DOCUMENT RESUME

ED 472 214 CS 511 697

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TITLE Final Report of the External Evaluation of England's National Literacy and Numeracy Strategies. Final Report. Watching & Learning 3.

INSTITUTION Department for Education and Skills, London (England).; Ontario Inst. for Studies in Education, Toronto.

REPORT NO DfES-0101/2003

ISBN ISBN-1-84185-866-8

PUB DATE 2003-01-00

NOTE 191p.; Written with Doris Jantzi, Blair Mascall, and Louis Volante. For executive summary, see ED 472 213.

AVAILABLE FROM Department for Education and Skills (DfES), PROLOG, P.O. Box 5050, Sherwood Park, Annesley, Notts NG15 0DJ England. Tel: 0845 6022260; Fax: 0845 6033360; e-mail: dfes@prolog.uk.com. For full text: http://www.standards.dfee.gov.uk/literacy/publications/?pub_id=10067&top_id=0&art_id=0.

PUB TYPE Guides - Non-Classroom (055) -- Reports - Evaluative (142)

EDRS PRICE EDRS Price MF01/PC08 Plus Postage.

DESCRIPTORS British National Curriculum; Data Collection; *Educational Change; Elementary Education; Foreign Countries; *Literacy; *Numeracy; Professional Development; *Program Evaluation

IDENTIFIERS External Evaluation; *National Literacy Strategy (England); Target Planning

ABSTRACT

The National Literacy and Numeracy Strategies (NLS and NNS) represent a major government initiative to improve classroom practice and student learning in literacy and mathematics in elementary schools across England. National targets were intended to increase the percentage of 11-year-olds reaching the "expected level"--Level 4--in annual national assessments for English and mathematics. The main elements of the NLS and NNS initiative are: a national plan and infrastructure for literacy and numeracy (with actions, responsibilities, and deadlines); a substantial investment (skewed towards regions and schools needing most help); detailed teaching programs for children from ages 5 to 11; a professional development program for teachers; easy intervention and catch-up for students who fall behind; and appointment of over 300 consultants for each of literacy and numeracy at the local level. The framework for this external evaluation highlights aspects of large-scale reform efforts that appear to make a difference in altering school and classroom practice. Methodology encompassed a range of data collection approaches including interviews with educators and policy makers, surveys of schools, a survey of literacy and numeracy consultants in Local Education Agencies, and repeated site visits to 10 schools. This final report builds on and extends earlier findings by considering the views from the center, the schools, and what is called "the bridge." Some early findings have been confirmed while others have emerged as the Strategies evolved and implementation proceeded. The report summarizes what the data revealed as successes and challenges. It contains seven chapters, three appendixes, many data tables, and extensive references. (NKA)

Final Report

Watching Learning 3

Final Report of the External Evaluation of England's National Literacy and Numeracy Strategies

Lorna Earl, Nancy Watson, Ben Levin, Ken Leithwood, Michael Fullan and Nancy Torrance with Doris Jantzi, Blair Mascall and Louis Volante

OISE|UT

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January 2003

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Acknowledgements

In this, the last of three reports in the OISE/UT external evaluation of the National Literacy and Numeracy Strategies, we welcome the opportunity to again express our appreciation to all those in England who have made our work not only possible but also highly enjoyable. In our two earlier reports it was easier to list by name the many people who supported our work. Although we are making an effort to do that once more, the number of people to whom we owe a debt of gratitude has grown considerably over the four years of our work, making it impossible to name them all.

