

Report to: **Children's Services Scrutiny Committee**

Date: **9 November 2010**

By: **Chairman of the Review Board**

Title of report: **Scrutiny review of attainment in mathematics at Key Stage 2 – final report**

Purpose of report: **To present the final outcomes of the scrutiny review.**

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**RECOMMENDATION: The Scrutiny Committee is recommended to consider the report of the Review Board and make recommendations to Cabinet for comment and County Council for approval.**

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## **1. Financial Appraisal**

1.1 There are no specific financial implications arising from the recommendations in the Review Board's final report.

## **2. Summary**

2.1 The Children's Services Scrutiny Committee meeting in September 2009 was informed that the levels of attainment at Key Stage 2 (KS2) in the County were falling behind the national average. The committee decided to investigate this issue further and set up a Review Board to carry out this piece of work. The Review Board comprised of Councillor Michael Ensor (chairman), Councillor Rosalyn St Pierre and Councillor Francis Whetstone. Nerissa Parker, a former Parent Governor Representative on the Children's Services Scrutiny Committee took part in the review between September 2009 and April 2010.

2.2 An interim report containing a summary of progress of the review together with the interim findings and recommendations of the Review Board was presented to the Committee in July 2010.

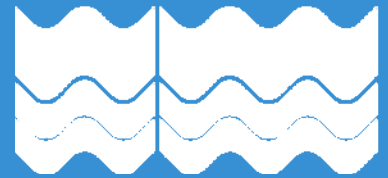
2.3 The report attached at appendix 1 contains the final findings and recommendations of the Review Board. The Committee is recommended to receive the Review Board's final report for submission to Cabinet on 14 December and County Council on 8 February 2011.

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Chairman of Review Board

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Local Members:      All

Background Documents: None



# Scrutiny Review of Attainment in Mathematics at Key Stage 2

## Final Report by the Review Board:

Councillor Michael Ensor (Chairman)

Councillor Rosalyn St Pierre

Councillor Francis Whetstone

October 2010

Children's Services Scrutiny Committee – 9<sup>th</sup> November 2010

Cabinet – 14<sup>th</sup> December 2010

Full Council – 8<sup>th</sup> February 2011

**Final report of the Scrutiny Review of Attainment in Mathematics at Key Stage 2**

**Conclusions and recommendations .....3**  
**Objectives and scope of the review .....4**  
**Background .....4**  
**The National Curriculum and Key Stages .....4**  
**Pupil Progression.....4**  
**Key Stage 2 mathematics – 2010 .....5**  
**Findings and conclusions from the interim report .....6**  
**Final findings and conclusions.....8**

**Appendix 1**

**Example of a grid used by teachers to monitor progress in mathematics over four terms..... 12**

**Appendix 2**

**Example of a chart contained within the governor data packs to highlight how well the school is performing..... 14**

**Appendix 3**

**Local and national courses aimed at supporting teachers in mathematics..... 15**

**Appendix 4**

**Response from the Children's Services Department to the recommendations in the interim report (as at July 2010) ..... 16**

**Appendix 5**

**Review Board membership and support ..... 19**  
**Review Board meetings and visits ..... 19**  
**Sources of evidence ..... 19**

## Conclusions and recommendations

| Recommendations |   |
|-----------------|---|
| 1*              | Building upon the good practice employed by some schools, the Standards and Learning Effectiveness Service (0-11), in partnership with schools, to develop some low cost / no cost ideas for how a county wide programme can be developed that promotes and encourages a positive culture around mathematics in schools and at home.  |
| 2*              | The Standards and Learning Effectiveness Service (0-11) to: <ul style="list-style-type: none"> <li>a) explore the development of a training course for all newly qualified and recently qualified teachers working in primary schools in East Sussex to help them build their confidence in teaching mathematics; and</li> <li>b) work in partnership with schools to develop and enhance the current training programme so that there is a range of courses available which provide continued professional development in mathematics for primary teachers at all levels in their career.</li> </ul> |
| 3*              | East Sussex County Council to work in partnership with education providers and other local authorities to ensure the continuation of the Mathematics Special Teacher programme and the Every Child Counts programme.  |
| 4               | The Children's Services Department to provide advice and support to those primary schools that do not have a robust pupil monitoring system in place to help them develop such a system. Further support to be offered to all primary schools to ensure that they are using their monitoring system to effectively identify those pupils that are not progressing as expected and then putting measures in place to support these pupils.   |
| 5               | The Children's Services Department to ensure that all headteachers have the necessary systems in place to promptly identify and support teachers who may require additional support and training in teaching mathematics.   |
| 6               | The Personnel Services Advisory Team to increase the level of advice and support that is available to headteachers on handling personnel matters through regularly attending cluster meetings, holding training sessions and being proactive in their approach to following up issues with headteachers.  |
| 7               | The Children's Services Department to make improvements to the governor data pack, as outlined at paragraph 40, so that the information contained within it can be easily interpreted by all governors when carrying out their role of monitoring performance in their school.  |

\* Recommendations 1, 2 and 3 have already been presented to the Children's Services Department as part of the interim report and an action plan outlining how these are currently being taken forward by the department are listed at appendix 4

## Objectives and scope of the review

1. This is the second report of the Review Board which was set up to scrutinise how attainment at Key Stage 2 (KS2) mathematics can be raised in East Sussex primary schools. An interim report, produced in June 2009, focused on two particular areas that the Review Board had initially identified as requiring improvements:

- promoting a positive culture to mathematics in schools and homes; and
- working with schools and education providers to offer support and training to develop teachers' knowledge of, and confidence in, mathematics and thereby enhance their teaching skills.

