

Research Report DCSF-RR006

Raising the Achievement of Bilingual Learners in Primary Schools

Statistical Analysis

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National Foundation for Educational Research

department for
children, schools and families

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Executive summary

Introduction

This research was conducted by a team at the National Foundation for Educational Research (NFER) between 2004 and 2006 on behalf of the Department for Children, Schools and Families (DCSF)¹. This brief summarises the key findings from the statistical aspects of the research, but also draws upon findings from case-study visits and interviews carried out in 21 schools and seven local authorities (LAs) previously published by the DfES (White et al., 2006). The main aim of the statistical phase of the research was to assess the impact of the pilot on the attainment of bilingual pupils in participating primary schools.

Key findings

Initial multilevel models compared improvements in achievement for all pupils in programme or associate local authorities or schools, to those for all pupils in other schools in the pilot LAs. The key findings were as follows:

- **Better progress in KS2 English.** Schools involved in the EAL programme made more progress in their Key Stage 2 English results between 2004 and 2006 than similar schools not involved in the programme.
- **No differences in KS2 mathematics and science.** No significant differences in the rates of progress were found in relation to pupils' Key Stage 2 results in mathematics and science in programme schools compared to pupils' results in non-programme schools between 2004 and 2006.

Each of the multilevel models was extended to explore whether there were any differences in the rates at which all schools involved in the analysis were improving their attainment for EAL and non-EAL learners. The key findings from the subsequent multilevel models were as follows:

- **No differences between EAL and non-EAL learners.** There were no significant differences in the rates of improvement for EAL and non-EAL learners in programme schools with regard to KS2 mathematics and science results between 2004 and 2006. With one exception (see next point), there were also no significant differences between EAL and non-EAL learners in programme schools with regard to KS2 English results.
- **Better progress in KS2 English for non-EAL pupils in cohort 2 schools.** The one exception to the previous point relates to English results

¹ On the 28th June 2007, the Department for Education and Skills became the Department for Children, Schools and Families.

for schools involved in cohort 2 of the programme (those that joined in 2005/06). In these schools, KS2 English results for EAL pupils had improved by a smaller margin than results for similar non-EAL pupils and this was statistically significant.

Background

The raising achievement of bilingual learners pilot programme was originally announced in January 2004 and involved 21 local authorities. Each pilot authority received funding to appoint an EAL consultant to work in participating primary schools in partnership with PNS consultants. An additional 45 LAs participated in the pilot programme as associate authorities: these authorities did not have the funded support, but had access to the pilot materials. In 2005 the pilot became the EAL Primary National Strategy Programme and in 2006 new materials were published to support schools in promoting the progress and achievement of advanced EAL learners, as well as other learners. Also in spring 2007, eight regional EAL programme hubs, led by 14 local authorities, were launched, in order to provide opportunities for sharing and developing good practice.

Summary of research methods

The evaluation made use of a number of research methods and was carried out in three phases: phases 1 and 2 involved fieldwork visits and detailed interviews with personnel in 21 pilot schools in seven local authorities (White et al., 2006); and phase 3, reported here, consisted of the statistical analysis of two years' of Key Stage 2 attainment data. Attainment data and details of pupil characteristics, including EAL data, were obtained from the National Pupil Database (NPD). The analysis of pupil performance data, expressed as point scores, was carried out in order:

- (a) to explore if schools involved in the pilot programme had achieved any discernible improvement in the Key Stage 2 performances of their pupils, over one year (by 2005) or two years (by 2006), using 2004 data as the baseline;
- (b) to examine whether Key Stage 2 attainment, in the pilot schools was improving faster than in schools not involved in the programme, over the same time period.

Multilevel modelling was used because this is a technique that takes into account any differences in the characteristics of pupils or schools: it allows researchers to disentangle the effects of various characteristics. The technique was used to determine the significance and size of any differences in the trends in the data, and separate models were run for English, mathematics and science.

Discussion

A key positive finding from the analysis was that Key Stage 2 English results had improved more for pupils in programme schools than for similar pupils in non-programme schools. This was true for both cohort 1 schools (joined the programme in 2004/05) and cohort 2 schools (joined in 2005/06). The statistical analysis does not provide any evidence about the possible reasons for these improvements, but the qualitative findings from the earlier evaluation (White et al., 2006) may be helpful in this respect. From the case-study visits it was evident that in a number of schools the programme was grounded in literacy and this was the area where several schools first applied some of the interventions. It appears that the intensive support from the consultant, together with the support from the local authority that the schools received over the two years, may have had a small, but discernible positive effect on Key Stage 2 English results.

The fact that there were no significant differences in Key Stage 2 mathematics or science results for programme schools compared to non-programme schools could perhaps be explained by the fact that interventions and changes in policy and practice may have been less embedded in mathematics and science than in the subject of English in the first two years. This was certainly evident in some of the case-study schools.

The finding that, in general, there were no significant differences in the rates of improvement for EAL and non-EAL pupils in programme schools may have a number of explanations (and implications). The finding can possibly be explained by the fact that one of the key strengths of this programme, found from the qualitative research, was its ability to reach a broad range of pupils, and to not necessarily confine the practices to EAL learners or Key Stage 2 pupils. Teachers adopted particular teaching approaches such as planned opportunities for speaking and listening and the use of curricular/layered targets to plan for language development. These approaches would have assisted both EAL and non-EAL learners in their learning.

The fact that non-EAL learners' Key Stage 2 English results in cohort 2 programme schools had improved by a significantly larger margin than for EAL learners is perhaps not surprising given that these pupils had only been involved in the programme for one year and the effects of an intervention are often very difficult to identify after such a short period of time. Indeed the changes in pupils' results may not be related to programme involvement.

Recommendations

A number of recommendations were made in the qualitative evaluation of the pilot/programme and it was evident that follow-up actions had been taken in relation to many of these. With the set up of the EAL programme hubs, and

the introduction of the EAL materials that are available to assist all schools in teaching EAL learners, the programme is now firmly embedded within the Primary National Strategy. Further recommendations include:

- Given the importance of the materials presented in *Excellence and Enjoyment: learning and teaching for bilingual children in the primary years* materials, it is recommended that continued evaluation of these should take place.
- It is recommended that while continuing the emphasis on English/literacy, further emphasis should be placed on the programme interventions as being applied to subjects across the curriculum, particularly in mathematics and science.
- Local authorities and schools need to consider how they use the programme and the CPD materials to develop greater precision in their teaching in order to close the attainment gap between bilingual and other learners.

1. Introduction

1.1 Context

In January 2004, the Ethnic Minority Achievement Unit announced that the Primary National Strategy (PNS) would be developing a pilot project in 21 local authorities (LAs), with the principal aim of increasing ‘the confidence and expertise of mainstream primary teachers in meeting the needs of advanced bilingual learners’ and of closing the attainment gap between bilingual learners and those whose first language is English (DfES, 2004). Each pilot authority received funding to appoint an English as an Additional Language (EAL) Consultant to work in participating schools in partnership with PNS consultants and link advisers/inspectors as well as the school leadership team. Additionally, 45 LAs participated in the pilot as associate LAs without the funded support but with access to pilot materials.

