CENTRAL SOUTH CONSORTIUM

JOINT COMMITTEE REPORT

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CENTRAL SOUTH CONSORTIUM GCSE Report 2017

REPORT FOR MEMBERS OF THE JOINT COMMITTEE

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What were the changes?

Various changes to curricula, GCSE specifications and performance measures have been made over the past few years which may result in changes to pupil outcomes at GCSE. The many changes have affected the way that performance can be tracked over the short term. A summary of the key factors are as follows:

Qualification changes
- New specifications for GCSE English language and Welsh language with greater emphasis on literacy.
- A new specification for GCSE mathematics and the introduction of GCSE mathematics-numeracy, both with greater emphasis on numerical reasoning.

Performance measure changes
- A cap of 40% introduced to L1, L2 and L2+ measures for vocational/non GCSE qualifications.
- English literature and Welsh literature no longer counting towards the literacy component of performance measures.
- Introduction of the capped points score measure, looking at 9 qualifications including two sciences. For this year these can be vocational, GCSE or any combination

Other factors
- In-cohort changes to allowed entry for examination series.
  Originally mathematics and mathematics-numeracy could only be sat at the end of year 11 for the 2015-17 cohort. In September 2016, this was changed to allow all pupils to be entered for the November 2016 series. This resulted in the highest number and proportion of entries seen in Wales for the November series.
- The 40% cap in threshold measures, along with the upcoming introduction of performance measure requirements for science qualifications to be GCSEs (from 2018) has seen a widening variance in terms of school entry patterns across vocational (BTEC or IVQ) and GCSE. In some instances, a greater proportion of pupils have been entered for vocational science than previously. In others, schools can be seen to start to move away from vocational and adopt increased GCSE qualifications.
- Non-availability of examination series for entry
  The first sitting of the English language and Welsh language GCSEs was only available during the summer 2017. This resulted in the highest number and proportion of year 10 entries for the summer series.
- Examination board information

The decision not to publish grade descriptors for all new qualifications has resulted in a general lack of confidence in teachers making assessments. Target setting, in year tracking and improvement planning has been challenging for schools.

We cannot isolate the impact of changes in school and pupil behaviour from to policy changes. For example, the limit on the size of each non-GCSE qualification may have led to schools changing the mix of qualifications offered to their pupils, more in favour of qualifications below the limit rather than above. Some schools may have prioritised pupil choice over school performance against measures. This response is likely to vary between schools.

The divergence in policy around performance measures has meant it has become impossible to produce comparable measures from the examination system in other UK systems. Even if it were possible, the differences between schools in terms of entry patterns cannot be accounted for.

Bearing the above caveats in mind, it appears from unverified data that performance in the:

- Level 1 threshold is lower than last year;
- Level 2 threshold is lower than last year;
- Level 2 inclusive threshold and the CSI are lower than last year;
- 5A/A* is likely to remain at a similar level to last year;
- Level 2 English and mathematics is lower than last year and
- Level 2 science are at a similar level to last year, however regional and national variability between and within schools is likely to be greater than in previous periods.
- Level 2 Welsh language is similar to last year however it should be noted that this is reported against entries rather than cohort (as is true in the case of English, mathematics and science).

What did we do?

To supplement work focusing on subject leadership and teaching, a range of actions were put in place from 2014 to ensure that CSC were able to work effectively with schools in supporting them to address the changes. These included:
- CSC advisers for English, Welsh, mathematics and science became members of the WG advisory panels.
- CSC mathematics adviser was seconded on a part time basis to WG as national subject expert.
- Subject leader network meetings were facilitated termly for all secondary schools in the region. Attendance is consistently above 80% for each session and often over 90%. These meetings had common foci across all four subjects and included: curriculum and specification familiarisation; short, medium and long term planning; entry pathways; PISA/new content areas; and, effective teaching approaches for new content. All network meetings were used as a consultation forum to support the determination of subject leader and department needs across the region.
- Three curriculum planning workshops were facilitated to support school leaders in developing their awareness of the scale of subject level reforms, taking a wider school response and enable school to school working. Presentations with the same focus were delivered at all local authority level headteacher meetings.
- A summary of performance measures and qualification information was developed and updated to include changes.
- Support for schools to obtain qualification and policy information and liaison with key stakeholders to ensure that information was accurate and specific to each school's need.

