# The impact of interventions on Literacy and Numeracy in Birmingham Primary Schools 2003-2004

An NRF commissioned report

Dr. Diane Dolley

August 2005

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## Introduction

This NRF commissioned report considers the impact of major strategies on Literacy and Numeracy in Birmingham primary schools across the academic year 2003 to 2004. For the purposes of this investigation it takes as its reference point, school performance in end of Key Stage Standardised Attainment Tests (SATs) 2004, as a key indicator of achievement. National performance tests in English and mathematics are completed annually at the conclusion of primary education, when pupils reach the end of Year 6. This first section sets the parameters of the investigation and briefly outlines the method of approach. In Section 2 the report outlines the 3 key improvement strategies implemented in selected Birmingham schools during the 2003-2004 school year. In Section 3 it focuses on an analysis of performance based on the results of Key Stage 2 tests in English and mathematics. The report seeks to identify the impact of particular interventions in Section 4 and considers why strategies have been more or less successful in particular schools. It draws on school improvement research to support the discussion that follows. Section 5 draws together the main conclusions of the investigation. Finally, in Section 6, the report looks at the implications for future development in terms of Local Education Authority (LEA) strategy and the sharing of successful interventions across the city.

Data analysis, based on test results for English and mathematics at Key Stage 2 for Birmingham Primary Schools in May 2004, provides the major source of evidence against which the effectiveness of intervention strategies is considered. This includes performance data collated and profiled by Birmingham LEAs Research and Statistics unit. For each subject, comparisons are made across the 3 key strategies to include intervention group averages, LEA and national averages for pupils achieving Level 4 or above (the age related expectation for 11 year olds). Data is further analysed to look at individual school performance against the previous years results for each subject. In order to provide additional evidence to support the investigation, discussions were held with senior advisers and project managers responsible for the implementation of the 3 strategies at LEA level. The assessments of all Literacy and Numeracy consultants who worked directly with the schools across the course of the year in question were gathered and collated.

## Background to the intervention strategies

During the school year 2003-2004 three key intervention strategies were operating across the LEA. They were as follows:

Intervention and Targeted Support (ITS)

Intensifying Support Programme(ISP)

Primary Leadership Programme(PLP)

The following paragraphs outline the brief for each strategy showing how the LEA developed each programme and determined which schools would access a particular initiative.

### Intervention and Targeted Support

It is important to emphasise at the outset that the ITS strategy was designed exclusively by the LEA to respond to particular needs at a specific point in time. It has been in operation for a number of years and is a well established intervention strategy. Whilst ITS takes account of national developments, both in terms of Department for Education and Skills (DfES) initiatives and Office for Standards in Education (Ofsted) inspection evidence, it remains the preserve of the LEA and is linked to council wide objectives to improve attainment in English and mathematics. Its aim is to provide support to schools in inverse proportion to success, in order to bring about whole school improvement. To that end it supports schools placed in formal categories by Ofsted, which includes those in Special Measures, with Serious Weaknesses or identified as Underachieving. Additionally it supports schools in Challenging Circumstances, together with those identified by the LEA as showing cause for concern. In order meet the needs of designated schools the initiative supports the process of school self-review, external school review, Ofsted monitoring, school improvement plans and LEA action plans. Support is provided by the Birmingham Advisory and Support Service (BASS) or is brokered on behalf of the school by the LEA. Progress towards LEA targets and priorities is monitored by BASS advisers. In the school year 2003-2004 there were 36 schools in the programme of which 26 were also included in the PLP initiative. This has implications for any analysis which seeks to assess the

impact of an individual programme and will be discussed further in the text.

**Intensifying Support Programme**

This is a DfES initiative designed to raise standards and improve teaching and learning in lower-attaining primary schools. As such it is part of the National Primary Strategy. The ISP provides schools with additional funding and human resources to work with the leadership team to raise attainment, accelerate children's progress, improve teaching and learning and develop the school as a learning community. It is a programme that works in partnership with the LEA and the school team and is based on the accepted cycle of school improvement which includes: auditing how well the school is doing against agreed criteria; identifying areas for development; planning and taking action and then reviewing progress against agreed actions. The programme aims to:-

raise standards and improve the quality of teaching and learning in English and mathematics.

ensure that more children achieve Level 4 or above by the time they leave primary school.

improve the leadership and management of English and mathematics.

support the partnership between the LEA and the school by aligning the support around the ISP strategy.

model new ways of working with schools and LEAs which can be sustained beyond the life of the programme.