In 2005 the pilot became the EAL Primary National Strategy programme. In October 2006, materials titled ‘Excellence and Enjoyment: learning and teaching for bilingual children in the primary years’ were published (DfES, 2006) to support schools in promoting the progress and achievement of advanced EAL learners, as well as other learners. The professional development materials draw on the pilot’s Continued Professional Development (CPD) materials and incorporate practice developed in schools as a result of the pilot programme. They provide guidance for headteachers and school leadership teams, in particular on assessment for learning, planning and teaching and include DVD exemplification of effective practice for bilingual learners. The other major development that occurred was the launch of eight regional EAL programme hubs led by 14 LAs. These hubs are LA networks which aim to provide opportunities for sharing and developing expertise and good practice across schools and LAs. They aim to share specialist expertise within the region through:

- *promoting, consolidating and embedding the EAL programme in schools and LAs in order to increase the impact on the quality of learning and teaching and raise the standards achieved by advanced learners of EAL;*

- *providing support and challenge for the development of partnerships between Primary National Strategy, Ethnic Minority Achievement, Link Adviser and Inspector, School Improvement Partner and other LA teams in order to align the support to schools and help close attainment gaps; and*
- *providing support and challenge for LAs and schools as they develop their ability and capacity to independently manage and sustain continued improvement, with a particular focus on standards and progress of bilingual learners.*

2. Research aims

The National Foundation for Educational Research (NFER) was commissioned by the DCSF to evaluate the EAL pilot. The aims of the research were to:

- assess the impact of the pilot on the attainment of bilingual pupils in the primary schools participating in the pilot;
- assess the effects of the pilot in improving teacher confidence in meeting the needs of their bilingual pupils;
- assess the effects of LA management arrangements and of LA school improvement interventions in supporting schools to meet the needs of their bilingual learners; and
- identify the most successful interventions/practice in achieving the aims of the project.

This report addresses the first aim of the research outlined above. The other aims of the research have been addressed in a previous qualitative report (White *et al.*, 2006).

2.1 Key findings from the qualitative evaluation of the pilot (phase one and phase two)

The focus of this report is on the statistical analyses of pupil performance data in Key Stage 2. This quantitative research, however, needs to be seen in the context of two phases of qualitative research that have already been carried out and have been reported in the form of a DfES Research Report (see White *et al.*, 2006). Further details of the qualitative case-study visits to schools in seven LAs are provided below. The two phases of the qualitative research of the evaluation involved:

Phase one (May 2004 – March 2005)

- telephone interviews with the Primary Strategy Manager, the manager of the EMA service and the pilot consultant in each of the seven authorities (21 interviews); and

- visits to 19 schools across the seven authorities to interview a range of staff; along with telephone interviews with two further schools (total of 116 interviews).

Phase two (April 2005 – March 2006)

- telephone interviews with local authority managers (as in phase one, 21 interviews);
- follow-up visits to 13 phase one schools;
- telephone interviews with the remaining seven phase one schools (one school dropped out of the evaluation in phase two); and
- visits to three new case-study schools recommended by the LAs for having made interesting developments in their initial year of the pilot (in total, over 70 interviews took place in phase two).

Three interviews were conducted with Primary Strategy regional director(s) in the course of the two phases.

The main findings from the qualitative evaluation were as follows:

- a key strength of the EAL programme was its ability to reach a broad range of pupils;
- the programme had the greatest immediate impact when an effective consultant had support from local authority colleagues and went into a school where there was strong commitment to the programme from the senior leadership team; and
- the programme succeeded in helping to improve teacher confidence in meeting the needs of their bilingual learners.

3. Research method (quantitative phase)

The NFER team had previously compared Key Stage 2 performance data from 2005, following the first year of programme involvement, with baseline data from 2004, before intervention. This analysis found that involvement in the programme had not at that stage had any noticeable overall impact on pupils' Key Stage 2 attainment. This was perhaps not surprising, given that the programme only began in the school year 2004/05.

This report focuses on the further analysis of pupil performance data to explore if schools involved in the pilot/programme achieved any discernible improvement in the Key Stage 2 performances of their pupils. The analysis used baseline data from 2004 and performance data from 2006, following two years of programme involvement. Any evident trends in performance were then compared to trends for schools in local authorities not involved in the programme to determine whether programme schools were improving faster than those schools not involved. These findings will obviously not reflect any developments that have occurred in the EAL programme since 2006, including the launch of the EAL programme hubs in spring 2007.

3.1 Data sources

Data identifying LAs and schools participating in the pilot/programme was collated by the primary national strategies and sent to NFER in February 2006. This supplied details of participating schools in the 2004/05 and 2005/06 school years. The programme consultants also completed a short proforma that provided information about the reasons why individual schools had not continued in the programme in 2005/06.

The PNS also provided a list of associate LAs and schools. Whereas intervention in the pilot/programme schools began at the start of the autumn term in 2004, associate schools were being recruited throughout 2004/05 and there was no single identifiable date when they became involved. The data on these schools was not differentiated by school year.

NFER's Register of Schools was used to define comparison groups of schools against which to compare the performance of the pilot/programme and associate schools. Pupil performance data and details of pupils' background characteristics for 2004, 2005 and 2006 were obtained from the National Pupil Database that was made available to NFER by the DfES. Full details of school and pupil numbers can be found in Tables A to D in Appendix 2.

Multilevel modelling

The aim of the analysis was to ascertain whether Key Stage 2 attainment in those schools involved in the bilingual learners programme was improving faster than in other schools. The results intended to give an indication of the impact that the programme was having on pupil attainment. Multilevel modelling was used as the main analysis technique in order to make sure that any differences between the characteristics of those pupils and schools involved in the programme and those which were not involved were adequately taken account of.

This technique was used to determine the significance and size of any differences in the trends in the data. Multilevel modelling takes account of data which is grouped into similar clusters at different levels. For example, individual pupils are grouped into schools and these schools are grouped into local authorities. There may be more in common between pupils within the same school than between pupils in different schools, and there may be elements of similarity between different schools in the same LA. Multilevel modelling allows this hierarchical structure to be taken into account. Failing to do this can lead to overestimating the significance of differences between groups.

In order to capture the changes in the levels of attainment between 2004 and 2006, levels achieved at Key Stage 2 were converted into point scores for further analysis (see Table 1). Using a summary measure such as point scores was crucial for this analysis as it captured all of the changes in levels of attainment in a single measure. Approaching analysis in this way gave equal importance to improvements in attainment at all levels and provided a more rounded picture of the impact of the programme on attainment, than analysing

performance at individual thresholds (for example by purely considering changes in the percentage of pupils achieving level 4).

Table 1. Converting test levels to point scores

Level	Points
Below level of test/No test level awarded	9
Level 2	15
Level 3	21
Level 4	27
Level 5	33

Separate multilevel models were run using points scores from each subject (English, mathematics, science) as outcomes. The models estimated the change in the performance of programme schools relative to the change in other schools, taking account of changes that had taken place in the background characteristics of the pupils attending each school.

An alternative to this approach would be an analysis of the percentage of pupils achieving at or above a particular level (e.g. the percentage of pupils achieving level 4 or above). The disadvantage of this form of analysis is that it ignores improvements in attainment at lower or higher levels. For example, analysing the percentage of pupils achieving level 4 or above would fail to appreciate changes in the percentage achieving level 5. As a result analysing attainment in terms of single thresholds is a less powerful form of analysis and is not presented in this report.

It is important to note that although Key Stage 2 attainment is referred to in terms of point scores these do not refer to the number of marks achieved in tests. Point scores as described in this analysis are simply a mapping of test levels to an agreed numerical value.

Multilevel modelling was used to explore the relationships between the scores described above and various pupil and school characteristics. Multilevel modelling is a development of a common statistical technique known as ‘regression analysis’. It is a technique for finding a relationship which allows us to predict the values of some measure of interest given the values of one or more related measures. The research team wished to predict pupils’ attainment

given some background factors such as prior attainment at Key Stage 1, age, gender, special educational needs status, eligibility for free school meals, ethnicity and EAL, mobility, pupil intake ratio and school size, census information about the areas where pupils lived and whether the school was involved in the bilingual learners' programme.

Multilevel modelling allows us to disentangle the effects of related characteristics. For example, gender and prior academic achievement are related, that is, girls generally have better prior achievement than boys. Results of multilevel modelling show the difference between boys and girls that would be seen if prior achievement was equal between the two groups.

Information about individual pupils was derived from the National Pupil Database (NPD). In addition to this, pupil post codes provided on the NPD were matched to census information to give indications of occupational status, health and deprivation in the areas that each pupil lived in. School level information was obtained from the NFER's Register of Schools and other publicly available data. The analysis found a large number of relationships between attainment and the background characteristics of pupils and schools.