Judy Sebba, from SEU, has given continuous support throughout the entire four years of our study, as has her colleague Matthew Young. Michael Barber, the original head of SEU, and his successor, David Hopkins, have provided unstinting support and kept us up to the mark with challenging questions. Steve Anwyll and Tim Coulson, the National Directors of NLS and NNS, have been wonderful to work with; they have welcomed our feedback and done everything possible to facilitate our data gathering. The Literacy and Numeracy regional directors have contributed greatly to our work and have been generous in sharing their experiences and insights; Laura Huxford, Graham Smart and Sarah Sharkey, in particular, also kept us up to date with ongoing Strategy developments. We also thank John Stannard and Anita Straker, the original National Directors of the Literacy and Numeracy Strategies. All these people gave invaluable assistance and allowed us to draw constantly on their expertise. Everyone has welcomed us into training sessions, meetings and conferences, as well as responding cheerfully and promptly to our steady requests for information. Colleagues at DfES and the National Centre for School Standards, particularly Victoria White, Alison Britton and Jessica Wright, but also many others, supported our team in countless ways, helping us surmount innumerable practical obstacles. In Toronto, Gabrielle de Montmollin provided invaluable support with all aspects of the study.

We express special appreciation to the headteachers, teachers and other staff members in the ten primary schools that we visited over the last three years. These colleagues, right across England, welcomed us into their schools and classrooms and shared their triumphs and their challenges. We appreciate their trust and generosity, particularly in those schools that continued in the study after a change in headteacher. We also thank the Literacy and Numeracy staff in the ten LEAs associated with these schools; together these colleagues have helped deepen our understanding of the Strategies at the local level. Although they remain anonymous, they know how grateful we are.

Thousands of headteachers and teachers responded anonymously to our postal surveys, as did so many Literacy and Numeracy consultants. We very much appreciate the time that people took to report on their perceptions and experiences. These views from the field proved extremely valuable for our evaluation and provide useful feedback for DfES and the Strategy leaders.

Countless other people, in schools, LEAs, HMI, higher education institutions and other educational organisations, including teacher unions, have taken time from their busy schedules for conversations, sharing many aspects of their work with us. We thank all those who have facilitated our inquiry – we greatly appreciate their support and their insights. Of course, the responsibility for limitations and errors in our work is ours alone.

Executive Summary

Introduction

The National Literacy and Numeracy Strategies (NLS and NNS), taken together, represent a major government initiative to improve classroom practice and pupil learning in literacy and mathematics in primary schools across England. The Strategies, comprehensive in design and execution, have pulled together various policy strands to provide clear direction and support for change, with new roles, high quality materials and strong political support. National targets were intended to increase the percentage of 11-year-olds reaching the "expected level" – Level 4 – in annual national assessments for English and mathematics. The strong accountability system established by the previous government was continued, with the current government adding focus, support and capacity building. The Strategies represent a highly ambitious professional learning programme that has involved virtually all primary schools in England.

The main elements of the NLS and NNS initiative are: a national plan and infrastructure for literacy and numeracy (with actions, responsibilities and deadlines); a substantial investment (skewed toward regions and schools that need most help); detailed teaching programmes for children from ages 5 to 11, with the expectation of a daily lesson in each of English and mathematics; a professional development programme for teachers; early intervention and catch-up for pupils who fall behind; and appointment of over 300 consultants for each of literacy and numeracy at the local level, plus the identification and part-funding of hundreds of leading mathematics teachers and expert literacy teachers. Regular monitoring and evaluation allowed early identification of problems and provision of solutions or modifications as appropriate.

The Standards and Effectiveness Unit (SEU) of the Department for Education and Skills (DfES) commissioned a team of researchers centred at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT) to provide an external evaluation of the implementation of the Strategies. This evaluation supplemented the assessments of classroom and school practice carried out by the Office for Standards in Education (Ofsted). In this final report, we summarise the key findings of our four years of data collection, articulate what NLS and NNS have added to the knowledge base about large-scale reform and draw out implications of our findings for future education policy.

The external evaluation team tracked progress in the implementation of the Strategies at the national and local levels. The team acted as a critical friend to SEU and the national directorates for the Strategies, describing NLS and NNS from different perspectives, making connections with the international literature on large-scale reform and identifying issues for attention. Can large-scale reform succeed? Is it possible to create a central government initiative that motivates educators to change their practice in line with the reform initiatives, provides them with opportunities to acquire the necessary knowledge and skills, and builds contexts that sustain the motivation and capacity for change? What does it take to reform something as large as a national education system? Finally, the most significant question is whether large-scale

reforms can be sustained and can continue to evolve productively.