The programme has operated as a pilot in 13 LEAs between 2002 and 2004 in lower performing schools. During the school year 2003-2004 eight schools in Birmingham were involved in the programme and of these, 2 were already identified by the LEA as part of the ITS initiative. It is important to emphasis that the ISP initiative became the major focus of activity for these two schools as soon as they entered the programme. In effect the ISP intervention became the key vehicle in the schools ITS plan for overall improvement.

**Primary Leadership Programme**

The Primary Leadership Programme was introduced by the Department for Education and Skills (DfES) as part of the National Primary Strategy in the summer term of 2003, with the aim of improving collaborative leadership and responsibility for teaching and learning in English and mathematics in primary schools. It was implemented in every LEA in England, involving in all about 25% of schools. The programme was based on the recruitment of trained and experienced primary headteachers who were deployed in schools to provide support and guidance to leadership teams. This involved working with LEAs Literacy and Numeracy Consultants and to a lesser extent with School Advisers and other LEA staff. The DfES worked in partnership with the National College for School Leadership (NCSL) to develop the programme.
During the school year 2003-2004 the criteria determined by the DFES resulted in 44 Birmingham schools joining the programme. Of these, 26 schools were already identified as in need of support through the ITS initiative. As the LEA gained experience in managing the PLP and the DfES agreed more flexible criteria for inclusion, it became easier to see the PLP as an element of support within the framework of the ITS strategy. As was highlighted earlier, the inclusion of a significant number of schools in two major strategies poses interesting questions regarding the effectiveness of a particular initiative. These issues will be returned to later in the report.

# Results of pupil performance

### Overview

This paragraph highlights the summary results for each of the three strategies and compares them to both LEA and national performance figures. **Annex 1**, **Key Strategies Summary, Averages and Improvement Rates**, shows the Key Stage 2 results, 2004 for English and mathematics for each of the intervention strategies, together with the LEA and national performance results. For each set of results it shows the percentage of pupils achieving Levels 4 and 5 or above with the improvement figure included alongside. Additionally it shows the average points score in each classification as well as the improvement figure when compared with the results of 2003 tests. The results show that schools involved in the **ITS** programme increased the percentage of pupils achieving L4 or above in English by 7% from the previous year. There was also an increase of 3% in the percentage of pupils achieving Level 5 or above. In mathematics improvement was less marked, with an increase of just 3% of pupils achieving Level 4 or above and 2% Level 5 or above. For schools involved in the **ISP** programme there was a similar level of improvement in both

subjects. In English the percentage of pupils achieving Level 4 or above increased by 7%, although achievement at the higher level was down slightly. In mathematics the improvements were more marked, with an increase of 10% of pupils achieving Level 4 or above and 7% achieving at the higher level. In both the **ITS** and **ISP** strategies the increases in English and mathematics were above the LEA and national averages. It is important to note that in both cases the schools participating in the intervention strategies were coming from a low base and were still performing well below the national and LEA average. For schools involved in the **PLP** programme there was an overall improvement of 3% of pupils achieving Level 4 or above in English, with a marginal improvement of just 1% in mathematics. Again whilst the improvement trend is generally upward, the schools on the **PLP** programme were similarly coming from a low base and were still performing at levels well below the local and national averages. In both English and mathematics there was an improvement in the average points score in all 3 strategies. In the case of the **ISP** and **ITS** interventions the improvement rate was well above both the LEA and national average.

It is important to note that for some schools the number of pupils in each cohort was less than 20 and differences in percentage scores can be somewhat misleading, both in terms of successful schools and those that did less well. In such situations the performance of one child can vary the overall result by as much as 6% points.

**Intervention and Targeted Support**

Of the 36 schools involved in the **ITS** programme, 20 improved, showing an increase in the percentage of pupils achieving Level 4 or above in English, by between 4 and 49% in 2004. Of the schools that did better, 15 improved by10% or more, with 9 of the 15 improving by 20% or more. One school improved by 31% and another by as much as 49%. Twenty three schools increased the percentage of pupils achieving Level 5 or above in English, by between 1 and 32% points. For 3 schools the increases were 16%, 19% and 32% points respectively. Twelve schools did less well at the higher level, by a margin of between 1 and 18% points. Eight schools made similar improvements in mathematics. Of the 36 schools involved, 16 did less well, showing a decrease in the percentage of pupils achieving Level 4 or above in English of between 1 and 18%. Seven of the 16 schools decreased by10% or more when compared with the performance of the previous year. Four of the 7 schools also did less well in mathematics.