It should be noted that the model uses English as an Additional Language (EAL) data to define whether a pupil is bilingual, and hence whether they were originally an immediate target for the intervention. At the outset of the pilot, the pupil cohort concerned advanced bilingual learners. Ofsted (2005) defines these as:

pupils who have had all or most of their school education in the UK and whose oral proficiency in English is usually indistinguishable from that of pupils with English as a first language but whose writing may still show distinctive features related to their language background.

p. 1 (footnote 1)

A more recent definition of 'advanced learner of EAL' that is used within the EAL primary programme is as follows: 'a term used to describe children who have had considerable exposure to English and are no longer in the early stages of English language acquisition. These are children, often born in this country, who appear to be fluent in ordinary everyday conversational contexts, but who require continued support in order to develop the cognitive and academic language necessary for educational success' (DfES, 2006, p.2).

The research team felt that it was appropriate to use EAL data as the multilevel modelling analysis only includes those pupils who have taken national tests since they were in Year 2, and thus they will have had at least four years' experience of education in the UK. It should also be noted that once the pilot/programme was underway the cohort widened considerably and it was used flexibly to help a wide range of pupils, both EAL and non-EAL learners.

3.2 Definitions of groups of schools used in the statistical analysis

Using the data on the involvement of LAs and schools in the pilot/programme several groups of primary schools were defined for subsequent statistical analysis:

- Schools that joined the programme in 2004/05 regardless of whether this involvement was sustained (referred to as cohort 1 programme schools). There were 207 schools in this group.
- Schools that joined the programme in 2005/06 (referred to as cohort 2 programme schools). There were 57 schools in this group.
- Schools identified as associate schools (i.e. those schools which participated in the pilot without funded support but with access to pilot materials). There were 198 schools in this group.

In Appendix 3 (Tables E and F), the results for the above groups of schools are compared to:

- All schools in LAs that had no involvement as programme or associate authorities. There were 10930 schools in this group.
- All schools in programme LAs including pilot schools. There were 2517 schools in this group.
- All schools in associate LAs including associate schools. There were 2818 schools in this group.

3.3 Descriptive information

Before describing the results of the multilevel modelling, it is worth briefly examining the raw achievement data to see if there are any obvious trends. Full details of the differences between pupils from each of the school types can be found in Tables E and F, Appendix 3.

Table 2 compares Key Stage 2 achievement in 2004 and 2006 for cohort 1 programme schools, cohort 2 programme schools and schools in local authorities not involved in the programme.

The biggest difference in a trend is in relation to Key Stage 2 English; cohort 1 programme schools appear to have an increase of 6.3 percentage points in the proportion achieving level 5, compared to an increase of 5.3 percentage points for schools not involved in the programme. In addition there also appears to be a noticeable reduction in the percentage of pupils with results defined as below the level of the test or to whom no test was awarded in programme schools. Cohort 2 programme schools also show a larger improvement in the proportion of pupils achieving level 5 English compared to non-programme schools.

For mathematics and science results, programme schools show no more progress in the percentage of pupils achieving level 5 or above than schools not involved in both waves of the programme.

Table 2. Percentage of pupils achieving different levels at Key Stage 2 in 2004 and 2006

		Year 6 Pupils in 2006								
		Cohort 1 programme schools			Cohort 2 programme schools			Schools in LAs not involved in programme		
		2004	2006	% change	2004	2006	% change	2004	2006	% change
Key Stage 2 English	Below level of test/No test level awarded	10.4%	7.8%	-2.6%	8.5%	7.7%	-0.8%	6.2%	5.5%	-0.7%
	Level 2	1.3%	1.2%	-0.1%	1.6%	1.0%	-0.6%	0.9%	0.8%	-0.1%
	Level 3	18.7%	18.3%	-0.4%	19.7%	18.3%	-1.4%	14.2%	13.6%	-0.6%
	Level 4	52.0%	48.8%	-3.3%	53.4%	49.0%	-4.4%	50.8%	47.0%	-3.8%
	Level 5	17.6%	23.9%	6.3%	16.9%	24.1%	7.1%	27.9%	33.2%	5.3%
N		10,916	10,998		2,442	2,394		391,490	374,316	
Key Stage 2 Maths	Below level of test/No test level awarded	9.0%	7.9%	-1.1%	6.8%	7.3%	0.5%	5.4%	5.2%	-0.2%
	Level 2	1.3%	1.3%	0.0%	1.1%	1.8%	0.7%	0.9%	0.9%	0.0%
	Level 3	24.6%	23.6%	-1.0%	26.5%	22.0%	-4.5%	18.5%	17.1%	-1.4%
	Level 4	42.4%	43.3%	0.9%	41.8%	44.6%	2.8%	43.3%	42.9%	-0.4%
	Level 5	22.7%	23.9%	1.1%	23.8%	24.3%	0.5%	31.9%	33.9%	2.0%
N		10,909	11,001		2,447	2,395		391,403	374,293	
Key Stage 2 Science	Below level of test/No test level awarded	5.6%	5.0%	-0.6%	4.5%	4.6%	0.1%	2.8%	2.8%	0.0%
	Level 2	1.1%	0.9%	-0.2%	0.6%	0.7%	0.1%	0.4%	0.4%	-0.1%
	Level 3	16.8%	15.9%	-0.9%	15.7%	14.4%	-1.3%	9.7%	9.2%	-0.5%
	Level 4	45.4%	45.3%	-0.2%	47.2%	45.0%	-2.2%	43.3%	40.8%	-2.5%
	Level 5	31.0%	33.0%	2.0%	31.9%	35.3%	3.3%	43.8%	46.9%	3.1%
N		10,909	11,003		2,442	2,399		391,908	374,478	

Source: NFER analysis of National Pupil Database

4. Findings

4.1 Results from initial multilevel models

Initial multilevel models compared improvements in achievement for all pupils in programme or associate local authorities/schools to all pupils in other schools. Full details of the results of the multilevel models, including coefficients can be found in the technical appendix (Appendix 1).

The key findings from the initial multilevel models were as follows:

- Key Stage 2 English results had improved for pupils in cohort 1 programme schools by 0.24 points more than for similar pupils in non-programme schools between 2004 and 2006, and this difference was statistically significant. On the basis that each level increase (6 points) is equivalent to two years of progress and taking into account the standard error of this estimate (0.11), this is equivalent to between one and eight additional weeks of progress.
- Key Stage 2 English results had improved for pupils in cohort 2 programme schools by 0.53 points more than for similar pupils in non-programme schools between 2004 and 2006, and this difference was statistically significant. On the basis that each level increase (6 points) is equivalent to two years of progress and taking into account the standard error of this estimate (0.22), this is equivalent to between two and 17 additional weeks of pupil progress.
- Improvements in achievement for Key Stage 2 mathematics and science were not significantly different in programme schools (both cohorts) and non-programme schools between 2004 and 2006.
- There was no significant difference in the rates of progress at Key Stage 2 (English, mathematics and science) in each of the following three groups: schools in programme LAs but not involved in the programme, schools in associate LAs and schools not in programme or associate LAs.

4.2 Discussion

A key positive finding of the analysis was that Key Stage 2 English results had improved more for pupils in cohort 1 and cohort 2 programme schools than for similar pupils in non-programme schools. In the previous qualitative

evaluation of the pilot/programme (White et al., 2006), it was evident that in a number of case-study schools the programme was grounded in literacy and this was the area where several schools first applied some of the interventions. It appears from the qualitative analysis that the intensive support from the consultant, together with support from the local authority and two regional directors that schools received over the two years may have had a small discernible positive effect on Key Stage 2 English results.