The External Evaluation

The framework for our evaluation, developed during the first year of our work, highlights aspects of large-scale reform efforts that appear to make a difference in altering school and classroom practice, both at the central policy level and at school and LEA levels. Our methodology encompassed a range of data collection approaches including interviews with educators and policy makers, surveys of schools (headteachers and teachers), a survey of literacy and numeracy consultants in LEAs and repeated site visits to ten schools. Over the course of the study the external evaluation team spent 354 days in England gathering data.

We set out provisional findings and identified emerging issues in two earlier reports (Earl, Fullan, Leithwood & Watson, 2000; Earl, Levin, Leithwood, Fullan & Watson, 2001). These reports showed that in comparison with initiatives in other jurisdictions, NLS and NNS are impressively comprehensive and highly developed large-scale reform efforts. Our first report focused on the "view from the centre" – looking at the design of the Strategies. The NLS and NNS initiatives were addressing each of the major factors that evidence suggests are important at the national policy level, some more completely than others.

In our second report, we broadened our focus to include the "view from the schools." We concluded that NLS and NNS were showing an impressive degree of success, especially given the magnitude of the intended change. Literacy and mathematics had moved to the top of the teaching agenda. Our data indicated that the majority of teachers were using many features of the literacy hour and daily mathematics lesson; in other words, the structures of NLS and NNS were in place. In that report, we also raised a number of issues related to securing the long-term effectiveness of the Strategies. These included questions about depth of change in teaching practice, unintended consequences of the focus on targets and indicators, effects on other areas of the school curriculum, sustainability of the Strategies, availability and use of data, and a need to engage parents and families more fully in their children's learning.

In this, our final report, we build on and extend our earlier findings by considering the views from the centre, the schools, and what we have called "the bridge," which includes the regional directors and LEA staff linking the Strategies to schools and to initial teacher training institutions. Some early findings have been confirmed while others have emerged as the Strategies evolved and implementation proceeded. There is no question that the National Literacy and Numeracy Strategies have made substantial changes in primary education in England in a remarkably short period of time. As with all large-scale change efforts, there are inevitable tensions, such as the appropriate balance between "top-down" and "bottom-up" reform, directed versus flexible implementation, literacy and mathematics versus other curriculum areas and long-term capacity versus short-term results. Our study also reaffirmed the importance of looking at a variety of outcomes and measures, given the unintended consequences of a focus on one indicator of success (in this case, the proportion of children reaching Level 4 in the Key Stage 2 national assessments).

The Strategies set out to transform the nature of primary schools throughout the country

and in many ways have succeeded. Here we summarise what the data revealed as successes and challenges. Much has been accomplished and this should be celebrated. At the same time, a careful look at the progress of the Strategies reveals no shortage of challenges for the years ahead.

Successes

Influence on the Teaching and Learning of Literacy and Mathematics

The Strategies have had some influence in virtually all primary classrooms in England; literacy and mathematics have become top priorities across the country. The Strategies have been generally well supported by schools, with the majority of teachers and headteachers reporting that they have implemented NLS and NNS in their classrooms. Almost all schools have received some training for both Strategies, and teachers believe their own learning has been positively affected. Initial teacher training has also increased its emphasis on the teaching of literacy and mathematics and now includes training in the Strategies.

The major shifts associated with the Strategies have been an improved range and balance of elements of literacy and mathematics being covered, increased use of whole class teaching, greater attention to the pace of lessons, and planning based on learning objectives rather than activities. Most teachers use the format and structure of the literacy hour and the daily mathematics lesson, although as they become more familiar and more comfortable with the frameworks and resources, teachers make adaptations to suit their pupils.