2. Findings and recommendations from the interim report are listed on pages 6 and 7. These were initially presented to the scrutiny committee in June 2009 and the Children's Services Department (CSD) has already started putting these recommendations into action (see action plan at appendix 4).

3. This second stage of the review has focused on:

- Analysing those schools within the county which achieved a 100% pass rate at Key Stage 2 (level 4 and above) mathematics in 2009, as well as those that achieved well below the national average, to establish if there were any key factors causing such a variation in results.
- The work being done by teacher training facilities to increase trainees' knowledge and confidence of mathematics and develop their skills to teach it effectively in the classroom.
- How pupil progress data on mathematics throughout primary education can be used more effectively to bring about improvements in Key Stage 2 attainment.

## Background

### The National Curriculum and Key Stages

4. The National Curriculum, taught to all pupils in maintained schools in England and Wales, is made up of blocks of years known as Key Stages. Year 3 through to Year 6, when pupils are aged between 7 and 11 years old, is known as Key Stage 2.

5. Across Key Stages 1, 2 and 3 there are eight levels of achievement. At the end of Key Stage 2 teacher assessments and a series of tests (known as SATs - Standard Assessment Tests) are carried out to ascertain the level that pupils have reached. Most children are expected to achieve level 4 at the end of KS2 and this is seen as a good indicator of a pupil's chances of success at secondary school<sup>1</sup>.

### Pupil Progression

6. Pupils are expected to generally make two levels of progress within a key stage and steady progression year on year throughout KS2 should ensure that pupils have sufficient understanding and skills within mathematics to achieve well at the end of KS2. If a pupil does not progress well within just one school year this can have a knock on effect in future years as it can be difficult for the pupil to catch up. This means it is not just the responsibility of the Year 6 teacher to ensure that pupils achieve level 4 in KS2 mathematics, but the responsibility of all teachers throughout the primary school to ensure pupils progress in the subject year on year.

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<sup>1</sup> 70% of pupils who achieved Level 4 at Key Stage 2 in 1997 went on to get five or more GCSEs at grades A\*-C, whilst only 12% of those pupils who did **not** achieve Level 4 achieved five GCSEs at grades A\*-C. Department for Education and Skills, Excellence and Enjoyment, 2003, p19

7. Throughout Key Stage 2, as with other stages in education, teachers are continually assessing pupils' progress to ascertain whether they are making sufficient improvements relative to what is expected for that age group (known as 'age related expectation'). By using a monitoring grid (see example at appendix 1) teachers can quickly identify which pupils are not making the expected level of progress and take action to get them back on track as soon as possible, with perhaps extra tuition or one to one teaching.

### **Key Stage 2 mathematics – 2010**

8. A boycott of the KS2 mathematics test by 32 East Sussex primary schools, and a further 32 schools taking part in the Single Level Tests pilot<sup>2</sup>, has meant that analysing the KS2 mathematics results for East Sussex in 2010 and comparing them against previous years has been difficult. Also at this stage, October 2010, the results are still provisional and the final publication of test results, both at county and national level, are likely to change. Provisional early analysis should therefore be treated with caution.

9. For those pupils who took the test, 78% achieved level 4 and above in mathematics (a rise of 2% from 2009). Nationally mathematics results did not improve, bringing the county average to 1% below the national average.

10. To assess the overall achievement of all Year 6 pupils, teacher assessment data has had to be used and this shows that 79% of pupils achieved KS2 maths level 4 and above.<sup>3</sup>

11. Over the past 18 months the East Sussex County Council Standards and Learning Effectiveness Service (0-11)<sup>4</sup> has been working with primary schools on particular projects aimed at improving mathematics attainment.

12. The Quality Maths Programme, which started in November 2009, is a locally developed programme. It was targeted at those schools that were well below their target in mathematics and 22 of the 143 primary schools with KS2 year groups<sup>5</sup> (974 pupils) took part. Whilst recognising that other factors could also have had a positive impact on results, all but four schools on the QMP programme improved their KS2 mathematics result from the previous year (with six increasing by 20% or over). In total 120 more pupils across these schools achieved KS2 level 4 than had in the previous year.

13. Overall the Quality Maths Programme added an additional 2.4% to the East Sussex KS2 mathematics results for 2010. Given that the East Sussex KS2 mathematics result only rose by 2%, this demonstrates the positive impact that the results from QMP schools have had. However, it also raises concerns about the results of non QMP schools where the majority of KS2 mathematics results remained static or even declined.

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<sup>2</sup> With single level tests teachers can enter pupils for the test when they feel they are ready for it (tests can be taken in June or December), rather than waiting until the end of key stage 2.