The fact that there were no significant differences in Key Stage 2 mathematics or science results for programme schools compared to non-programme schools could perhaps be explained by the fact that interventions and changes in policy and practice may have been less embedded in mathematics and science than in the subject of English in the first two years. This was certainly evident in some of the case-study schools.

From the statistical analysis it appears that it was too early to see any impacts on mathematics and science Key Stage 2 results following the first two years of the programme as the modelling revealed no significant differences. However, the case-study visits revealed some examples of successful implementation in these subjects.

The analysis also shows that there were no differences in rates of improvement at Key Stage 2 between schools in associate LAs who had access to the pilot materials and those schools who did not have access to these resources (either because they were not in a programme or associate LA or that they were in a programme LA but were not involved with the programme).

4.3 Improvements for EAL and non-EAL learners

Each of the multilevel models was extended to explore whether there were any differences in the rates at which all schools involved in the analysis were improving their attainment for EAL and non-EAL learners. Tables C and D in Appendix 2 set out details of the performance data for EAL learners. Analysis also considered whether differences in rates of improvement could be related to differing levels of involvement in the programme. The findings below take account of the potential impact of changes in the background characteristics of EAL learners at different schools.

The key findings from the subsequent multilevel models were:

- There were no significant differences in the rates of improvement for EAL and non-EAL learners with regard to Key Stage 2 English in each of the following school groupings: cohort 1 programme schools, associate schools, programme local authorities and associate local authorities.
- Results in Key Stage 2 English for non-EAL learners in cohort 2 programme schools had improved by a significantly larger margin than for EAL learners between 2004 and 2006. Results for non-EAL learners in cohort 2 schools had improved by 0.77 points more than for similar pupils in non-programme schools. Results for EAL learners in cohort 2 schools had improved by just 0.30 points more than for similar pupils in non-programme schools.
- There were no significant differences in the rates of improvement for EAL and non-EAL learners in cohort 1 and 2 programme schools with regard to Key Stage 2 mathematics and science results between 2004 and 2006.

4.4 Discussion

The finding that there were no significant differences in the rates of improvement for EAL and non-EAL learners with regard to Key Stage 2 English among cohort 1 programme schools, associate schools, programme local authorities and associate local authorities, can possibly be explained by the fact that one of the key strengths of this programme, found from the qualitative research, was its ability to reach a broad range of pupils, and not necessarily confine the practices to EAL learners or Key Stage 2 pupils. Teachers adopted particular teaching approaches such as planned opportunities for speaking and listening and the use of curricular/layered targets to plan for language development. These approaches would have assisted both EAL and non-EAL learners in their learning.

The fact that non-EAL learners' Key Stage 2 English results in cohort 2 programme schools had improved by a significantly larger margin than for EAL learners is perhaps not surprising given that these cohort 2 pupils had only been involved in the programme for one year and the effects of an intervention are often very difficult to identify after such a short period of time. Indeed the changes in pupils' results may not be related to programme involvement.

The fact that there were no significant differences in the rates of improvement for EAL and non-EAL learners with regard to Key Stage 2 mathematics and science results between 2004 and 2006 in programme schools can possibly be attributed to the fact that schools may have adopted the practices in these subjects at a later stage in the programme.

4.5 Schools discontinuing involvement in the programme

The analyses discussed so far have considered all those programme schools which were involved in cohort 1 as a single group. In reality 52 out of 207 schools discontinued their involvement in the programme within the first year. From information provided by the consultants, these reasons can be categorised into five broad areas:

- Competing pressures from other priorities in the school caused the school to withdraw from the programme.
- Following good progress in the first year, ongoing support was not deemed necessary, either by the senior management in the school or by the LA, particularly if there was pressure to accept other schools onto the programme.
- The school considered that it had a background of expertise in supporting EAL learners and that the programme had not offered any new messages or approaches that were likely to make a difference.
- The school was implementing or considering an alternative initiative or means of support to raise the achievement of EAL learners.
- Issues which were associated with leadership in the school or lack of engagement with the programme.

Further analysis was carried out to ascertain whether there were any significant differences in the rates of improvement for schools continuously involved in the programme and those that dropped out. Multilevel modelling revealed no significant differences in the levels of improvement for any of the three subjects. Interpreting these results is problematic as it is not clear why some schools dropped out of the programme. Furthermore, it should be noted that this was a comparatively small number of schools who discontinued (52) and so estimating the impact of dropping out of the programme is subject to a fairly large degree of error.

5. Conclusions

Multilevel modelling analysis investigated whether schools involved in the EAL pilot/programme achieved any discernible improvement in the Key Stage 2 performances of their pupils following two years of programme involvement. Results found that schools involved in cohort 1 or 2 of the programme made more progress in their Key Stage 2 English results between 2004 and 2006 than similar schools not involved in the programme.

However, no significant differences in the rates of progress were found in relation to pupils' Key Stage 2 results in mathematics and science in programme schools compared to pupils' results in non-programme schools between 2004 and 2006. Further analysis revealed that for those schools involved in the programme the rates of improvement were generally not significantly different for EAL and non-EAL learners. The one exception to this was for English results for schools involved in cohort 2 of the programme. In these schools, Key Stage 2 English results for EAL learners had improved by a significantly smaller margin than results for similar non-EAL learners.

The fact that the multilevel modelling analysis reveals that the programme has impacted positively on Key Stage 2 results in English for cohort 1 and 2 programme schools, but not for mathematics or science, possibly reflects the fact that many of the case-study schools in the qualitative study had grounded their interventions in the subject of English. The finding that, in general, there were no significant differences in the rates of improvement for EAL and non-EAL learners illustrates the fact that the EAL programme, which initially identified its target group as 'advanced bilingual learners', was actually used flexibly by schools to help *all* pupils in the classroom.

6. Recommendations

A number of recommendations were made in the qualitative evaluation of the pilot/programme and it was evident that follow-up actions had been taken in relation to many of these. With the set up of the EAL programme hubs, and the introduction of the EAL materials that are available to assist all schools in teaching EAL learners, the programme is now firmly embedded within the Primary National Strategy. Further recommendations include:

- Given the importance of the materials presented in *Excellence and Enjoyment: learning and teaching for bilingual children in the primary years* materials, it is recommended that continued evaluation of these should take place.
- It is recommended that while continuing the emphasis on English/literacy, further emphasis should be placed on the programme interventions as being applied to subjects across the curriculum, particularly in mathematics and science.
- Local authorities and schools need to consider how they use the programme and the CPD materials to develop greater precision in their teaching in order to close the attainment gap between bilingual and other learners.

References

Department for Education and Skills (2004). *Ethnic Minority Achievement: January 2004: EAL Pilot 2004-2005 DFES/PNS* [online]. Available: http://www.standards.dfes.gov.uk/ethnicminorities/raising_achievement/whats_new/EAL_Pilot/ [4 June, 2007].

Department for Education and Skills (2006). Excellence and Enjoyment: learning and teaching for bilingual children in the primary years [online]. Available: http://www.standards.dfes.gov.uk/primary/publications/inclusion/bi_children/pri_publications_bichd_214606_04.pdf [4 June 2007].

Office for Standards in Education (2005). *Could They Do Even Better? The Writing of Advanced Bilingual Learners of English at Key Stage 2: HMI Survey of Good Practice* (HMI 2452) [online]. Available: <http://www.ofsted.gov.uk/assets/3946.pdf> [4 June, 2007].

White, K., Lewis, K., and Fletcher-Campbell, F. (2006). *Raising the Achievement of Bilingual Learners in Primary Schools: Evaluation of the Pilot/Programme* (DfES Research report No 758). Available: <http://www.dfes.gov.uk/research/data/uploadfiles/RR758.pdf> [4 June, 2007].