There is considerable evidence from a range of sources that teaching has improved substantially since the Strategies were first introduced. We observed many teachers who demonstrated awareness of the different levels of understanding of each of their pupils, establishing curriculum targets for individuals while attending to the whole class and ensuring learning for all. There is considerable variation across teachers and schools in terms of expertise, however, suggesting that the capacity-building task, much larger than initially anticipated, will require sustained professional learning experiences over many years if improvements in teaching practice are to be lasting.

It is more difficult to draw conclusions about the effect of the Strategies on pupil learning. Attainment on the government's key measures rose significantly even though the 2002 targets were not achieved. In 1997, 63% of children reached the expected level in English, a figure that increased to 75% in 2002. While still short of the target of 80%, this is a substantial gain. In mathematics, 73% of children reached the expected level, short of the target of 75%, but a considerable increase from the 61% of 1997. However, much of the increase occurred prior to the introduction of NLS in 1998 and NNS in 1999, while English and mathematics results have changed little since 2002. Regional directors, consultants and many headteachers and teachers are convinced that pupil learning has improved considerably with the use of the Strategies, with children showing increased understanding and skill in many aspects of English and mathematics. On the other hand, some headteachers and teachers expressed doubt, in particular about whether increases in test scores actually represented comparable increases in pupil learning. The gap has narrowed substantially between pupil results in the most and least successful schools and LEAs. If this improvement in low-attaining

schools continues, it would be a significant measure of success.

Establishing a National Infrastructure

NLS and NNS national and regional directors provide leadership throughout the country, supporting and monitoring the work of LEAs and developing new initiatives in response to emerging issues. Regional directors oversee the development and distribution of national training and curriculum support materials within the National Centre for School Standards. The national infrastructure has been flexible enough to accommodate policy decisions and to meet changing local needs. The centrally directed agenda that characterised the initial phase of implementation has shifted to a more interactive approach, with regional directors facilitating the sharing of good practice across LEAs, schools and teacher training institutions. Expertise is located increasingly at the local level, with consultants, co-ordinators, and expert and leading teachers providing support to schools that need it. Such local strength also leads to a greater sense of ownership as schools and LEAs address challenges with increased confidence.

Having this infrastructure in place in LEAs and at the national level provides a substantial advantage for future work, while strength at the local level is essential for sustainability.

Flexibility within a Constant Vision

For NLS and NNS, the overall vision, as set out in the frameworks, has remained constant, although specific priorities and emphases have shifted in response to data about pupil strengths and weaknesses and to feedback from schools and LEAs. Strategy leaders have sought out, in a variety of ways, information about the progress and challenges of implementation and have adapted elements of the Strategies to address problems that arose. Achieving a sense of common purpose that persists through such adaptation is no small accomplishment and is a significant contribution to the sustained effort required for successful large-scale reform.

Value for Money

Many factors make it difficult to estimate the value for money of a large-scale educational initiative. At the outset of our study, we discussed a number of significant difficulties in conceptualising and measuring all the relevant variables. Nonetheless, we find, with regard to the Strategies, that a relatively small additional central expenditure (approximately 4.4%) has levered significant shifts in the use of schools' ongoing resources, such as teacher time and attention. Key Stage 2 test results, defined as the primary measure of success, have improved considerably since 1997, even though targets were not met. On balance, we cautiously conclude that the Strategies represent good value for money.

High Pressure and High Support

To be successful with a large-scale reform agenda in education, governments need to push accountability and foster capacity building among educators. Under the current government, initiatives such as a revised National Curriculum, target setting, annual national testing, the publication of "performance tables" of school results and monitoring of teaching and Strategy implementation provide intense pressure for accountability. We found from the beginning of our study that the NLS and NNS frameworks and curriculum materials enabled many schools to cope with the pressure of national tests, Ofsted inspections and national targets. The government has provided substantial support to schools, partly through increased funding, much of it to strengthen

literacy and mathematics. The Strategies also have given strong support through high quality resources and training, with LEA literacy and numeracy consultants providing focused and sustained implementation support to many schools, as well as opportunities to keep up to date with Strategy developments. The differentiation of pressure and support to schools and LEAs has been an effective tool for managing resources and focusing on schools and LEAs most in need. Our conclusion is that the Strategies provide an excellent example of a "high pressure, high support" approach to large-scale reform.