<sup>3</sup> A discrepancy of 1% to 2% between test results and teacher assessments is usual and indicates that the teacher assessments are reasonably robust. Some authorities have larger gaps between test and teacher assessment data, suggesting that there is a lack of robustness in their moderation processes.

<sup>4</sup> The Standards and Learning Effectiveness Service (0-11), based within the Children Services Department, works with primary schools across East Sussex to help them raise standards by improving the quality of learning, teaching, leadership and management (a similar team carries out the same role with secondary schools).

<sup>5</sup> Whilst there are 155 primary schools in East Sussex this includes 12 infant schools that do not have KS2 year groups. A total of 143 primary schools provide KS2 education – 132 all through primary schools and 11 junior schools.

## Findings and conclusions from the interim report

### Support for pupils from parents and carers.

14. The Review Board recognises the positive role that parents and carers can play in ensuring that a child achieves their full educational potential. Evidence gathered during discussions with teachers highlighted to the Review Board that those parents and carers who have had a negative experience of education can often be reluctant to get involved with the education system again when their child starts school, and for those who developed a negative attitude towards mathematics as a child, they can, often inadvertently, pass this on to their children. Even for those parents and carers who are confident in mathematics, the modern teaching methods can be very different from how they were taught, making it difficult for them to support their child with their mathematics homework.

15. The Review Board heard several good examples of where schools have been creative in finding ways to engage with parents and carers to encourage them to get involved in their child's education, particularly around mathematics. These have included breakfast clubs, drop in sessions and workshops aimed at getting parents and carers to engage with the school, as well as sessions for parents and carers to help explain how mathematics is being taught in the classroom and mathematics challenges in school newsletters that encourage the whole family to work together on a mathematics challenge.

### **Recommendation 1**

**Building upon the good practice employed by some schools, the Standards and Learning Effectiveness Service (0-11), in partnership with schools, to develop some low cost / no cost ideas for how a county wide programme can be developed that promotes and encourages a positive culture around mathematics in schools and at home.**

### Promoting and developing mathematics within schools

16. Anecdotal evidence gathered from teachers during the course of the review revealed that not all primary school teachers are confident teaching mathematics. Increasing the confidence amongst primary school teachers in East Sussex to teach mathematics is therefore, for the Review Board, the most important building block in improving mathematics attainment.

17. The Review Board reviewed the national programmes and local courses that have been, or are being developed to support teachers to develop their skills and knowledge around mathematics and to improve the progression of those pupils with poor attainment in mathematics (see appendix 3 for more information on these).

18. The Review Board is keen to ensure that all primary school teachers are equipped with the confidence and competence to teach mathematics. It therefore supports the work being done by the SLE Service (0-11) and schools to improve the knowledge and confidence of mathematics teachers.

19. The Review Board recognises that some of this work, particularly the Mathematics Special Teacher Programme (MaST) and Every Child Counts programmes, are at an early stage and will require considerable time and effort for them to have a positive impact across all primary schools. Therefore, it is imperative that schools continue to work together and develop further ways of sharing knowledge, expertise and good practice around teaching mathematics to the benefit of all schools and pupils.

20. The Review Board is concerned that, with the end of the National Strategies in March 2011, future funding for the various programmes listed above is as yet unclear. It would urge the Children's Services Department to explore, as a matter of urgency, how funding can be accessed to ensure the continuation of these programmes.

**Recommendation 2**

**The Standards and Learning Effectiveness Service (0-11) to:**

- a) explore the development of a training course for all newly qualified and recently qualified teachers working in primary schools in East Sussex to help them build their confidence in teaching mathematics; and**
- b) work in partnership with schools to develop and enhance the current training programme so that there is a range of courses available which provide continued professional development in mathematics for primary teachers at all levels in their career.**

**Recommendation 3**

**East Sussex County Council to work in partnership with education providers and other local authorities to ensure the continuation of the Mathematics Special Teacher programme and the Every Child Counts programme.**

21. Appendix 4 contains the original action plan developed by the Children's Services Department in July 2010 to address the recommendations resulting from the interim report. The Department continues to update this and will feed back to the Children's Services Scrutiny Committee in due course on the progress in implementing these recommendations.



## Final findings and conclusions

### Key Stage 2 tests

22. The Review Board recognises the importance of tests as a valuable means of assessing the level that a pupil is at following a particular stage of their education. However, exam results alone do not give a full picture as to how well a pupil has achieved. A pupil who has achieved below level 2 by the end of their KS1 will have to make a greater level of progress to achieve level 4 by the end of KS2 than a pupil who has achieved above level 2 by the end of KS1.

23. The Review Board therefore recognises the importance of considering both KS2 test results and the level of progression pupils have made when assessing how well they have achieved during their primary education. As the review progressed the Review Board recognised that it did not simply want East Sussex primary schools to achieve higher KS2 mathematics results but for schools to ensure that all pupils were supported to progress as far as they were able to during their primary school education.

### The importance of monitoring pupil progression

24. As mentioned previously at paragraph 3, KS2 mathematics results varied considerably between schools across East Sussex in 2009. In the second part of the review the Review Board carried out further analysis of a small sample of high and low scoring primary schools in terms of KS2 mathematics results to establish if there were any obvious reasons for this vast difference. Whilst recognising that the sample of schools was small (22 schools) and only represented 31% of all primary schools with KS2 year groups, it was hoped that the analysis would give an insight into particular issues that could then be explored further by the Review Board.