Appendix 1 Technical appendix: details of multilevel modelling

Results of initial multilevel models

The table below lists the background variables that were included in the multilevel modelling analysis and shows how each of these relates to attainment in each Key Stage 2 subject. These relationships are described in terms of coefficients. Each coefficient represents the expected difference in attainment associated with a change of 1 in the background variable. In some cases the background variable is an indicator and the coefficient can be interpreted simply as the difference between two groups. For example, the models show that female pupils tend to achieve on average 0.668 points more in their Key Stage 2 English examination than otherwise similar male pupils. In other cases the background is on a continuous scale. Where the relationship between a background variable and a particular outcome is not significant given the other variables this is denoted in the table by “NS”.

Table 1. Relationships between attainment and background characteristics

Variable	Description	Coefficients		
		English	Maths	Science
CONS	Constant Term (Intercept)	19.190	21.280	24.070
YR06	Year of examination (0=2004, 1=2006)	NS	-0.188	0.070
K1READ	Key Stage 1 Overall Reading	0.364	0.151	0.282
K1WRIT	Key Stage 1 Writing	0.236	0.114	0.087
K1SPELL	Key Stage 1 Spelling	0.072	0.019	-0.046
K1SPMISS	Missing Key Stage 1 Spelling Information	-1.062	-0.283	0.388
K1MATH	Key Stage 1 Maths	0.152	0.641	0.309
K1SCITA	Key Stage 1 Science TA	0.072	0.096	0.090
AGE	Total age in months (when took exam)	-0.034	-0.064	-0.039
FEMALE	Female pupil	0.668	-0.763	-0.271
SENSA	SEN - School Action/Plus	-1.860	-1.695	-0.900
SENSTAT	SEN – Statement	-3.728	-2.877	-2.180
FSM	Eligible for free school meals	-0.354	-0.321	-0.386
EAL	English as an additional language	1.716	1.560	-0.327
WHITOTH	Ethnicity – White Non-UK	0.354	0.359	0.284

GYPSEY	Ethnicity - Gypsy/Roma	-0.408	-0.664	-0.638
ETHMIX	Ethnicity - Mixed	0.245	NS	0.112
ASIANI	Ethnicity - Asian Indian	0.218	0.432	-0.091
ASIANP	Ethnicity - Asian Pakistani	0.063	NS	-0.436
ASIANB	Ethnicity - Asian Bangladeshi	0.513	0.474	NS
ASIANO	Ethnicity - Asian Other	0.420	0.847	0.225
BLACKC	Ethnicity - Black Caribbean	-0.099	-0.528	-0.372
BLACKA	Ethnicity - Black African	0.406	NS	NS
BLACKO	Ethnicity - Black Other	NS	-0.230	-0.200
CHINESE	Ethnicity - Chinese	0.631	1.277	0.474
ETHOTH	Ethnicity - Other	0.408	0.650	0.337
ETHREFU	Ethnicity - Refused	0.063	NS	0.123
ETHMISS	Ethnicity - Unknown	-0.124	-0.153	-0.122
PUPMOB	Pupil moved schools between KS1 and KS2	-0.241	-0.371	-0.227
FIRSTMID	First & Middle school indicator	NS	-0.189	NS
JUNIOR	Junior school indicator	-0.120	NS	NS
MIDDLE	Middle school indicator	-0.347	-0.255	-0.181
FAITH	Faith school indicator	0.125	0.045	NS
PCFSM	% FSM in school	-0.007	-0.005	-0.006
PCSEN	% of pupils in school with SEN statements	NS	NS	NS
PCEAL	% EAL pupils in school	0.002	NS	0.003
PTR	pupil:teacher ratio	NS	NS	NS
N11	No. of pupils aged 11	NS	NS	0.002
DEP1	Census - General Deprivation Index	-0.013	-0.013	-0.011
DEP2	Census - Overcrowding and high non-white percentage index	-0.001	-0.001	-0.001
DEP3	Census - Migration index	NS	NS	0.0004
NOCENSUS	No matching census information	NS	NS	NS
K1AV06	Interaction - K1AV*YR06	0.018	NS	NS
K1AVEAL	Interaction - K1AV*EAL	-0.093	-0.071	0.024
EAL06	Interaction - EAL*YR06	NS	-0.077	NS
ABLSCH	Cohort 1 programme school	NS	NS	NS
NEWABL	Cohort 2 programme school	NS	NS	NS
ASSOC	Associate school	NS	NS	NS
PROGLEA	School in programme LEA	NS	NS	NS
ASSOCLEA	School in Associate LEA	NS	NS	NS
ABLSCH6	Interaction - ABLSCH*YR06	0.241	NS	NS
NEWSCH6	Interaction - NEWABL*YR06	0.533	NS	NS
ASSOC6	Interaction - ASSOC*YR06	NS	NS	NS
PROGLEA6	Interaction - PROGLEA*YR06	NS	NS	NS
ASSOCLA6	Interaction - ASSOCLEA*YR06	NS	NS	NS

Of particular interest for this study are the interaction terms shown in the last five rows of Table 1. Interaction variables are defined by multiplying the indicators for involvement in the programme by the indicator variable denoting whether a pupil took their Key Stage 2 examination in 2004 or 2006. These coefficients can be interpreted as the average difference between the rate of improvement of programme schools and the rate of improvement in other schools. This estimate takes account of the potential impact of any changes in the background characteristics of pupils attending each type of school. As can be seen these interaction terms are only significant in relation to attainment in English and indicate faster rates of improvement in programme schools than in other schools. The standard errors associated with the two significant coefficients were 0.11 and 0.22 respectively. Using this information it was possible to construct 95% confidence intervals for the estimates. Further discussion of these findings is given in the main report.

Results of extended multilevel models

In order to examine whether the programme was having a differential effect on EAL learners, further interactions were added to the model. The additional terms related to the difference between the attainment of EAL learners in programme schools and other schools in 2004, and the differences in the rates of improvement in the attainment of EAL learners. The coefficients for these additional variables are shown in the table below.

Table 2. Coefficients for additional variables

Variable	Description	Coefficients		
		English	Maths	Science
EALABL	Interaction - EAL*ABL SCH	NS	NS	NS
EALNEW	Interaction - EAL*NEWABL	0.446	NS	NS
EALASS	Interaction - EAL*ASSOC	NS	NS	NS
EALPLA	Interaction - EAL*PROGLEA	-0.097	NS	NS
EALALA	Interaction - EAL*ASSOCLEA	NS	NS	NS
EALABL6	Interaction - EAL*ABL SCH6	NS	NS	NS
EALNEW6	Interaction - EAL*NEWSCH6	-0.472	NS	NS
EALASS6	Interaction - EAL*ASSOC6	NS	NS	NS
EALPLA6	Interaction - EAL*PROGLEA6	NS	NS	NS
EALALA6	Interaction - EAL*ASSOCLA6	NS	NS	NS

The first six rows of this table relate to the differences in attainment between programme and other schools in 2004 (i.e. before the programme began). It can be seen that, for example, EAL pupils in cohort 2 programme schools achieved on average 0.446 points more than other similar pupils in non-programme schools in 2004. The main focus of our analysis is on the variables in the last 6 rows of this table. These coefficients reveal whether attainment for EAL learners in programme schools improved more than for EAL learners in other schools between 2004 and 2006. Only one of these coefficients is found to be significant. This coefficient relates to the achievement of EAL learners in cohort 2 programme schools. It reveals that attainment for EAL learners has improved by an average 0.472 points less than for non-EAL learners in the same schools. These estimates take account of the potential impact of changes in the background characteristics of EAL learners at different schools. Further discussion of these findings is given in the main report.

