Qualification neutral Progress 8 - methodology

We use all the "first entry" Key Stage 4 results of pupils who reached the end of KS4 in 2016 and who were included in the DfE Progress 8 measure. This is the full set of results eligible to be counted in performance tables, not just those that were counted in Attainment 8.

We firstly divide qualifications into two qualification groups, academic and vocational. This distinction is largely driven by different grading structures.

Academic qualifications include GCSEs (apart from vocational GCSEs), AS-Levels and international Level 1 and Level 2 certificates. Vocational qualifications cover all other qualifications, including vocational GCSEs.

For each subject within each qualification group, we then calculate the average point score achieved for each of the Key Stage 2 prior attainment bands (those used in the DfE's Progress 8 calculations).

We treat some subjects in groups, calculating VA for the group as a whole rather than each subject individually. This is particularly important when different subjects within the group tend to be taken by higher-attaining and lower-attaining pupils. Subjects treated in this way are:

- EBacc English qualifications (literature, language, combined language and literature)
- EBacc science qualifications (chemistry, biology, physics, core science, additional science)[1]
- EBacc MFL qualifications
  - French, German, Spanish
  - other MFL qualifications (including community languages)

There are nine individual vocational qualifications which were entered by large numbers of pupils. We therefore treat each of the following as separate subjects:

- BCS Level 2 ECDL Certificate in IT Application Skills
- OCR Level 1/2 Cambridge National Certificate in ICT
- Pearson BTEC Level 1/Level 2 First Award in Business
- Pearson BTEC Level 1/Level 2 First Award in Children's Play, Learning and Development
- Pearson BTEC Level 1/Level 2 First Award in Health and Social Care
- Pearson BTEC Level 1/Level 2 First Award in Information and Creative Technology
- Pearson BTEC Level 1/Level 2 First Award in Performing Arts
- Pearson BTEC Level 1/Level 2 First Award in Sport
- WJEC Level 1/Level 2 GCSE in Catering

As some subjects are entered by small numbers of pupils, we also calculate VA at subject group level:

- For academic qualifications we use 14 subject umbrellas as a grouping (such as art and design, design & technology, science).
- For vocational qualifications we use sector subject areas as a grouping

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[1] Computing, while an EBacc science, is treated as a separate subject here.

We then calculate a value added (VA) version of Attainment 8 for each pupil. We identify each pupil's "best" qualification in English in terms of VA; their "best" qualification in maths; their three best "EBacc" qualifications; and finally their three best "other" qualifications.

Some pupils did not fill all their Attainment 8 slots in 2016. For each unfilled slot, we use the average point score per entry from the DfE Progress 8 technical guidance (points divided by entries, separately for English, maths, EBacc and other).

Issues

There are a number of issues with the approach taken to calculating VA in each subject. Firstly, what we call monotonicity. We would expect to see the expected (mean) scores for each subject (or subject group) increase as prior attainment increases. This is the case for the vast majority of subjects but there are a few exceptions. However, this issue can easily be fine-tuned with a bit more time.

Some biases remain. We know that point scores achieved in ECDL are higher than we would expect given the attainment of entrants in other subjects. Results in ECDL are currently contributing to the expected (mean) scores of overarching subject group to which it belongs (ICT). These scores are used to calculate VA in vocational IT qualifications with fewer than 10,000 entrants. Hence it will seem that pupils appear to be doing poorly in these qualifications. This also can be fine-tuned.

In some subject groups, results are treated independently even though some pupils may have multiple entries. Science is an obvious example. Pupils taking triple sciences will be counted three times in our science VA scores whilst those taking core and additional science will be counted twice. This results in slightly biased VA scores. If necessary this can be fine-tuned by weighting.

Finally, there are other instances where different qualifications are grouped together and treated as equivalent where there may be a perception that they vary in severity of grading. GCSE and IGCSE English is a classic example, even though any differences are not clearly apparent in the data.