Assessment Literacy and Use of Data

Teachers are developing greater assessment literacy, in particular the capacity to examine pupil work and performance data and to use such information to guide their teaching and improve pupil learning. Although teachers continue to be aware of numerical targets, such as the desired percentage of pupils reaching a particular level of performance, curriculum targets – specifying what pupils need to learn next – have become much more salient. NLS and NNS recognise that teachers' engagement in the careful consideration of pupil work is a powerful tool for professional development and for school improvement.

Increasingly, LEAs and schools across England are making appropriate use of relevant data for educational decision-making. LEAs collect evidence of various kinds to support educational development plans, resource allocation and teaching. Schools are becoming more comfortable using reports from DfES, Ofsted, QCA and other agencies, and are frequently using test data and other indicators of pupil, school and LEA performance in their planning. In many schools, the focus is shifting to the rates at which pupils progress, rather than the absolute level of pupil attainment. The more sophisticated use of good data offers a promising approach for ensuring continued growth in the quality of teaching and learning.

Leadership

Leadership at all levels of the Strategies has proven to be a notable strength and as the Strategies have evolved, the leadership focus has evolved with them. The emphasis has shifted from establishing a vision and encouraging commitment from all stakeholders to developing sustainability through a more interactive relationship with LEAs and initial teacher training institutions.

Although leadership in LEAs and schools varies considerably, we have observed many strong LEA and school management teams. Many schools are becoming *learning communities*, working collaboratively, making decisions jointly, and taking more collective responsibility for school self-evaluation. Recently, NLS and NNS have focused appropriately on developing school management and leadership capacity, through support tailored specifically for headteachers and for literacy and mathematics co-ordinators. The focus by Strategy leaders on strengthening the work of school leaders, both as managers and as models of good practice, is a powerful method for raising the quality of teaching and learning throughout schools. In addition, the newly established National College for School Leadership provides the potential infrastructure for ongoing improvements in the quality of school leadership.

Challenges

A number of issues have emerged from our consideration of the evidence available to the end of 2002. We hope that raising these issues will spark discussion about how to secure the long-term effectiveness of the Strategies and will contribute to international knowledge about large-scale reform.

Teacher Capacity

The training, resources and consultant support provided by NLS and NNS have raised the quality of teaching practice. Evidence about the extent of the changes in teaching practice is mixed, however, when one looks beyond the adoption of the structure and format of the literacy hour and daily mathematics lesson. For NLS and NNS to succeed in the ways that Strategy leaders believe are possible, many teachers will need to be highly skilled and more knowledgeable about teaching literacy and mathematics than is currently the case. The Strategies have provided teaching resources and good quality training to thousands of teachers across the country, but many teachers have not yet had the sustained learning experiences necessary to develop a thorough understanding of the Strategies or of the best ways to teach literacy and mathematics to their pupils. Our data continue to show considerable disparity across teachers and schools in terms of knowledge, skill and understanding of the Strategies. The data indicate that for many teachers, gaps or weaknesses in subject knowledge or pedagogical understanding limit the extent to which they can make full use of the frameworks and resources of the Strategies.

We concluded in our second report that initial gains in achievement scores were largely a function of relatively straightforward but effective changes in teaching practice. The levelling off of Key Stage 2 results would seem to support this conclusion. Increasing the proportion of teachers who are experts at using the Strategies to improve pupil learning is the next step, one that the Strategies are addressing in a variety of ways. However, many teachers believe that the job is done, that they have the knowledge they need and have fully implemented the Strategies – a misconception that makes capacity building more challenging. In its eagerness to celebrate the early success of the Strategies, the government may also have added to this sense of there being little more to do, even though it has now committed funding for the Strategies through to 2006.