In mathematics, 20 of the 36 schools improved the percentage of pupils

achieving Level 4 or above by between 1 and 42% and of these, 12 schools improved by 10% or more. Four schools improved by more than 20% overall. In twenty schools the percentage of pupils achieving Level 5 or above increased by between 1 and 45% points. Fourteen of the schools did less well at the higher levels by a margin of between 1 and 19% points. Eight schools made similar improvements in English. Fifteen of the schools did less well and of these, 7 schools decreased by more than 10% when compared with the previous year. Four of the schools also did less well in English.

**Intensifying Support Programme**

Of the 8 schools participating in the programme, 5 improved their performance in English in 2004, with increases for pupils achieving Level 4 or above between 3 and 28%. Two of the 5 schools improved by more than 15%, with one school improving by as much as 28% in English. Three schools increased the percentage of pupils achieving Level 5 or above in mathematics, by between 1 and 18%. Five schools did less well at the higher level by a margin of between 5 and 15% points. In mathematics, 7 schools improved their performance by more than 10% for pupils achieving Level 4 or above, with one school improving by 20%. All 8 schools increased the percentage of pupils achieving at the higher level by between 1 and 14% points. Three schools did less well in English and one school did less well in mathematics.

**Primary Leadership Programme**

Of the 44 schools involved in the leadership programme, 25 improved their performance in English for pupils achieving Level 4 or above by between 2 and 31%. Of the 25 schools, 16 improved by more than 10% and of these, 8 schools improved by more than 20%. Twenty one schools increased the percentage of pupils achieving Level 5 or above in English, by between 2 and 16% points. Twenty two schools did less well at the higher levels by a margin of between 1 and 20% points. Seven schools made similar improvements in mathematics. Of the 44 schools, 19 did less well, with 10 schools decreasing their scores in English by more than 10%. Seven of the 10 schools also did less well in mathematics.

Overall, in mathematics, 22 schools improved the percentage of pupils achieving Level 4 or above, with performance improving by 1 to 29%

points. Of the 22 schools, 12 improved by10% or more, with 3 improving by more than 20%. Twenty schools improved the percentage of pupils achieving Level 5 or above in mathematics by between 1 and 45% points. Twenty one schools did less well at the higher levels by a margin of between 1 and 19% points. Again 7 schools made similar improvements in English. Twenty one of the schools did less well, with performance falling by between 1 and 21% compared with the previous year. Ten of the schools performance decreased by more than 10% compared to the previous year. Seven schools also did less well in English.

## Discussion

'Change comes from small initiatives which work, initiatives which if imitated, become the fashion. We cannot wait for great visions from great people, for they are in short supply at the end of history. It is up to us to light our own small fires in the darkness.'

Charles Handy, The Empty Raincoat, 1994, in How to improve your school, Brighouse and Woods, 1999.

Applying Handy's statement to school improvement initiatives, it is salutary to remind ourselves that no single intervention strategy can provide all the answers and that change is often the result of a series of locally targeted activities. It is acknowledged also that individual school circumstances play a critical role in determining achievement outcomes for pupils. Over the last twenty years much research has focused on the notion of effective schools. Whilst some have chosen to highlight the characteristics of effective schools, see Annex 2 (Stoll and Fink, 1994) it is recognised that in many ways our knowledge of what makes a 'good' school greatly exceeds our knowledge of how to apply that knowledge in programmes of school improvement to make schools 'good' (Reynolds and Creemers,1990 ) Almost all studies of school effectiveness show that school leadership is a key factor. Gray(1990) argues that 'the importance of the headteacher's leadership is one of the clearest of the messages from schools effectiveness research'. All of the three strategies in question, focus particularly on school leadership and whilst the role of the headteacher is considered to be critical to school improvement, the notion of shared leadership is increasingly recognised as a key component of effectiveness.

