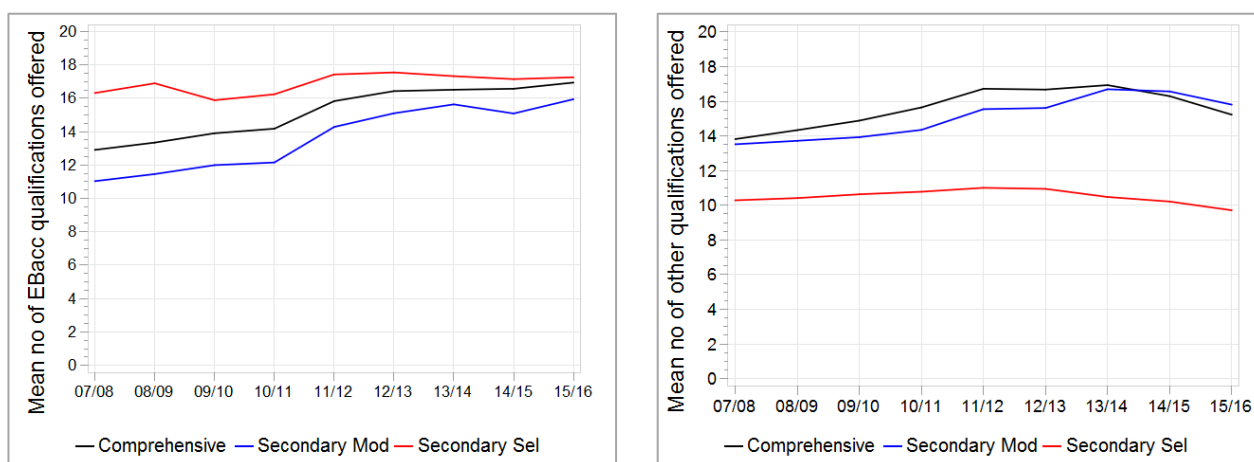


Figure 25: Mean number of EBacc and Other qualifications offered, by school type (2007/08-2015/16)

This shows that throughout the period the mean number of EBacc qualifications in comprehensive and secondary modern schools increased substantially, whilst for secondary

selective schools the increase was much smaller. The overall increase in 2015/16 which was demonstrated in Figure 20 is shown to be only in comprehensives and secondary modern schools.

Provision of 'Other' qualifications fell in all school types in the last two years, but the fall was greatest in comprehensive schools. Secondary selective schools offered far fewer of these qualifications on average than comprehensives or secondary modern schools.

Figure 26 presents the mean number of EBacc and Other qualifications, by school attainment category. This shows steady increases in the mean number of EBacc qualifications offered by schools in all three groups. The highest attaining schools offered the most EBacc qualifications on average, and also had the largest increase in 2015/16. The fall in provision of 'Other' qualifications in the last two years was seen in all three attainment groups, but was more pronounced in low and medium attaining than in high attaining schools. Finally, Figure 27 presents the same data by school deprivation group

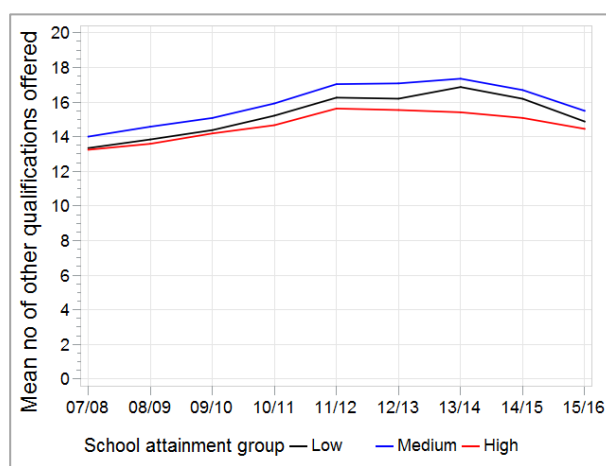
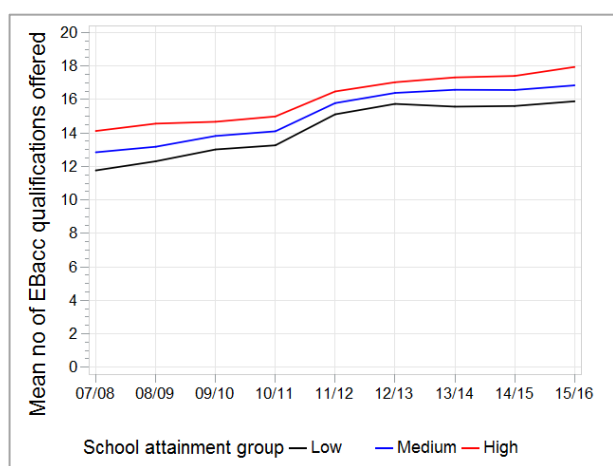