- Working to address the shortfall of teachers in core subject areas by running a national recruitment campaign and securing the contract with TeachFirst. This will bring at least 50 core subject teachers into the region over the next two years.
- In addition to curriculum hub provision, nearly 2000 students and 60 staff from 50 secondary schools rated the Count On / Write On/ Bwrw Mlaen revision programmes, for C/D borderline and A/A* grades, as highly beneficial in preparing for GCSE examinations.
- Over 40 mathematics and 35 English ambassadors have been deployed from Cardiff University to support targeted learners in nearly 25% of secondary schools, adding an additional 850 hours of support across the region. Many of the targeted pupils expressed an increase in their mathematical confidence.
- Further provision was put in place to support the implementation of the reformed GCSEs in response to feedback from a secondary Headteacher consultation workshop. Nearly all teachers rated the workshops as good or better in sharing expertise to prepare their learners for the summer series (93 teachers, 23 school for English; 14 teachers, 14 schools for mathematics).
- Funding for schools to work as part of a School Improvement Group (SIG) has enabled small groups of collaborative working focusing on the specification changes.
- Action research for around a half of schools in the region has been funded to support them in developing their teaching practices in English, Welsh, mathematics and science.
- More intensive work with schools in a red or amber support category, focusing on leadership and the quality of teaching.

Further to this the Qualified for Life project, funded separately by Welsh Government ran from 2014 to 2016. The funding was used to centrally employ 2 mathematics advisers, 2 English advisers, 1 Welsh adviser and 1 science adviser. Through a multiplicative cascade model, the following aims were set:

- To build capacity in schools to respond to demands of PISA, new GCSE qualifications and build excellence;
- To identify new skills required by teachers and learners, and facilitate good practice;
- To communicate clearly with teachers and other stakeholders regarding the project.

Support	English	Welsh	Mathematics	Science
Number of days in-school support	At least 2 100% At least 4 97% More than 4 82%	2 days – 100%	At least 2 100% At least 4 94% More than 4 83%	At least 1 – 93%
Number of teachers participating in additional support activity	**229**	**39**	**386**	**115**
Number of schools engaged with QFL support	**58 (100%)**	**9 (100%)**	**58 (100%)**	**55 (95%)**
Provision for special schools and PRUs	**Y**	**N**	**Y**	**Y**
Collaboration for development of	**Y**	**Y**	**Y**	**Y**

scheme of learning				

Analysis of outcomes for the schools for Mathematics GCSE and the level of school support (as indicated above) has been analysed and the following outcomes seen:

Of those schools who only had two days of support, (3 schools in the Region), the difference between 2016 and 2017 Mathematics Level 2 results was 2.7pp. For those schools who had between three and four days of support the difference between 2016 and 2017 results was -7.2pp (based on 6 schools). For the final groups of schools (more than 4 days support) the difference between Mathematics Level 2 results in 2016 and 2017 was-4.1pp – this is based on 47 schools in the Region.

	Number of schools	2016 Maths L2	2017 Maths L2	Difference
At least two days support	3	48.6%	51.3%	+2.7pp
At least four days support	6	68.3%	61.0%	-7.2pp
More than 4 days support	47	70.5%	66.3%	-4.1pp

Similar analysis for English has been produced and this is given below:

	Number of schools	2016 Eng L2	2017 Eng L2	Difference
At least two days support	2	54.8%	32.7%	-22.1pp
At least four days support	8	73.6%	67.2%	-6.4pp
More than 4 days support	46	75.3%	65.4%	-9.8pp

Please note the small number of schools in the first two groups mentioned above, and please use caution when comparing these figures across groups.

What were the outcomes for pupils?

Performance Indicator	2014	2015	2016	2017	Change	2017 Wales
Mathematics	**60.2%**	**63.6%**	**66.5%**	**62.4%***	**-4.1pp**	**62.5%**
English	**65.2%**	**70.2%**	**71.1%**	**62.4%***	**-8.7pp**	**63.6%***
Welsh	**75.5%**	**76.7%**	**77.5%**	**79.3%**	**+1.5pp**	**73.2%**
Science	**83.4%**	**85.5%**	**85.9%**	**80.3%**	**-5.7pp**	**75.6%**
Level 2+	**54.1%**	**58.5%**	**60.9%**	**54.4%***	**-6.5pp**	**54.6%**

English data commentary

The level 2+ threshold has dipped by 6.5 percentage points since 2016, mathematics has dipped by 4.1 percentage points to 62.4% whilst English has dipped by 8.7 percentage points to 62.4% also. Welsh has seen an increase of 1.5 percentage points, which builds on a three year trend of improvement in outcomes for Welsh first language.