Embedding Accountability and Capacity Building

In the early implementation of the Strategies, pressure for compliance with central directives served to engage schools, pushing them to begin changing classroom practice. However, continuing this kind of accountability for too long may result in a culture of dependence, reducing professional autonomy. When the focus of the government has moved on (as it inevitably will), the responsibility for maintaining a focus on literacy and mathematics, together with a determination to strive for high standards and quality teaching, will need to be embedded in the culture of schools and LEAs.

Even with the Strategies' strong focus on building capacity, the magnitude of the task has meant that many teachers have had relatively little opportunity for the sustained professional development and consolidation that is needed. The challenge now is finding ways to embed accountability and capacity building in the culture of schools. Without such a shift, the momentum that the Strategies have created may be lost.

Central Direction and Local Initiative

In our second report, we said that central direction and support were required in the initial phase of the Strategy initiatives in order to bring about intended changes quickly and on a large scale. It is appropriate that this approach would be modified in the current phase of the initiative where the challenge is to maintain and deepen the early gains that have occurred. Where the Strategies were viewed initially as a one-size-fits-all approach to teaching, Strategy leadership has responded with a message of greater flexibility in their implementation. The challenge is to continue to push toward conditions where LEAs, schools, and teachers have the capacity to adapt, solve problems and refine their practice, while remaining true to the principles underlying the Strategies. SEU must continue to monitor and address the differences that exist across authorities, while moving LEAs and schools toward greater ownership, commitment and expertise.

Manageability for LEAs and Schools

Throughout the four years of our study, we have heard concerns about increasing pressure and initiative overload for teachers and headteachers. Although there is considerable support for the Strategies in schools, our data confirm that they have added to teacher workload (already an issue) and contributed to feelings of being overwhelmed. Furthermore, it is difficult for schools to maintain their focus on key priorities in the face of what often appears to the schools as a constant series of new or reworked initiatives. It is important that government efforts to help schools deal with overload, pressure and undue stress continue to be a high priority, particularly when pressure for meeting ever higher targets is likely to continue. DfES needs to show how initiatives can overlap and complement each other, so reducing, rather than adding to, the task for schools. Minimising or ignoring the problem will have negative consequences not only on the performance of current teachers but also on the attractiveness of teaching as a profession.

Targets and Test Results

In the early implementation of the Strategies, the emphasis on Key Stage 2 tests and target setting focused attention on literacy and mathematics and helped to mobilise the system: The setting of such widely disseminated national targets provided an effective launch to NLS and NNS. However, targets and testing that is high stakes for schools and LEAs may have unintended negative consequences, such as narrowing the curriculum. From the data available to us, we conclude that the high political profile of the 2002 national targets probably skewed efforts in the direction of activities – some of them misinformed and counter-productive – that were intended to lead to increases in the one highly publicised score. Many teachers acknowledged considerable test preparation, especially in the term leading up to the national assessments. We caution that setting ever higher national targets may no longer serve to mobilise and motivate, particularly if schools and LEAs see the targets as unrealistic. We suggest a shift in emphasis to what might be termed "consolidation targets," challenging headteachers and teachers to maintain improvement and to address issues they identify as significant in their schools. More emphasis could also be placed, in public communication, on the varied data increasingly used in schools and LEAs to assess progress on a broader range of dimensions.

The Teaching Profession

While the government continues to reinforce primary school reforms and implements new

approaches in secondary schools, work has intensified on modernising or remodelling the profession of teaching. Such changes are intended to address current and future difficulties in attracting and retaining teachers, particularly in the London area. More immediately, they address concerns about workload, a topic that has been attracting considerable attention and debate that emerged from our data as well.