25. The comparison between the two groups of schools revealed that the lower scoring schools had higher percentages of pupils who had Special Educational Needs (SEN) or were receiving free school meals (FSM) and higher levels of mobility (pupils leaving and joining the school each year or even mid way through a year).

26. The Review Board recognises that free school meal entitlement (seen as an indicator of deprivation) and special educational needs can have a negative impact on some pupils' ability to achieve. However this is not always the case, particularly with some SEN categories<sup>6</sup> that do not have an adverse impact on the ability of these pupils to achieve academically. Even taking these factors into account, there were still a worryingly large number of non SEN or FSM pupils who were also not achieving the expected level.

### **Contextual Value Added (CVA) data**

CVA data measures the attainment of pupils in comparison to pupils with similar prior attainment. This is fairer than simply using exam results since there can be a number of factors that can impact on a pupil's ability to achieve. The range of factors taken into account includes:

- Special Educational Needs
- Mobility
- Ethnicity
- Entitlement to free school meals
- Whether English is their first language

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<sup>6</sup> These include those pupils with emotional social and behaviour problems, and physical and sensory needs. There can also be high achieving Autistic pupils although their 'achievement' levels can often be highly uneven.

The data is based around a score of 100 (which indicates that pupils have made the expected level of progress). A slight deviation either side of 100 indicates that progress has been above or below what was expected:

- a score of 101 means that, on average, the cohort has achieved one terms more progress than the national average
- a score of 99 means that, on average, the cohort has achieved one terms progress behind the national average.

27. Using CVA data the Review Board noted that in lower scoring schools only two Year 6 cohorts had made the expected level of progress, with the remaining schools achieving either one or two terms less progress than the national average. For the higher scoring schools their Year 6 cohort had either made the expected level of progress or one, or even two, terms more progress than the national average.

28. All schools were known to have effective pupil monitoring systems in place (as highlighted in their most recent Ofsted report). However, these reports also highlighted that the majority of the lower scoring schools were not making consistent use of pupil progress data to recognise when pupils were not making the expected level of progress or putting in place measures to improve progression.

29. Evidence from headteachers during the review also highlighted the importance that they placed on having a robust pupil monitoring system in place to help identify which pupils were not making the expected level of progress and then acting upon this to ensure that additional support was promptly provided. Examples of the monitoring grids used by some schools were shared with the Review Board and members were impressed by how clearly these identified those pupils requiring additional support (example of a monitoring grid used by teachers can be seen at appendix 1).

#### **Recommendation 4**

**The Children's Services Department to provide advice and support to those primary schools that do not have a robust pupil monitoring system in place to help them develop such a system. Further support to be offered to all primary schools to ensure that they are using their monitoring system to effectively identify those pupils that are not progressing as expected and then putting measures in place to support these pupils.**

#### **Quality Mathematics Programme**

30. The Review Board is impressed by the outcomes of the Quality Mathematics Programme and the impact that this has had not only on KS2 results this year but also on the overall attitude to mathematics in some of these schools. The continuation of this programme for these schools, along with the extension of it to a further 50 primary schools, will help to not only improve KS2 mathematics results, but also to raise the profile of mathematics across these schools amongst teachers, pupils and parents.

#### **Teaching of mathematics**

31. The initial findings of the Review Board highlighted how some teachers, especially newly qualified teachers, can lack confidence in teaching mathematics and this can impact upon the level of learning in their class.

32. Evidence from a small sample of teacher training facilities highlighted the emphasis that they placed on mathematics during training and the additional support available for their students who may be struggling with mathematics or who do not feel confident teaching it. However good the initial teacher training at university is though, it is not possible to fully prepare all students for teaching mathematics in their first year as a teacher.

33. Recommendation 2 of the interim report requested that the Children's Services Department looked at ways to support newly qualified teachers to help them in teaching mathematics and ensure continued professional development for mathematics is available for all teachers. The Review Board hopes that the responses to this recommendation (see page 17), which includes introducing a locally developed confidence-building mathematics training course for all newly and recently qualified teachers and mathematics co-ordinator networks, will go some way to address these issues. However, the scale of the task is daunting. With approximately 1,900 primary school teachers across the 154 primary schools East Sussex all teaching primary mathematics, it will take time for all of those teachers requiring additional training and support to be able to access it.

#### Leadership in schools

34. The Review Board recognises that leadership is one of the most important factors in ensuring that a school is effective in providing good quality education. Evidence taken from headteachers highlighted the importance of having a strong senior management team in place within a school to drive forward and maintain improvements and that all staff across a school had to be involved in bringing about change so that they have ownership of this improvement.

35. An important role for a headteacher is to regularly review performance of all their teachers, offering support, advice and access to training whenever necessary to ensure that they remain confident and competent in their role. Occasionally headteachers have to tackle an issue of poor teaching and, where necessary, initiate a formal process for unacceptable performance. The Review Board recognises that handling an unacceptable performance issue can be a difficult and complicated process for a headteacher to manage and access to professional support and guidance can be critical to ensure that the process is handled correctly.