In terms of the implementation of the three strategies in Birmingham LEA, two specific questions arise, namely: -

1. What were the reasons for improvement in those schools that did especially well?
2. Why did some schools perform less well than others?

It is interesting to note that in terms of improvement there were fundamental enabling factors that appeared to be making a difference in individual schools. These were common across the three intervention strategies. The characteristics identified in improving schools very closely mirrored the 'Eleven factors for effective schools' highlighted by Stoll and Fink. Across the three strategies, schools that did especially well invariably had strong and effective school leaders in place. Sometimes, enthusiastic headteachers had recently been appoinited, or more experienced headteachers had become enthused by an initiative which helped them to focus on issues relevant to the context of their particular school. In improving schools, headteachers were frequently found to be the key drivers of new procedures and were at the core of improvement strategies. This sometimes included taking a key role in teaching, particularly in English and mathematics. In such schools, management and organisational systems were secure and the leadership team as a whole was focused on what needed to be done to bring about improvement. The notion of shared leadership was therefore critical to the push for improvement across the school. This idea of shared leadership is fundamental to the Primary Leadership Programme, which sets out to empower individual schools by focusing on the wider school leadership team. Critically this involves strengthening and empowering the leadership role of Literacy and numeracy co-ordinators. In schools showing greatest improvement, there were invariably strong and effective English and mathematics co-ordinators in place. Importantly these co-ordinators were generally very effective teachers. Together with strong leadership from the headteacher, this led to a clear and shared focus on improving the quality of teaching and learning in both Key Stages 1 and 2. This in turn led to a range of procedures which included: the placing of key teachers in Years 5 and 6; rigorous monitoring and target setting; targeting the improvement of specific skills such as pupils' writing; tracking the performance of individual pupils; setting specific curricular targets and a revision of procedures for marking pupils work. Additionally it involved the empowerment of staff and the recognition that the capacity to build on recent successes lay within the school. This was supported by the development of consistency across agreed school procedures and an acceptance of the importance of the learning environment. Importantly the above characteristics were

generally present in schools with a stable staff, often supported by the judicious appointment of additional high quality personnel. In other words the optimum conditions for improvement were in place.

In contrast those schools that did less well invariably had few of the above pre-requisites in place. For example, in some schools, management was less effective and procedures were inconsistent. In some instances there were temporary staff in place and the leadership of the curriculum in English and mathematics was insecure. Sometimes, in the most challenging circumstances, there was a change of headteacher at a vulnerable period in the schools history. This was often accompanied by high staff and pupil turnover. In such schools there were invariably management issues as well as motivational issues. It is important to recognise that the **ISP** initiative was targeted at those schools in the most challenging circumstances, where many of the above constraints were recognised. It is necessary to restate an overarching aim of the **ITS** initiative, which was to stabilise the staffing position in certain schools and critical to this intervention was support for the recruitment of effective school leaders. Similarly a key aim of the **ISP** programme was to strengthen the leadership and management systems in a low attaining school. Once stability had been established, a school was better placed to benefit from the **PLP** which set out to empower school leaders and extend the idea of shared leadership. It can be seen then, that both the **ISP** and the **PLP** interventions were important vehicles for supporting schools previously identified by the LEA. It is accepted that the process of supporting and stabilising the staffing position within an individual school takes considerable time. When this is accompanied by strong and committed school leadership, clearly the conditions are in place to allow the wider school community to focus on improving teaching and learning and raising standards.

## Conclusion

Of the three strategies in question all can be said to have impacted positively on school performance in the short term. Looking at an overview of the results in both English and mathematics, schools participating in the **ISP** and **ITS** interventions were consistently improving at a faster rate than both the LEA and national average. In making sense of the results, three factors need to be considered. First, the **ITS** initiative is well established within the LEA and can be said to be achieving its objectives, in part, through schools participation in the **ISP** and **PLP** interventions. Second, more than two thirds of the schools identified in the **ITS** programme are also included in the **PLP,** therefore it is inappropriate to suggest that one has

been more effective than another. Third, whilst the **ISP** is currently part of a national pilot, and 2003-2004 represents the second year of involvement, the **PLP** was operating in its first year in 2003-2004. The interventions are at different stages of implementation and the **PLP** in particular has had less time to become embedded in school practices and procedures.