Schools have been impacted by the removal of literature from the level 2 inclusive performance measure and the decision not to publish grade descriptors for all new qualifications has resulted in a general lack of confidence in teachers making assessments. Target setting, in year tracking and improvement planning has been challenging for schools

In 2017 outcomes in English by school ranged from 92.4% down to 24.4%, with 26 schools having outcomes below the regional average of 62.4%. Whilst the gender gap has narrowed by 1.5 percentage points, the performance of girls has dropped by 9.4 percentage points to 69.8% and the performance of boys has dropped by 7.9 percentage points to 55.6%, which negates the perceived narrowing of the gender gap; it remains largely static.

All authorities in the region saw outcomes dip in English by between 4.7 and 12.6 percentage points. The largest drop was seen in RCT where L2+ English outcomes dropped by 12.6 percentage points

A comparison was made with other 'English rich' subjects to determine if there had been a similar fall in outcomes.

	2016	2017	Difference
English *	71.1%	62.4% (68.0% inc Lit)	-8.7 pp (-3.1 pp inc Lit)
History	70.8%	71.5%	+0.7 pp
Geography	69.5%	71.4%	+1.9 pp
Religious Education	61.0%	58.6%	-2.4 pp

(* English in 2016 includes Literature, but excludes Literature in 2017 reported figure.)

This analysis implies that the issue was with the English assessment rather than a drop in literacy standards.

Welsh data commentary

In 2017 outcomes in Welsh by school ranged from 87.3% down to 56.5% with 4 schools having outcomes below the regional average of 79.3%.

The Vale of Glamorgan, RCT and Cardiff saw outcomes improve by between 0.4 and 3.5 percentage points. With a drop of -2.0 percentage points, Bridgend was the only local authority where outcomes fell.

Outcomes in Welsh language and English language cannot be directly compared due to differences in reporting; English is reported by cohort and Welsh by entries. Additionally, despite Welsh and English having a parallel specification, the weighting for oracy differ (30% for Welsh and 20% for English).

Mathematics and mathematics-numeracy commentary

In 2017, level 2 outcomes in mathematics ranged from 24.4% to 88.7% when the best of either qualification is taken (mathematics or mathematics-numeracy). The level 2 outcomes for GCSE mathematics ranged from 23.2% to 86.5% with GCSE mathematics-numeracy ranging from 17.1% to 87.0%.

A comparison between GCSE mathematics and GCSE mathematics-numeracy shows that 45 schools did better in mathematics while 11 schools did better in numeracy.

All authorities in the region saw outcomes dip in mathematics by between 5.1 and 15.3 percentage points. The largest drop was seen in Merthyr where mathematics outcomes dropped by 15.3 percentage points. Similarly, all authorities saw outcomes dip in mathematics numeracy by between 7.1 and 22.4 percentage points. The largest drop was seen in Merthyr where mathematics numeracy outcomes dropped by 22.4 percentage points.

Science data commentary

The 5.7 percentage points reduction for science to 80.2% is consistent with the predicted outcomes across the region (80.0% predicted) based on**:**

- Schools modifying their entry profiles to reflect the revised performance measures (requirement for x2 science qualifications in capped 9)

- A aggregated figure based on school to school entry profiles (some schools increasing and some decreasing their vocational courses)

- Schools modifying entry profiles to teach x2 qualifications to the majority of learners.

Overall, science outcomes have fallen across the region. Four out of five local authorities show a reduction of outcomes, with Merthyr LA showing nearly 20% reduction. Cardiff LA showed a slight decrease of 0.1% on 2016 figures.

It must be noted that these outcomes include a variable component of vocational qualifications and those schools / LAs exhibiting the greatest reduction in outcomes are also those that reduced their vocational component the most.

Additional data analysis

In order to try to evaluate the impact of the changes to the performance measures reported for 2017 results, analysis has been completed to model 2017 performance based on 2016 performance measures descriptors. For Level 2 Threshold, this involves removing the cap of 40% for non-GCSE performance measures. For Level 2 Threshold including English/Welsh and Mathematics the cap of 40% non-GCSE qualifications has been removed and English/Welsh Literature is included in the language elements of this performance measure.