Appendix 2 Table A all pupils summer 2006

		Year 6 Pupils in 2006					
		All schools in programme in 04/05	New programme school	Associate school	School in programme LA	School in Associate LA	School in LA not involved in programme
Key Stage 2 English	Below level of test/No test level awarded	8%	8%	7%	5%	5%	5%
	Level 2	1%	1%	1%	1%	1%	1%
	Level 3	18%	18%	19%	15%	14%	14%
	Level 4	49%	49%	50%	48%	48%	47%
	Level 5	24%	24%	24%	31%	33%	33%
N		10,998	2,394	8,529	105,420	109,536	374,316
Key Stage 2 Maths	Below level of test/No test level awarded	8%	7%	7%	5%	5%	5%
	Level 2	1%	2%	1%	1%	1%	1%
	Level 3	24%	22%	23%	19%	18%	17%
	Level 4	43%	45%	43%	43%	43%	43%
	Level 5	24%	24%	25%	32%	33%	34%
N		11,001	2,395	8,519	105,375	109,513	374,293
Key Stage 2 Science	Below level of test/No test level awarded	5%	5%	3%	3%	2%	3%
	Level 2	1%	1%	1%	1%	0%	0%
	Level 3	16%	14%	15%	11%	10%	9%
	Level 4	45%	45%	46%	42%	42%	41%
	Level 5	33%	35%	35%	44%	46%	47%
N		11,003	2,399	8,525	105,474	109,616	374,478
Key Stage 1 Overall Reading	Below level 1	5%	5%	4%	3%	2%	3%
	Level 1/Below Level 2	18%	19%	18%	13%	13%	12%
	Level 2C	13%	12%	13%	11%	11%	11%
	Level 2/2B	21%	21%	20%	19%	19%	18%
	Level 2A	25%	26%	25%	26%	26%	26%
	Level 3	17%	17%	19%	27%	29%	31%
N		9,688	2,169	7,697	98,868	104,775	356,178
Key Stage 1 Writing	Below level 1	7%	8%	7%	5%	4%	4%
	Level 1/Below Level 2	14%	13%	15%	10%	9%	9%
	Level 2C	31%	29%	30%	27%	27%	26%
	Level 2/2B	29%	28%	29%	30%	31%	31%
	Level 2A	15%	16%	14%	19%	19%	20%
	Level 3	6%	6%	5%	9%	9%	9%
N		9,679	2,168	7,705	98,925	104,888	356,422
Key Stage 1 Spelling	Level 1/Below Level 2	11%	12%	13%	10%	11%	10%
	Level 2/2B	59%	59%	60%	59%	60%	60%
	Level 3	30%	30%	27%	31%	30%	30%
N		7,803	1,733	6,161	85,104	91,528	312,946
Key Stage 1	Below level 1	3%	2%	3%	2%	1%	2%

Maths	Level 1/Below Level 2	12%	12%	11%	8%	8%	7%
	Level 2C	19%	20%	19%	16%	15%	15%
	Level 2/2B	21%	21%	20%	20%	19%	19%
	Level 2A	23%	23%	24%	25%	26%	26%
	Level 3	22%	22%	24%	30%	31%	32%
N		9,690	2,168	7,701	98,903	104,837	356,293
Sex of student	Male	51%	50%	52%	51%	51%	51%
	Female	49%	50%	48%	49%	49%	49%
N		10,987	2,396	8,552	105,613	110,030	361,279
Special Educational Needs	No SEN	73%	73%	72%	77%	77%	76%
	School Action/Plus Statement	25%	25%	25%	21%	21%	20%
		2%	2%	3%	2%	2%	4%
N		10,987	2,396	8,552	105,613	110,030	361,268
Eligible for free school meals?	Not Eligible	64%	64%	70%	76%	82%	86%
	Eligible	36%	36%	30%	24%	18%	14%
N		10,987	2,396	8,552	105,612	110,030	361,216
Ethnicity (Grouped)	White - British	22%	25%	42%	59%	76%	87%
	White - Other	6%	5%	5%	4%	3%	2%
	Gypsy/Roma	0%	0%	0%	0%	0%	0%
	Mixed	5%	5%	5%	5%	4%	2%
	Asian - Indian	11%	12%	6%	5%	3%	1%
	Asian - Pakistani	24%	22%	15%	9%	3%	1%
	Asian - Bangladeshi	9%	10%	6%	4%	1%	0%
	Asian - Other	3%	2%	3%	2%	1%	0%
	Black - Caribbean	5%	4%	4%	4%	2%	1%
	Black - African	10%	9%	8%	5%	3%	1%
	Black - Other	1%	1%	1%	1%	1%	0%
	Chinese	0%	0%	1%	0%	0%	0%
	Other	3%	2%	3%	2%	1%	1%
	Refused	1%	1%	1%	1%	1%	1%
N		10,971	2,390	8,533	105,128	109,457	358,378
English as an additional language	No EAL	35%	38%	56%	72%	86%	94%
	EAL	65%	62%	44%	28%	14%	6%
N		10,979	2,391	8,546	105,552	109,959	361,003

Table B All pupils summer 2004

		Year 6 Pupils in 2004					
		All schools in programme in 04/05	New programme school	Associate school	School in programme LA	School in Associate LA	School in LA not involved in programme
Key Stage 2 English	Below level of test/No test level awarded	10%	9%	9%	6%	5%	6%
	Level 2	1%	2%	1%	1%	1%	1%
	Level 3	19%	20%	20%	15%	15%	14%
	Level 4	52%	53%	50%	52%	52%	51%
	Level 5	18%	17%	20%	26%	27%	28%
N		10,916	2,442	8,410	104,353	109,459	391,490
Key Stage 2 Maths	Below level of test/No test level awarded	9%	7%	7%	5%	5%	5%
	Level 2	1%	1%	1%	1%	1%	1%
	Level 3	25%	27%	25%	20%	19%	18%
	Level 4	42%	42%	44%	43%	44%	43%
	Level 5	23%	24%	23%	30%	31%	32%
N		10,909	2,447	8,554	104,214	109,552	391,403
Key Stage 2 Science	Below level of test/No test level awarded	6%	5%	3%	3%	2%	3%
	Level 2	1%	1%	1%	1%	0%	0%
	Level 3	17%	16%	16%	12%	11%	10%
	Level 4	45%	47%	47%	44%	44%	43%
	Level 5	31%	32%	33%	41%	43%	44%
N		10,909	2,442	8,568	104,391	109,708	391,908
Key Stage 1 Overall Reading	Below level 1	5%	5%	5%	3%	3%	3%
	Level 1/Below Level 2	18%	19%	18%	14%	14%	13%
	Level 2C	16%	15%	14%	13%	13%	12%
	Level 2/2B	21%	20%	21%	20%	19%	19%
	Level 2A	22%	22%	22%	24%	24%	25%
	Level 3	17%	19%	20%	25%	27%	28%
	Level 4+	0%	0%	0%	0%	0%	0%
N		9,632	2,222	7,848	98,774	105,656	373,799
Key Stage 1 Writing	Below level 1	8%	8%	8%	6%	5%	5%
	Level 1/Below Level 2	14%	14%	13%	11%	10%	9%
	Level 2C	32%	30%	32%	29%	29%	28%
	Level 2/2B	27%	29%	27%	29%	30%	30%
	Level 2A	14%	14%	15%	17%	18%	18%
	Level 3	5%	6%	6%	8%	9%	9%
	Level 4+	0%		0%	0%	0%	0%
N		9,613	2,222	7,849	98,624	105,599	373,424
Key Stage 1 Spelling	Level 1/Below Level 2	18%	15%	19%	16%	16%	16%
	Level 2/2B	58%	61%	58%	58%	58%	59%
	Level 3	25%	24%	23%	26%	25%	25%
N		7,586	1,748	6,298	83,587	90,789	322,332