Figure 26: Mean number of EBacc and Other qualifications offered, by school attainment group (2007/08-2015/16)

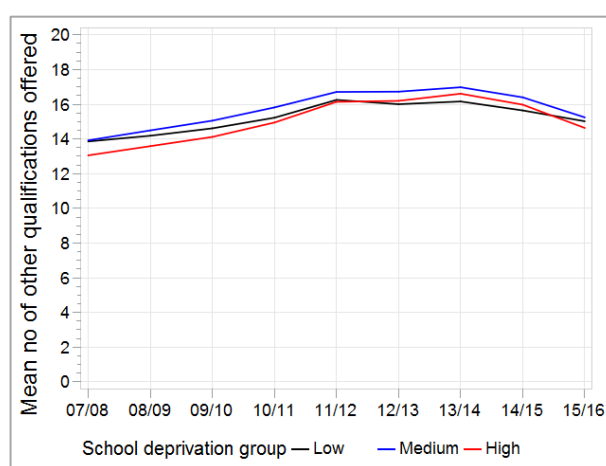
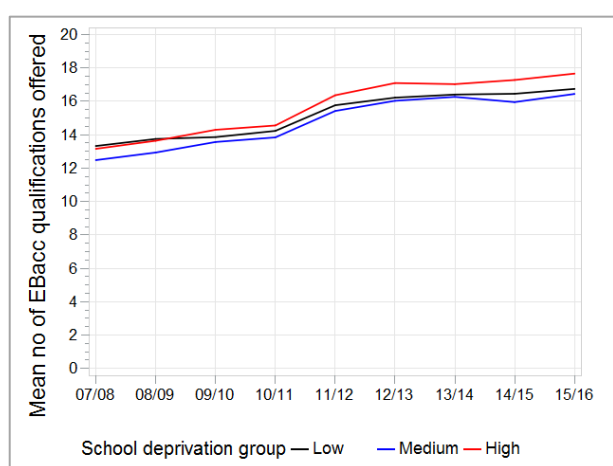


Figure 27: Mean number of EBacc qualifications offered, by school deprivation group (2007/08-2015/16)

Schools in all three deprivation groups increased the mean number of EBacc qualifications offered throughout the period. In 2015/16 the increase was slightly greater in medium or high deprived schools than in low deprived schools. Interestingly, since 2009/10 provision was highest in schools in the highest deprivation group. In terms of provision of 'Other' qualifications there was very little difference between the groups, although provision fell most in the last two years in the schools in the highest deprivation group.

Conclusion

It is clear from the analysis presented above that the introduction of Progress 8 has impacted significantly on the uptake and provision of qualifications and subjects. This is not surprising since schools have an incentive to do as well as they can on the new measures to improve their league table position or avoid intervention from Ofsted.

The main findings pointed to increases in the mean number of EBacc qualifications taken by students at the end of KS4 in 2015/16. Although this has been increasing for several years the upward trend rose particularly steeply in the most recent year. Furthermore, most of the main EBacc subjects also had increased uptake in 2015/16. The exception to this was in MFL where uptake of French and German fell slightly. There could be a number of reasons for this, including the ubiquity of English usage internationally and a perception that these subjects are 'harder' than other GCSEs (e.g. Tinsley & Board, 2017). It is also true that the increase in EBacc subject uptake is mainly amongst lower ability students (see Figure 16), who are less likely to take languages at GCSE (Carroll & Gill, 2017).

For the qualifications eligible for the 'Other' slots uptake was less affected by Progress 8. The mean number of these qualifications has decreased in the last two years, but it is unclear whether this is due to Progress 8 or not. It may be that the introduction of Progress 8 has led to some schools moving students from 'Other' qualifications to EBacc qualifications. There is some evidence of this in particular subjects, with falls in uptake of GCSE and Cambridge National qualifications in ICT and in Applied Sciences BTEC, alongside increased uptake of EBacc qualifications in Computer Science and Core Science.