At regional level, the following changes can been seen between the 2016 and the reported figures for 2017 against the modelled performance:

	2016	2017 (published)	2017 (modelled)	Difference between published and modelled performance
Level 2 Threshold	87.1%	67.5%	75.1%	7.5% points
Level 2 Threshold inc EWM	60.9%	54.4%	57.0%	2.5% points
English L2	71.1%	62.4%	68.0%	5.6% points

Cymraeg L2	77.5%	79.1%	79.1%	No difference

At individual school level, the difference between the published 2017 performance and modelled 2017 performance for the Level 2 Threshold is over 20% points for seven schools in the Region. A further 10 schools saw improvements between 10pp and 20pp, and 12 schools improved by between 5pp and 10pp. Eight schools saw no difference in their performance measures for modelled performance against 2017 published performance.

For the Level 2 Threshold inc EWM only 6 schools improved between 2016 and 2017 published measures, whilst 13 schools improved for this performance measure when the modelled 2017 performance is compared to the 2016 results.
The difference between the published 2017 performance and the modelled 2017 performance for this performance measure is smaller than that seen for the Level 2 Threshold, however, five schools in the region saw improvements of over 5pp for Level 2 Threshold inc EWM. 26 schools saw improvements of between 2pp and 5pp, with 9 schools seeing no change in their performance between modelled and published performance for this measure.

Level 2 English increased by 5.6% points when 2017-modelled performance (the inclusion of English literature) is compared to 2017 published measures, which reduces the decrease from 2016 to 3.1% points instead of 8.7% points. At individual school level, 8 schools saw improvement of over 10pp when the modelled performance for 2017 is compared against the published 2017 performance, with a further 20 schools improving by between 5pp and 10pp. Only three schools saw no difference in their performance measure between modelled and published performance for 2017 data.

For Level 2 Welsh, the inclusion of Welsh Literature does not change the 2017-modelled measure when compared against the 2017 published measure

For Level 2 Science, the reported performance measure has fallen by 5.7% points between 2016 and 2017. It is not possible to model performance for Science in 2017, however, the profile of GCSE Science entries in 2017 has been compared against that for 2016. At Regional level, 12.2% more pupils were entered for GCSE Science only qualifications in 2017 when compared to 2016.

At individual school level, 7 schools have moved to 100% GCSE Science entry in 2017, and results in these schools decreased (on average) by 30% points for Level 2 Science.

When considering the data for pupils who achieved Level 2 (GCSE A*-C) in both English/Cymraeg and Mathematics but did not achieve the Level 2 Threshold inc EWM the following is evident:

- In 2017 – 30 pupils did not achieve L2+ but achieved both English/Cymraeg and Maths Level 2. This compares against 36 pupils in the previous academic year.
- Of these pupils, 4 would have achieved L2+ if the 40% cap on non-GCSE qualifications had not been applied.
- 8 pupils achieved at least 90% of the threshold measure
- 15 pupils achieved between 80% and 90% of the threshold measure.
- 22 pupils achieved at least 60% of the threshold through GCSE qualifications only (therefore, the 40% cap would not have applied) and 20 of these pupils had "D" grades in the additional number of qualifications needed to achieve the L2+ threshold.

Analysis for Free School Meal Eligibility

	2017 (Published)			2017 (Modelled)		
	eFSM	**nFSM**	**Diff**	**eFSM**	**nFSM**	**Diff**
Level 2 Threshold	43.1%	74.9%	-31.8 pp	54.7%	81.6%	-26.9 pp
Level 2 Threshold inc EWM	29.2%	61.6%	-32.4 pp	32.5%	64.0%	-31.6 pp
Level 2 English	37.7%	69.6%	-31.9 pp	45.2%	75.0%	-29.8 pp
Level 2 Welsh	66.1%	80.8%	-14.8 pp	66.1%	80.8%	-14.8 pp

For the Level 2 Threshold, the difference between the modelled performance of eFSM pupils against published performance is 11.6 pp, which is nearly twice the difference seen for nFSM pupils (difference of 6.7pp)

For the Level 2 Threshold inc EWM, the difference between the modelled performance of eFSM pupils against published performance is 3.3pp, which is higher than the difference seen for nFSM pupils (2.4pp).