Recent DfES proposals have included initiatives to deal with recruitment, initial teacher training, support for newly qualified teachers, teacher compensation and performance appraisal, as well as leadership development. The focus is on improving the working conditions of teachers through reductions in paper work, increased time for planning and greater use of classroom assistants, all changes intended to reduce workload and raise teacher morale. Such policies, if successful, will strengthen efforts to improve literacy and mathematics teaching as well as addressing more general issues related to the profession.

Beyond the School

The government is well aware of the importance of involving parents in efforts to improve pupil learning. At the beginning of the Strategies, parallel programmes (the National Year of Reading and Maths Year 2000) were launched to encourage parents to help strengthen their children's literacy and mathematics skills. Family literacy and numeracy programmes have been funded as well to help parents improve their own skills. In spite of these efforts, the potential contribution of parents to their children's learning has not been realised. At the school level, headteachers and teachers try to engage parents, but with varying degrees of success. Schools in disadvantaged communities report particular difficulties, perhaps related to some parents' own ambivalence towards school, their lack of conviction that education will improve their children's lives, and the overwhelming pressures many families in these communities face.

Pupil outcomes are shaped by many factors outside of the school. In fact, the relationship between socio-economic status and educational achievement is recognised as one of the most stable relationships in educational research. As is appropriate, the main focus through NLS and NNS has been on the school – what schools can do to improve pupil learning through improved teaching practice. To close the gap between high and low performing children, however, may require more attention to out-of-school influences on pupil attainment. If this is the case, government efforts to strengthen connections between education and other policy areas that support families and communities will be crucial.