Focusing of the results of particular schools, there are significant differences in terms of the improvements made in some schools and the extent to which others performed less well. Most of the schools involved in all three strategies were coming from a low base and it is recognised that performance needs to improve considerably if these schools are to come close to the national average for pupils of primary age. Further enquiry is required at individual school level in order to provide a more complete picture of the links between school attainment and targeted interventions.

This investigation seeks to highlight the specific factors that led to improvement rather than suggest that one strategy is superior to another. Clearly some aspects of LEA support for leadership and management acted as a catalyst for improvement. It has been noted that schools that improved most displayed key characteristics that supported school improvement. This was consistent across all three strategies. In particular these characteristics included strong leadership from the headteacher and the support of a stable staff. In the best circumstances this resulted in a developing sense of shared leadership, which over time empowered the wider school community. Strong and effective curriculum leadership in English and mathematics was similarly critical to improvement. Additionally, secure school organisational systems allowed the school to focus on the specifics of what needed to be done at pupil, year group and Key Stage in order to improve performance. In schools that did less well, few of the above characteristics were in place and in such challenging circumstances it was difficult to sustain consistency and improvement.

The challenge for the LEA is to build on what has been learned from the three initiatives. This should lead to a further alignment of support so that the best match is achieved between school needs at a point in time and an intervention programme. Importantly it will be increasingly necessary to ensure that staff at both LEA and school level fully understand the objectives of the three programmes and see them as integral and complementary, rather than mutually exclusive. This will in part be achieved if the best examples of effective practice are celebrated and shared.

It is interesting to note that the MORI follow up research into the state of school leadership in England 2005, included the following comments in its

key findings,

'Headteachers are motivated by the dynamic and varied nature of the role and opportunities to build shared values, whereas inspections, measures of accountability and administrative demands are most likely to de-motivate them. LEAs in turn, cite many of these issues as key challenges in the recruitment and retention of effective school leaders.'

Stevens, Brown, Knibbs, Smith, MORI Social Research Institute, 2005

Maintaining this critical balance between empowerment and accountability remains a particular challenge both for schools and the LEA.

## Implications

In order to further focus its efforts and build on the experience gained to date the LEA may wish to:-

continue to review its policy regarding the inclusion of schools within specific interventions so as to further align its support and targeting of resources.

monitor the development of individual interventions in relation to school performance, especially for the academic year 2004-2005, in order to determine the particular strengths of initiatives as they become embedded in school procedures.

consider gathering evidence from a case study group of schools, representing each strategy, in order to further ascertain the effectiveness of particular interventions and to share effective practice across the LEA.

seek additional resources which will ensure that Professional Development Programmes continue to strengthen and empower the role of Literacy and Numeracy co-ordinators.

Dr Diane Dolley August 2005

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Additional note.
I am indebted to John Hill from the Birmingham LEA Statistics and Research Unit for access and advice relating to performance data contained within the Adapt software package.

**Annex 1**

**Key Strategies Summary**
**Averages and Improvement Rates, Key Stage 2, 2004**

**KS2 ENGLISH 2004**

| Strategy/Group | L4+ | L5+ | Points |
|---|---|---|---|
| ISP | 58%+7 | 8%-2 | 24.0+0.8 |
| ITS | 63%+7 | 14%+3 | 24.9+0.6 |
| PLP | 60%+3 | 12%-1 | 24.5+0.2 |
| LEA | 74%+5 | 23%+1 | 26.5+0.4 |
| National | 78%+3 | 27%+0 | 27.2+0.3 |

**KS2 MATHEMATICS 2004**

| Strategy/Group | L4+ | L5+ | Points |
|---|---|---|---|
| ISP | 54%+10 | 14%+7 | 24.4+1.4 |
| ITS | 56%+3 | 17%+2 | 24.7+0.4 |
| PLP | 54%+1 | 16%+1 | 24.5+0.1 |
| LEA | 70%+2 | 27%+2 | 26.5+0.3 |
| National | 74%+1 | 31%+2 | 27.0+0.2 |

**ANNEX 2**

**Eleven Factors for Effective Schools**

1. Professional Leadership
2. Shared vision and goals
3. A learning environment
4. Concentration on teaching and learning
5. Purposeful teaching

6. High expectations
7. Positive reinforcement
8. Monitoring progress
9. Pupil rights and responsibilities
10. Home-school partnership
11. A learning organisation

Stoll and Fink, 1994