Key Stage 1 Maths	Below level 1	4%	4%	3%	2%	2%	2%
	Level 1/Below Level 2	11%	11%	10%	8%	7%	7%
	Level 2C	21%	19%	20%	18%	18%	17%
	Level 2/2B	24%	24%	23%	23%	23%	23%
	Level 2A	22%	21%	23%	24%	25%	25%
	Level 3	19%	21%	20%	24%	25%	26%
	Level 4+	0%		0%	0%	0%	0%
N		9,617	2,223	7,834	98,624	105,545	373,303
Sex of student	Male	51%	50%	50%	51%	51%	51%
	Female	49%	50%	50%	49%	49%	49%
N		10,915	2,450	8,584	104,733	110,193	375,183
Special Educational Needs	No SEN	75%	76%	74%	78%	78%	77%
	School Action/Plus Statement	23%	22%	24%	19%	19%	18%
		2%	2%	3%	3%	3%	4%
N		10,915	2,450	8,584	104,733	110,193	375,183
Eligible for free school meals?	Not Eligible	63%	62%	69%	75%	81%	84%
	Eligible	37%	38%	31%	25%	19%	16%
N		10,915	2,449	8,584	104,731	110,191	375,122
Ethnicity (Grouped)	White - British	25%	29%	48%	63%	78%	89%
	White - Other	5%	3%	5%	3%	3%	2%
	Gypsy/Roma	0%	0%	0%	0%	0%	0%
	Mixed	5%	5%	6%	4%	4%	2%
	Asian - Indian	12%	13%	7%	6%	3%	1%
	Asian - Pakistani	24%	21%	13%	8%	3%	1%
	Asian - Bangladeshi	8%	9%	5%	3%	1%	0%
	Asian - Other	3%	2%	2%	1%	1%	0%
	Black - Caribbean	5%	4%	5%	4%	2%	1%
	Black - African	9%	8%	6%	4%	2%	1%
	Black - Other	1%	1%	1%	1%	1%	0%
	Chinese	1%	1%	1%	0%	0%	0%
	Other	3%	2%	2%	2%	1%	1%
	Refused	1%	1%	1%	1%	1%	2%
N		10,900	2,449	8,529	103,953	109,120	369,416
English as an additional language	No EAL	38%	42%	62%	75%	88%	95%
	EAL	62%	58%	38%	25%	12%	5%
N		10,915	2,449	8,584	104,722	110,166	374,942

Table C EAL Pupils Summer 2006

		Year 6 EAL Pupils in 2006					
		All schools in programme in 04/05	New programme school	Associate school	School in programme LA	School in Associate LA	School in LA not involved in programme
Key Stage 2 English	Below level of test/No test level awarded	8%	8%	7%	7%	7%	10%
	Level 2	1%	1%	1%	1%	1%	1%
	Level 3	20%	19%	20%	18%	18%	17%
	Level 4	50%	51%	51%	51%	49%	47%
	Level 5	20%	20%	20%	23%	25%	25%
N		7,120	1,475	3,685	29,096	15,299	20,611
Key Stage 2 Maths	Below level of test/No test level awarded	8%	8%	8%	7%	7%	9%
	Level 2	1%	2%	1%	1%	1%	1%
	Level 3	25%	23%	24%	22%	22%	21%
	Level 4	43%	44%	44%	43%	42%	41%
	Level 5	23%	23%	23%	26%	28%	28%
N		7,121	1,476	3,681	29,101	15,300	20,651
Key Stage 2 Science	Below level of test/No test level awarded	6%	6%	4%	5%	4%	7%
	Level 2	1%	1%	1%	1%	1%	1%
	Level 3	18%	16%	18%	16%	16%	15%
	Level 4	46%	47%	47%	45%	44%	43%
	Level 5	29%	30%	29%	33%	35%	34%
N		7,122	1,478	3,682	29,099	15,306	20,629
Key Stage 1 Overall Reading	Below level 1	5%	7%	6%	5%	4%	6%
	Level 1/Below Level 2	19%	20%	20%	17%	17%	17%
	Level 2C	15%	13%	16%	14%	13%	12%
	Level 2/2B	23%	22%	22%	22%	22%	21%
	Level 2A	25%	25%	23%	26%	25%	25%
	Level 3	13%	12%	14%	16%	18%	19%
N		5,993	1,283	3,009	24,444	12,247	15,571
Key Stage 1 Writing	Below level 1	7%	8%	8%	7%	6%	8%
	Level 1/Below Level 2	14%	15%	16%	13%	13%	12%
	Level 2C	32%	30%	32%	31%	31%	30%
	Level 2/2B	28%	28%	28%	29%	30%	30%
	Level 2A	13%	14%	12%	15%	15%	15%
	Level 3	4%	4%	4%	5%	5%	5%
N		5,982	1,285	3,010	24,425	12,241	15,555
Key Stage 1 Spelling	Level 1/Below Level 2	11%	11%	12%	10%	10%	11%
	Level 2/2B	59%	59%	60%	58%	58%	58%
	Level 3	30%	30%	28%	32%	31%	31%
N		4,750	989	2,346	19,939	10,059	12,633
Key Stage 1 Maths	Below level 1	3%	3%	3%	3%	2%	4%
	Level 1/Below Level 2	13%	14%	13%	12%	11%	11%
	Level 2C	21%	21%	22%	20%	19%	19%

	Level 2/2B	21%	22%	21%	21%	21%	21%
	Level 2A	21%	22%	22%	23%	23%	22%
	Level 3	20%	18%	20%	22%	23%	24%
N		5,992	1,283	3,010	24,440	12,253	15,559
Sex of student	Male	50%	51%	52%	51%	51%	52%
	Female	50%	49%	48%	49%	49%	48%
N		7,161	1,484	3,719	29,302	15,448	20,916
Special Educational Needs	No SEN	75%	76%	75%	77%	78%	75%
	School Action/Plus Statement	23%	22%	24%	21%	21%	21%
		2%	2%	2%	2%	1%	4%
N		7,161	1,484	3,719	29,302	15,448	20,916
Eligible for free school meals?	Not Eligible	60%	61%	64%	63%	70%	73%
	Eligible	40%	39%	36%	37%	30%	27%
N		7,161	1,484	3,719	29,302	15,448	20,916
Ethnicity (Grouped)	White - British	1%	0%	0%	1%	2%	2%
	White - Other	7%	7%	9%	8%	12%	15%
	Gypsy/Roma	0%	0%	0%	0%	0%	0%
	Mixed	2%	1%	2%	2%	3%	4%
	Asian - Indian	15%	18%	13%	17%	18%	14%
	Asian - Pakistani	36%	34%	32%	29%	22%	19%
	Asian - Bangladeshi	13%	17%	13%	14%	8%	8%
	Asian - Other	5%	3%	6%	5%	7%	7%
	Black - Caribbean	1%	1%	0%	1%	1%	1%
	Black - African	14%	13%	15%	14%	15%	15%
	Black - Other	1%	1%	1%	1%	1%	1%
	Chinese	1%	1%	1%	1%	3%	4%
	Other	5%	4%	5%	6%	7%	9%
	Refused	1%	0%	1%	1%	1%	1%
N		7,157	1,483	3,713	29,252	15,404	20,808
English as an additional language		100%	100%	100%	100%	100%	100%
N		7,161	1,484	3,719	29,302	15,448	20,916