36. The County Council has procedures in place which provide a formal structure in which schools can manage the process of unacceptable performance. With the Personnel Services Advisory Team able to offer support and guidance to headteachers on how to manage this process. The Review Board is supportive of this work. However, it would wish to see this support strengthened and a more proactive approach taken by officers to discuss issues with headteachers earlier on in the process and monitor the action that has been taken.

#### **Recommendation 5**

**The Children's Services Department to ensure that all headteachers have the necessary systems in place to promptly identify and support teachers who may require additional support and training in teaching mathematics.**

#### **Recommendation 6**

**The Personnel Services Advisory Team to increase the level of advice and support that is available to headteachers on handling personnel matters through regularly attending cluster meetings, holding training sessions and being proactive in their approach to following up issues with headteachers.**

#### The role of governing bodies

37. A headteacher is accountable to the governing body for ensuring that there are continued improvements in the school. A valuable tool in enabling a governing body to hold their headteacher to account is pupil progress and attainment data reports. East Sussex is one of only a few Local Authorities that shares school data packs with governors so that they can monitor pupil progress. This practice has been in place for a couple of years.

38. To help governors in their leadership role Governor Services runs two specific courses for both individual governors and whole governing bodies to enable them to understand how to interrogate data that they receive and how to ask the right questions to ensure they are offering robust challenge, as appropriate, to ensure improvements are made within their school.

39. As part of their research the Review Board conducted a mock governing body data analysis session and used examples of the data pack to ask a 'headteacher' about the performance of pupils. This practical exercise was extremely useful in enabling the Review Board to understand how data is presented to governors and the ways in which it can be interpreted. The Review Board found that the data pack was an excellent tool for enabling governors to understand exactly how well pupils were progressing and to highlight areas of concern which needed addressing. However, the information in the pack is complex and, as evidence from one headteacher revealed, even after receiving training some governing bodies may still struggle to make the best use of the data and challenge their headteacher appropriately.

40. The Review Board highlighted particular areas where it felt the governor data pack should be improved:

CVA and attainment chart (see appendix 2 for an example of this chart)

- Greater emphasis on the example of the chart (with perhaps a shaded 'danger area') so that governors are clear as to which areas within the chart indicate that the school is not performing and could be failing its pupils.
- Additional information provided on CVA scoring so that governors clearly understand that one point below a score of 100 actually means that the pupils are one whole term behind in terms of progress.

Questions to ask

- The question section to be expanded to include a list of 'danger points' that governors should be looking out for when analysing the data and the type of questions they should then be asking.

#### **Recommendation 7**

**The Children's Services Department to make improvements to the governor data pack, as outlined at paragraph 40, so that the information contained within it can be easily interpreted by all governors when carrying out their role of monitoring performance in their school.**

**Example of a grid used by teachers to monitor progress in mathematics over four terms**

N.B: The grey shaded area indicates the *approximate* expected end-of-year National Curriculum (NC) levels.

|            | NC Level 1 | NC Level 2 |                     |                                 | NC Level 3   |  |  | NC Level 4  |   |                      | NC Level 5           |
|------------|------------|------------|---------------------|---------------------------------|--|--|--|---|---|----------------------|----------------------|
|            |            | lower      | secure              | upper                           | lower  | secure   | upper  | lower   | secure  | upper                |                      |
| May Year 4 |            | Child 1    | Child 2<br>Child 11 | Child 3<br>Child 12<br>Child 20 | Child 4<br>Child 9<br>Child 13<br>Child 17<br>Child 21<br>Child 27             | Child 5<br>Child 14<br>Child 18<br>Child 19<br>Child 22<br>Child 26<br>Child 28<br>Child 30            | Child 6<br>Child 15<br>Child 23<br>Child 29                          | Child 7<br>Child 16<br>Child 24                         | Child 8<br>Child 25   | Child 10             |                      |
| Oct Year 5 |            | Child 1    | Child 11            | Child 3<br>Child 2              | Child 4<br>Child 9<br>Child 13<br>Child 12<br>Child 17<br>Child 20<br>Child 27 | Child 5<br>Child 14<br>Child 18<br>Child 21<br>Child 22<br>Child 26<br>Child 28<br>Child 30            | Child 6<br>Child 15<br>Child 19<br>Child 23<br>Child 29              | Child 7<br>Child 16<br>Child 24                         | Child 8<br>Child 25   |                      | Child 10             |
| Feb Year 5 |            | Child 1    |                     | Child 3<br>Child 11             | Child 2<br>Child 4<br>Child 12<br>Child 20                                     | Child 5<br>Child 9<br>Child 13<br>Child 17<br>Child 21<br>Child 22<br>Child 26<br>Child 27<br>Child 28 | Child 14<br>Child 18<br>Child 19<br>Child 29<br>Child 30             | Child 6<br>Child 15<br>Child 16<br>Child 23             | Child 7<br>Child 8<br>Child 24<br>Child 25                        |                      | Child 10             |
| May Year 5 |            |            | Child 1             | Child 11                        | Child 2<br>Child 3<br>Child 4<br>Child 20                                      | Child 9<br>Child 12<br>Child 13  | Child 17<br>Child 21<br>Child 22<br>Child 26<br>Child 27<br>Child 28 | Child 5<br>Child 14<br>Child 19<br>Child 29<br>Child 30 | Child 6<br>Child 7<br>Child 8<br>Child 15<br>Child 18<br>Child 23 | Child 16<br>Child 24 | Child 10<br>Child 25 |