The proportion of students who took the required number of different types of qualifications to fill all their Progress 8 slots was around 80% in 2015/16. This means there were still about 20% of students who did not fill all their slots. Most of these students were short of EBacc qualifications, with only 83% taking three or more of these. This suggests that there is some scope for increased uptake of EBacc qualifications in the future. However, provisional entry data for 2017 shows little increase in entries for most EBacc subjects at GCSE (Ofqual, 2017), with only Computer Science increasing substantially. Thus, it may be that the proportion of students not filling all of their Progress 8 slots will remain at around 20% in the future. For schools there is always likely to be a trade-off between wanting to improve their league table position and wanting to make sure they do the best for all their students. It may not be in the best interest of some low attaining students to be entered for all the qualifications required to fill Progress 8, particularly as they may achieve a higher Progress 8 score through getting relatively high grades in a few subjects, rather than low grades in many. For example, if a student takes seven eligible qualifications and achieves all grade As, their Attainment 8 score will be 49 (7 x 7). Had they taken eight qualifications their

achievement may have been lower, say 2 grade As, 3 grade Bs and 3 grade Cs, giving an Attainment 8 score of 47 ($2 \times 7 + 3 \times 6 + 3 \times 5$).

Furthermore, if we look at how close these students were to filling all of their slots, around 50% were short by one EBacc qualification only, meaning that they could still get a fairly high Progress 8 score by doing well in their seven eligible qualifications.

The analysis of uptake by school type showed that throughout the period investigated almost all students in selective schools took the qualifications required to fill all their Progress 8 slots, whereas this was not the case for students in comprehensive or secondary moderns. Therefore, the increased uptake of EBacc qualifications in 2015/16 was almost all in comprehensives and secondary moderns. Differences were also found between schools grouped by attainment or by deprivation. Students in low and medium attaining schools took fewer EBacc qualifications on average and therefore had bigger increases in uptake of these qualifications in 2015/16 than students in high attaining schools. Similarly, students in more deprived schools took fewer EBacc qualifications on average and therefore had bigger increases in uptake of these qualifications in 2015/16 compared with students in less deprived schools.

In terms of provision of different qualifications, the average number of EBacc subjects offered by schools increased very slightly in 2015/16, whilst provision of other subjects fell. The vast majority of schools already offer all of the most popular EBacc subjects, so provision of these changed little. The exception to this was provision of Computer Science GCSE, which has been increasing significantly for several years due to it becoming eligible for the EBacc measure. Provision of ICT GCSE fell in 2015/16, which may be partly due to schools switching over to Computing. Several of the most popular non-GCSE subjects saw big falls in provision. The largest fall in 2015/16 (from over 50% of schools to just 20%) was in BTEC Applied Sciences, which may be due to schools changing from entering some students for this and some for Core Science to entering all students for Core Science, presumably because it is eligible for the EBacc slots.

Provision of EBacc qualifications by school type showed a similar pattern to uptake, with almost no change in the mean number of subject offered in grammar schools, whilst both comprehensive and secondary modern schools had small increases in their mean in 2015/16.

As for the future, it is possible that there will be further changes to uptake and provision of subjects due to the introduction of Progress 8. This year was the first year that all schools were subject to the new measure and so they may still be getting used to it. It took several years for the full effects of previous changes to league tables (e.g. introduction of the EBacc measure; the changes following the Wolf Review) to be seen. Some recent research commissioned by DfE asked schools about their understanding of the new measures and how they had reacted (CooperGibson Research, 2017). Most respondents to this suggested that there would be on-going assessment of the qualifications offered in their school. Specific possible future changes included getting more students to do EBacc subjects and reducing the number of subjects offered.

References

Carroll, M. & Gill, T. (2017). *Uptake of GCSE subjects 2016. Statistics Report Series No. 114*. Cambridge, UK: Cambridge Assessment.

CooperGibson Research (2017). *Understanding schools' responses to the Progress 8 accountability measure*. Department for Education: London

DfE (2016). *Progress 8 measure in 2016, 2017, and 2018: Guide for maintained secondary schools, academies and free schools*. Department for Education: London

Ofqual (2017). *Provisional summer 2017 exam entries: GCSEs, AS and A levels*. Office of Qualifications and Examinations Regulation: Coventry

Schools Week (2015). 'Schools urged to enter pupils for fast-track 'GCSE' taught in just 3 days' Available from: <http://schoolsweek.co.uk/schools-urged-to-enter-pupils-for-a-fast-track-gcse/> (accessed 25/07/17)

Tinsley, T. and Board, K. (2017). *Language trends 2016/17: Language teaching in primary and secondary schools in England. Survey report*. British Council. Available from: https://www.britishcouncil.org/sites/default/files/language_trends_survey_2017_0.pdf (accessed 18/10/17)

Wolf, A. (2011). *Review of Vocational Education – The Wolf Report*. Department for Education: London