Table D EAL Pupils Summer 2004

		Year 6 EAL Pupils in 2004					
		All schools in programme in 04/05	New programme school	Associate school	School in programme LA	School in Associate LA	School in LA not involved in programme
Key Stage 2 English	Below level of test/No test level awarded	11%	9%	10%	9%	8%	11%
	Level 2	1%	2%	2%	1%	1%	1%
	Level 3	21%	22%	21%	18%	18%	17%
	Level 4	53%	54%	51%	53%	52%	49%
	Level 5	14%	14%	15%	19%	21%	21%
N		6,683	1,395	3,099	26,269	13,463	18,226
Key Stage 2 Maths	Below level of test/No test level awarded	10%	7%	9%	8%	6%	9%
	Level 2	1%	1%	1%	1%	1%	1%
	Level 3	26%	29%	25%	23%	22%	21%
	Level 4	42%	42%	43%	43%	42%	41%
	Level 5	21%	21%	22%	25%	28%	27%
N		6,671	1,399	3,185	26,236	13,545	18,213
Key Stage 2 Science	Below level of test/No test level awarded	7%	5%	5%	5%	4%	7%
	Level 2	1%	1%	1%	1%	1%	1%
	Level 3	19%	18%	19%	16%	16%	16%
	Level 4	46%	49%	48%	46%	46%	45%
	Level 5	26%	26%	26%	32%	33%	32%
N		6,670	1,393	3,187	26,233	13,543	18,201
Key Stage 1 Overall Reading	Below level 1	6%	6%	7%	5%	5%	7%
	Level 1/Below Level 2	20%	22%	21%	18%	18%	17%
	Level 2C	18%	16%	17%	16%	16%	15%
	Level 2/2B	23%	22%	24%	23%	23%	23%
	Level 2A	22%	21%	19%	22%	22%	22%
	Level 3	12%	13%	12%	15%	17%	17%
	Level 4+	0%		0%	0%	0%	0%
N		5,657	1,206	2,644	22,364	11,197	14,358
Key Stage 1 Writing	Below level 1	9%	10%	10%	8%	8%	9%
	Level 1/Below Level 2	15%	15%	15%	13%	13%	12%
	Level 2C	34%	31%	35%	33%	33%	33%
	Level 2/2B	26%	29%	25%	27%	28%	27%
	Level 2A	12%	12%	12%	14%	14%	14%
	Level 3	4%	3%	3%	5%	4%	5%
	Level 4+				0%	0%	0%
N		5,647	1,207	2,644	22,325	11,192	14,338
Key Stage 1 Spelling	Level 1/Below Level 2	17%	16%	19%	17%	18%	17%
	Level 2/2B	58%	61%	58%	56%	56%	57%
	Level 3	24%	23%	23%	27%	26%	26%
N		4,359	926	2,025	17,863	9,009	11,342
Key Stage 1	Below level 1	5%	5%	4%	4%	4%	5%

Maths	Level 1/Below Level 2	12%	11%	11%	11%	10%	10%
	Level 2C	23%	21%	22%	21%	22%	21%
	Level 2/2B	24%	25%	24%	24%	23%	24%
	Level 2A	20%	20%	22%	22%	23%	21%
	Level 3	17%	17%	16%	19%	19%	19%
	Level 4+				0%	0%	0%
	N		5,651	1,209	2,638	22,335	11,187
Sex of student	Male	51%	51%	50%	51%	51%	51%
	Female	49%	49%	50%	49%	49%	49%
N		6,741	1,413	3,224	26,514	13,687	18,509
Special Educational Needs	No SEN	76%	79%	76%	78%	78%	75%
	School Action/Plus Statement	21%	19%	22%	20%	20%	20%
		2%	2%	2%	2%	2%	5%
N		6,741	1,413	3,224	26,514	13,687	18,509
Eligible for free school meals?	Not Eligible	60%	58%	60%	61%	69%	70%
	Eligible	40%	42%	40%	39%	31%	30%
N		6,741	1,413	3,224	26,514	13,687	18,509
Ethnicity (Grouped)	White - British	0%	0%	0%	1%	3%	3%
	White - Other	6%	3%	10%	6%	11%	12%
	Gypsy/Roma	0%	0%	0%	0%	0%	0%
	Mixed	2%	1%	2%	2%	3%	4%
	Asian - Indian	18%	22%	16%	20%	21%	15%
	Asian - Pakistani	38%	35%	33%	31%	23%	22%
	Asian - Bangladeshi	12%	16%	12%	13%	7%	8%
	Asian - Other	5%	3%	6%	4%	6%	6%
	Black - Caribbean	1%	1%	0%	1%	1%	1%
	Black - African	12%	11%	13%	13%	13%	13%
	Black - Other	1%	1%	1%	1%	1%	1%
	Chinese	1%	1%	1%	1%	3%	5%
	Other	4%	4%	5%	5%	6%	9%
	Refused	1%	1%	1%	1%	1%	1%
N		6,733	1,413	3,219	26,449	13,633	18,356
English as an additional language		100%	100%	100%	100%	100%	100%
N		6,741	1,413	3,224	26,514	13,687	18,509

Appendix 3 Table E Year 6 pupil achievement in Summer 2006

		Year 6 Pupils in 2006					
		Wave 1 programme schools	Wave 2 programme schools	Associate schools	Schools in programme LAs	Schools in Associate LAs	Schools in LAs not involved in programme
Key Stage 2 English	Below level of test/No test level awarded	7.8%	7.7%	6.8%	5.3%	4.7%	5.5%
	Level 2	1.2%	1.0%	1.0%	0.8%	0.8%	0.8%
	Level 3	18.3%	18.3%	18.7%	14.9%	14.3%	13.6%
	Level 4	48.8%	49.0%	49.7%	48.2%	47.7%	47.0%
	Level 5	23.9%	24.1%	23.7%	30.9%	32.5%	33.2%
N		10,998	2,394	8,529	105,420	109,536	374,316
Key Stage 2 Maths	Below level of test/No test level awarded	7.9%	7.3%	7.3%	5.2%	4.6%	5.2%
	Level 2	1.3%	1.8%	1.4%	1.1%	1.0%	0.9%
	Level 3	23.6%	22.0%	22.5%	18.6%	17.9%	17.1%
	Level 4	43.3%	44.6%	43.4%	43.4%	43.4%	42.9%
	Level 5	23.9%	24.3%	25.3%	31.7%	33.1%	33.9%
N		11,001	2,395	8,519	105,375	109,513	374,293
Key Stage 2 Science	Below level of test/No test level awarded	5.0%	4.6%	3.2%	2.6%	2.0%	2.8%
	Level 2	0.9%	0.7%	0.9%	0.5%	0.5%	0.4%
	Level 3	15.9%	14.4%	14.6%	11.2%	10.1%	9.2%
	Level 4	45.3%	45.0%	45.9%	42.0%	41.8%	40.8%
	Level 5	33.0%	35.3%	35.3%	43.6%	45.7%	46.9%
N		11,003	2,399	8,525	105,474	109,616	374,478

Table F Year 6 pupil achievement in summer 2004

		Year 6 Pupils in 2004					
		Wave 1 programme schools	Wave 2 programme schools	Associate schools	Schools in programme LAs	Schools in Associate LAs	Schools in LAs not involved in programme
Key Stage 2 English	Below level of test/No test level awarded	10.4%	8.5%	8.5%	6.3%	5.4%	6.2%
	Level 2	1.3%	1.6%	1.4%	1.0%	1.0%	0.9%
	Level 3	18.7%	19.7%	20.1%	15.2%	15.2%	14.2%
	Level 4	52.0%	53.4%	50.3%	51.7%	51.6%	50.8%
	Level 5	17.6%	16.9%	19.7%	25.8%	26.9%	27.9%
N		10,916	2,442	8,410	104,353	109,459	391,490
Key Stage 2 Maths	Below level of test/No test level awarded	9.0%	6.8%	7.0%	5.3%	4.5%	5.4%
	Level 2	1.3%	1.1%	1.4%	1.1%	1.0%	0.9%
	Level 3	24.6%	26.5%	24.7%	20.1%	19.3%	18.5%
	Level 4	42.4%	41.8%	43.7%	43.4%	43.8%	43.3%
	Level 5	22.7%	23.8%	23.1%	30.1%	31.4%	31.9%
N		10,909	2,447	8,554	104,214	109,552	391,403
Key Stage 2 Science	Below level of test/No test level awarded	5.6%	4.5%	3.5%	2.6%	1.9%	2.8%
	Level 2	1.1%	0.6%	0.9%	0.6%	0.4%	0.4%
	Level 3	16.8%	15.7%	16.1%	11.6%	10.7%	9.7%
	Level 4	45.4%	47.2%	46.7%	44.2%	44.4%	43.3%
	Level 5	31.0%	31.9%	32.9%	41.0%	42.5%	43.8%
N		10,909	2,442	8,568	104,391	109,708	391,908

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