## **Explanation of pupil progress in the grid**

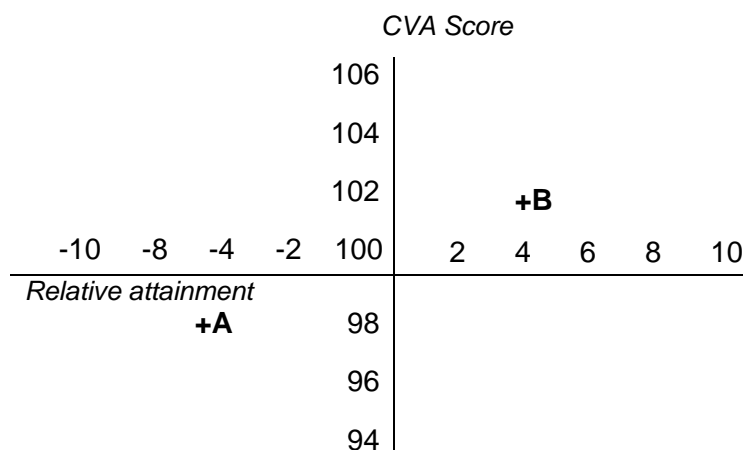
Child 1 – this child is likely to have special educational needs and will be receiving additional support in the classroom

Child 4 – this child has not made any progress during Year 5. Unless there is an outside factor which has had a negative impact upon the pupil (eg illness or family issues) then the headteacher should be raising particular concerns about this pupil with the classroom teacher and finding out why progress has not been made.

Child 10 – this child is likely to be gifted and talented. The teacher should be providing them with additional work that is challenging and stretching for them.

Child 19 – this child is making the expected level of progress at each stage

**Example of a chart contained within the governor data packs to highlight how well the school is performing**



**School A**

A school in this quadrant of the graph is not performing well and could be failing its pupils. It is also vulnerable to a poor Ofsted inspection.

- CVA score of 98 = the pupils have achieved two terms progress behind the national average.
- Relative attainment score of -4 = the school is 2 attainment sub-levels behind the national average.

**School B**

A school in this quadrant of the graph is performing well.

- CVA score of 102 = the pupils achieved two terms progress above the national average
- Relative attainment score of 4 = the school is 2 attainment sub-levels above the national average

*CVA data – see box on pages 8 and 9 for more details on this.*

*Relative attainment – this is a school's Average Point Score (APS) minus the equivalent national APS figure for the year. Two APS points are equal to one attainment sub-level.*

### Local and national courses aimed at supporting teachers in mathematics

#### Subject knowledge courses

These are locally developed courses that have been set up by the SLE Service (0-11) to help primary school teachers improve their subject knowledge at Key Stage 2 across a range of areas. Each half day course covers one particular area, such as fractions, decimals and percentages; ratio and proportion and measures. These courses run once or twice a year and are well attended by teachers at all levels. Feedback has been very positive, with 100% of attendees stating that the course will help them make changes and improvements in practice.

#### Mathematics subject leaders

The SLE Service (0-11) runs local courses for those mathematics subject leaders who are new to the role, as well as refresher courses for existing subject leaders, to help support these teachers in their role. Feedback on the courses has been very positive, with 100% of attendees on the 'new to mathematics subject leadership' course stating that they will make improvements in their subject leader role as a result of attending the course.

#### Every Child Counts teachers

This is a national programme funded through the former DCSF. It works with the lowest attaining Year 2 pupils to ensure that they make sufficient progress to reach the expected levels of attainment at Key Stage 1 and beyond. Twelve schools began the programme in September 2010.

#### Quality Maths Programme

This programme is bespoke to East Sussex and is funded through the National Strategies<sup>7</sup>. It aims to improve the quality and teaching of mathematics and raise the expectations of pupils. Twenty two primary schools took part in the launch in November 2009 (a total of 888 pupils). These schools analysed where each of their pupils was at in terms of their development and highlighted areas for improvement. Consultants worked with the schools to help improve the quality of mathematics teaching and learning to bring pupils up to the required standard. The programme was extremely successful (see paragraph 12) and the programme is being rolled out to a further 50 primary schools in 2010/11.

#### Mathematics Special Teacher Programme (MaST)

This programme is a two year Masters level course (equivalent to one third of a Masters on completion). It has been developed in partnership with the University of Sussex and three neighbouring local authorities (West Sussex, Surrey and Brighton and Hove), with funding from the former DCSF. The course focuses on progression, the teaching of mathematics (pedagogy) and subject knowledge from Foundation Stage right through to Key Stage 3. Once qualified these teachers will have the ability and knowledge to take on the role of a mathematics specialist teacher (as highlighted in Sir Peter Williams' report<sup>8</sup>). An initial group of 10 teachers in East Sussex began the course in January 2010, with a further group starting in September 2010. The plan is for further cohort to start in September 2011, subject to funding.