For Level 2 English, the modelled performance for eFSM pupils increases by 7.5pp when compared to the published performance in 201, which is higher than the difference seen between the two measures for nFSM pupils (5.4pp).

For Level 2 Welsh 1st Language, there is no difference between the two measures for 2017 data (modelled and published performance).

Whilst the gap in performance has narrowed when using the modelled performance for 2017 data (against the published data), the trend for the gap between eFSM and nFSM pupils, for the first three measures above, has widened in the most recent year.

What does the information from the recalled papers and item level data tell us?
Working with schools across the region, item level data was submitted for analysis. A majority of English medium schools and one Welsh medium contributed to the analysis

English Language
From the 2017 summer series, the following English language skills are areas of regional strength:
- Location and retrieval
- Editing
- Complex multiple choice

The following English language skills were less well developed across the region:
- Inference / Deduction
- Synthesis
- Verbal reasoning
- Comparison
- Writing

Mathematics and Mathematics Numeracy
From the 2017 summer series, the following mathematical skills are areas of regional strength:
- Geometry
- Measure (particularly Pythagoras' Theorem and basic trigonometry)
- Creating and using graphs (including extracting information)
- Solving quadratic equations by trial and error

For mathematics numeracy – problems involving the manipulation of financial data were handled well across the region.

The following mathematical skills were less well developed across the region:
- Probability
- Manipulating algebraic expressions (including use in geometry)
- Construction of shapes (using a compass) (Intermediate tier)
- Evaluating surds
- Dimensional analysis

For mathematics-numeracy, high tariff questions (3+ marks), where pupils were required to show calculations and demonstrate clarity / precision of writing were handled less well across the region.

Welsh language

The WJEC Welsh Language examiners' report is not available at the current time, only one Welsh medium school responded to request for item level data, therefore a detailed analysis is not available at this time.

Item Level data- next steps

Using the growing set of item level data, those schools with demonstrable excellence in specific English and mathematical skills are being identified. While the intention would be to share effective practice widely across the region, caution must be taken when acting from one set of data.

CSC will work with schools (and curriculum hubs) to produce a rapid action plan for the region. Curriculum hubs and identified schools to deliver support programme during the early spring term.

What are the known barriers that remain?

While a significant amount of resource has been allocated to addressing the qualification changes, it is clear that the region has further work to do. Barriers to further work in this area include:
- Change management skills of leaders
- Subject knowledge of CSC team
- Subject knowledge of teachers
- Recruitment remains an area to monitor
- Schools not releasing teachers to attend professional learning programmes
- Overload of provision in the system for teachers of English, Welsh, mathematics and science.

What are the known effective ways of working across the region?

Collaborative working, planning and resource development has been a strength of the regional working practices in English, Welsh, mathematics and science. Facilitation of development groups has generated schemes of learning and resources that have been disseminated both regionally and nationally. The opportunity for teachers to collaborate through networks created as part of curriculum hub programmes, through extension of SIGs and in termly central network meetings has supported the share of effective practices.

Partnership working with Cardiff University through the summer and winter schools and the design and implementation of the undergraduate ambassador model has supported the growth of regional capacity.

What will we do now?

CSC: Enquire into the work that has been done by teachers of English, Welsh, mathematics and science as part of a SIG and consider wider dissemination mechanisms.

CSC: Develop case studies of effective practice against the new specifications to share across all schools. Consider the appropriateness of this given one data point.

CSC: Work with the NNEM and NNEST to develop leadership capacity for leaders of mathematics and science.

CSC: Facilitate workshops against the key areas for development identified from item level data.

CSC: Share the collated recalled papers with commentary and questions for department discussion and suggested activities.

CSC: Consider facilitating Count on, Write on, Bwrw Mlaen and Science on as a means of supporting schools to collaborate around teaching and the development of resources and enable team teaching and peer observation.

Schools: Consider a range of information to support self evaluation in these areas and plan for improvements. This could include:

- Comparison of actuals to teacher assessments and the variation of this within and across departments.
- Profile of the grade distribution and how it differs to any early entries and previous years.
- Any patterns presented when considering tier of entry and outcomes.
- How the results compare across different classes and different groups.
- The outcome and information from any remarked papers.
- Consideration of both the examiner report and item level data.
- Department and individual teacher needs.
- Resources, staffing and timetabling.
- Alternative pathways for pupils.
- Alteration of provision for pupils, for example, amendments to schemes of learning in all year groups.