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<sup>7</sup> The National Strategies are professional development programmes developed at a national level for early years, primary and secondary school teachers, practitioners and managers. They are aimed at improving the quality of learning and teaching in schools and early years settings and raising standards of attainment. The Strategies began in 1998 and are delivered at a national level by Capita Strategic Children's Services on behalf of the former DCSF.

<sup>8</sup> Department for Children, Schools and Families, Independent Review of Mathematics Teaching in Early Years Settings and Primary Schools, Final Report – Sir Peter Williams, 2008



Response from the Children's Services Department to the recommendations in the interim report (as at July 2010)

| Recommendation | Response  | Time scale  |
|----------------|---|---|
| <p>1</p>       | <p>Building upon the good practice employed by some schools, the Standards and Learning Effectiveness Service (0-11), in partnership with schools, to develop some low cost / no cost ideas for how a county wide programme can be developed that promotes and encourages a positive culture around mathematics in schools and at home.</p> <ul style="list-style-type: none"> <li>• Publish suggestions on Virtual School Bag (VSB) for promoting effective interaction between home and school to raise the profile of mathematics. eg. "Keeping up with the Children" programme aimed at supporting parents with mathematics.</li> <li>• Learning Platform mathematics resources updated and re-launched.</li> <li>• East Sussex Mathematics Fortnight (possibly including a Mathematics Road Show)</li> <li>• Establish a second Quality Mathematics Programme (QMP2) with the schools identified to be coached by selected schools from QMP1 cohort.</li> <li>• Parent-link advisers conduct survey of callers to promote awareness of the county drive for improved status of mathematics.</li> <li>• Focus group of teachers, parents and local businesses to devise low cost / no cost strategies to promote positive culture around mathematics.</li> <li>• Business links explored to promote links with numeracy in the workplace. eg. Hotels, ESCC</li> <li>• Investigate links with celebrities in East Sussex with mathematics in their job</li> <li>• Share mathematics conference evaluations and summary suggestions with all schools through the VSB</li> <li>• Leading Mathematics Teachers coaching programme for coasting schools</li> </ul> | <p>Quarterly</p> <p>September 2010</p> <p>Spring 2011</p> <p>September 2011 – July 2012</p> <p>September 2010</p> <p>From September 2010 (4 meetings initially)</p> <p>Spring 2011</p> <p>Summer 2010</p> <p>Summer 2010</p> <p>September 2010- July 2011</p> |

| Recommendation |   | Response   | Time scale   |
|----------------|---|--|--|
| 2              | <p>The Standards and Learning Effectiveness Service (0-11) to:</p> <p>explore the development of a training course for all newly qualified and recently qualified teachers working in primary schools in East Sussex to help them build their confidence in teaching mathematics;</p> | <ul style="list-style-type: none"> <li>• Design bespoke confidence- building mathematics training course for all newly qualified and recently qualified teachers working in primary schools in East Sussex.</li> <li>• Use Leading Mathematics (LMT), QMP1 and Primary Mathematics Specialist Teacher Programme (MAST) teachers to provide mathematics - buddy support to newly qualified and recently qualified teachers. Consider web based or text based solution.</li> <li>• Promote Communication, Language &amp; Literacy Development (CLLD) teachers' understanding of mathematics through the language of mathematics in EYFS and link with Children's Centres.</li> </ul>   | <p>June 2010</p> <p>To run 3 times Terms 2-3 (2010 – 11) for 90 teachers</p> <p>From September 2010</p> <p>From October 2010</p> |
|                | <p>work in partnership with schools to develop and enhance the current training programme so that there is a range of courses available which provide continued professional development in mathematics for primary teachers at all levels in their career.</p>                       | <ul style="list-style-type: none"> <li>• Review current training provision and maximise resource use to improve the quality of teaching and learning in mathematics. eg. secondary mathematics team support Level 5 development work; an ICT consultant, with mathematics competence, has been drafted to support the Mathematics consultancy team</li> <li>• QMP1 celebration conference to establish follow up activities and Community of Practice through the Virtual Learning Environment (VLE)</li> <li>• QMP1 practice shared and consolidated via Learning Platform Community of Practice eg, case studies.</li> <li>• Establish mathematics coordinator networks across the County for training and sharing expertise and strategies</li> </ul> | <p>August 2010</p> <p>September 2010</p> <p>September 2010 – July 2011</p> <p>September 2010 onwards</p>                         |

| Recommendation |  | Response  | Time scale   |
|----------------|--|---|--|
| 3              | East Sussex County Council to work in partnership with education providers and other local authorities to ensure the continuation of the Mathematics Special Teacher programme and the Every Child Counts (ECC) programme. | <ul style="list-style-type: none"> <li>• Partnership meetings with Brighton and Hove, West Sussex and Surrey to secure implementation of effective MAST programme.</li> <li>• Every Child Counts (ECC) teachers fully engaged in promoting improved quality of mathematics provision with regular opportunities to share practice more widely.</li> <li>• Discuss possible Library Service focus on mathematics. Continue consortium partnership with Brighton and Hove and West Sussex to provide continuity &amp; high quality Local Authority offer.</li> <li>• Discuss possible Library Service focus on mathematics with head of ESCC Library Service &amp; agree actions.</li> <li>• Explore financial implications of seconding a Teacher Leader in Training to the Standards and Learning Effectiveness team to train 24 teachers in 2<sup>nd</sup> year 2011-2012</li> </ul> | <p>Termly</p> <p>September 2010 – July 2011</p> <p>September 2010 – July 2011</p> <p>August 2010</p> <p>September 2010 – August 2012</p> |

### Review Board membership and support

Review Board Members: Councillor Michael Ensor (Chairman), Councillor Rosalyn St Pierre and Councillor Francis Whetstone. Nerissa Parker, a Parent Governor Representative, was a member of the review board until April 2010, when she stood down from the Children's Services Scrutiny Committee.

The Project Manager was Gillian Mauger (Scrutiny Lead Officer).

### Review Board meetings and visits

Review Board meetings: 20th November, 16th December, 26th February, 16th March, 20th April, 4th May, 14th May, 16<sup>th</sup> July, 2<sup>nd</sup> September, 28<sup>th</sup> September and 19<sup>th</sup> October

School visits:

- Sidley Community Primary School, Bexhill on 2<sup>nd</sup> March
- Hoddern Junior School, Peacehaven on 5<sup>th</sup> March

Focus sessions: held with teachers attending a Leadership and Management event at Deans Place, Alfriston on 8<sup>th</sup> and 11<sup>th</sup> March

### Sources of evidence

#### Local evidence

- Data on Key Stage 2 results for East Sussex and statistical neighbours
- Fisher Family Trust data for East Sussex at Key Stage 2
- Leadership Effectiveness and Succession Planning: Cultivating Excellence in Leadership, East Sussex School Improvement Service
- Office for Standards in Education, Children's Services and Skills (Ofsted) inspection reports for schools in East Sussex
- Procedure for the Management of Unacceptable Performance within Schools, East Sussex County Council

#### National evidence

- Excellence and Enjoyment: A Strategy for Primary Schools, Department for Education and Skills, 2003
- Every School a Good School, Department for Education and Skills, 2008
- Every Child Matters: Change for Children, Department for Education and Skills, 2004
- Kids don't Count, Channel 4 Dispatches programme, February 2010
- Independent Review of Mathematics Teaching in Early Years Settings and Primary Schools, Department for Children, Schools and Families, 2008
- Progression Guidance 2009-10, Department for Education and Skills, 2009
- So what's so great about...mathematics? Radio 4 programme, 9<sup>th</sup> January 2010
- The Annual Report of Her Majesty's Chief Inspector of Schools 2004/05: Mathematics in primary schools, Ofsted, 2005
- The Long Term Costs of Numeracy Difficulties, Every Child a Chance Trust, 2009
- The National Literacy and numeracy strategies and the primary curriculum, Ofsted, 2005
- Training of Teachers, House of Commons Children, Schools and Families Committee, 2010
- Your Child, your schools, our future: building a 21<sup>st</sup> century schools system (summary), Department for Children, Schools and Families, 2009

### Witnesses providing evidence

The Board would like to thank all the witnesses who provided evidence to the Review Board.

East Sussex County Council Officers:

- Lorraine Bangert, Senior Standards and Effectiveness Manager: Intervention and Innovation
- Catherine Dooley, Senior School Development Adviser
- Adrian Money, Virtual Head
- Greg Nicol, Personnel Manager
- Mark Nunns, Information Manager, Data, Research and Information Team
- Claire Roberts, Teaching and Learning Manager: Maths Lead KS1 and KS2
- Nina Siddall, Head of Standards and Learning Effectiveness (0-11)
- Clive Whitburn, Senior Standards and Effectiveness Manager: Planning and Performance (0-11)
- John Williams, Personnel Manager

Other witnesses:

- Allison Baines, Headteacher of Blacklands Primary School, Hastings
- Nancy Barclay, Senior Lecturer in Mathematics Education, University of Brighton
- Kay Crush, Business Manager, Hoddern Junior School
- Tricia Eastley, Headteacher of Danehill Church of England Primary School, Danehill
- Robert Evans, Headteacher, Hoddern Junior School
- James Freeston, Deputy Headteacher, Sidley Primary School
- Lawrence Nickolls, Mathematics Lead, Hoddern Junior School
- Debbie Redman, Year 6 teacher, Sidley Primary School
- Pat Strickson, Headteacher, Sidley Primary School
- Darren Vallier, Headteacher of Langney Primary School, Eastbourne

*During the course of the review members visited two East Sussex schools to observe mathematics lessons in progress. They found this to be a most interesting experience as it gave them a real insight into what it is like to teach mathematics at primary school level. They were impressed by the level of professionalism of the teachers they witnessed and the energy generated in the classroom. The Review Board would like to thank all the teachers, administration staff and pupils that they met during these visits.*

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An information pack containing the research carried out during the review obtained by contacting the Scrutiny Lead Officer