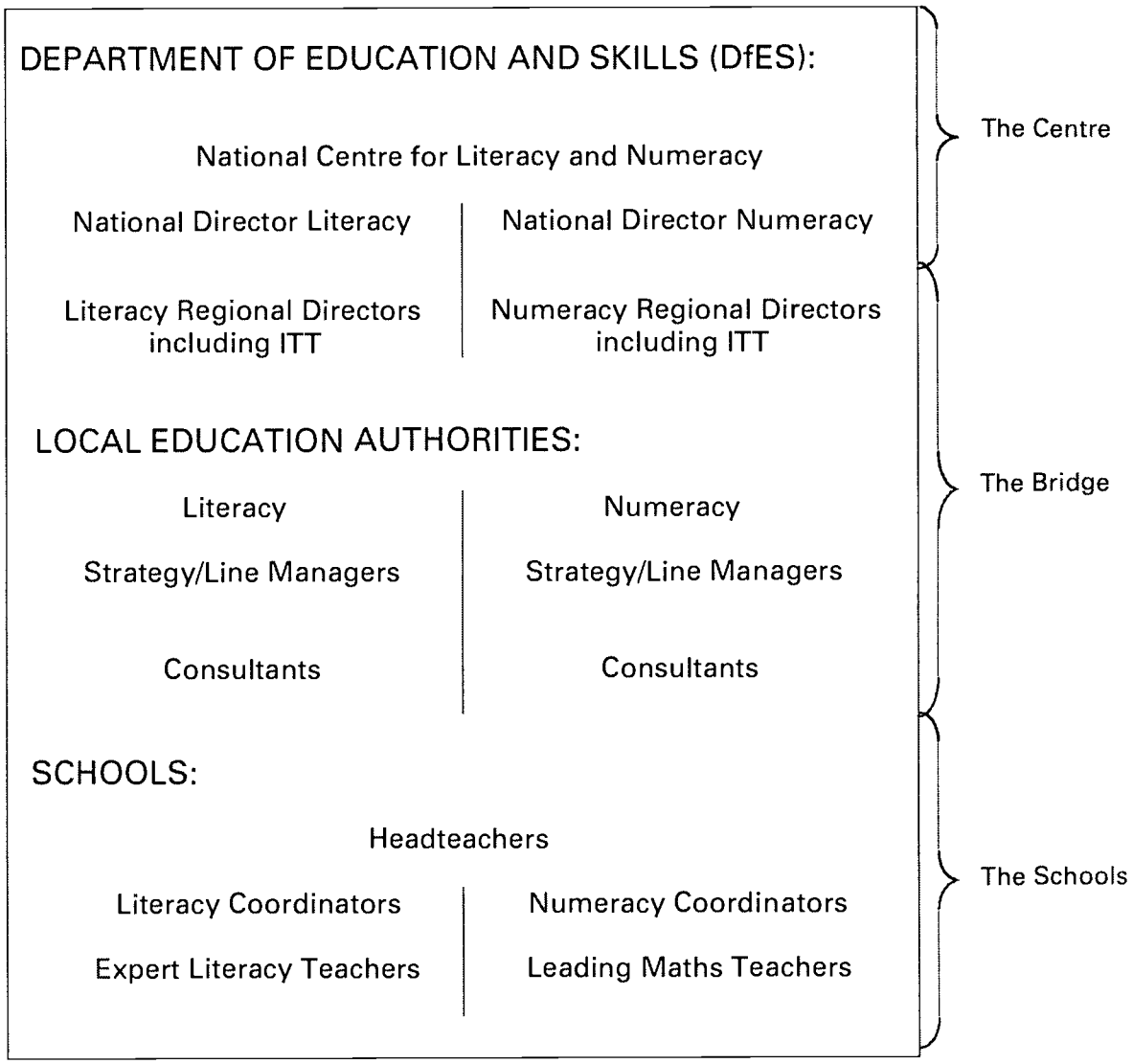
Conclusions

The National Literacy and Numeracy Strategies are ambitious large-scale reform initiatives that have been generally well implemented and well supported by schools. Although the 2002 targets were not reached, there have been indications of improved teaching practice and pupil learning, as well as a substantial narrowing of the gap between the most and least successful schools and LEAs. Our data show that elements of the Strategies appear in virtually all classrooms, but that there is considerable disparity across teachers in subject knowledge, pedagogical skill and the understanding of NLS and NNS. Although the Strategies have made a good beginning in a relatively short period of time,

the intended changes in teaching and learning have not yet been fully realised.

After four years, many see NLS and NNS as needing to be re-energised; the early momentum and excitement have lessened and a new boost would be helpful. The next phase in the evolution of the Strategies and the improvement of literacy and mathematics teaching is crucial if improvement is to be sustained. Such continuing improvement will require not only greater individual capacity in headteachers and teachers, but also greater organisational capacity in schools and LEAs. In the long run, we believe that the commitment to collective capacity building is the most promising direction for addressing the challenges of the future.

NLS AND NNS ORGANISATIONAL STRUCTURE FOR THE EXTERNAL EVALUATION



Chapter 1: Introduction and Framework

The Strategies and the External Evaluation

The two most recent themes in educational change are how to achieve large-scale reform, while setting the stage for sustainable improvement. This evaluation of the national initiatives in literacy and mathematics in England provided an opportunity to examine first-hand the most ambitious large-scale educational reform initiative in the world. In the course of conducting this study a great deal has been learned about the policies, strategies and impact of deliberately attempting to achieve change on a massive scale within a relatively short time frame. Our report presents these findings and raises critical questions about how to bring about the fundamental reforms necessary for continuous improvement of the educational system.

The National Literacy Strategy (NLS) and the National Numeracy Strategy (NNS) are comprehensive government-initiated reform efforts, aimed at changing teaching practice and thus improving pupil performance in all the nearly 20,000 primary schools in England. NLS and NNS can be seen as a dramatic "scaling up" of reform efforts developed through earlier pilot programmes, the National Literacy Project and the National Numeracy Project. The Strategies are comprehensive in planning and execution, pulling together various policy strands to provide clear direction and support for change. NLS and NNS incorporate extensive professional development, which involves an increasingly large proportion of England's 190,000 primary teachers and has continued to expand as the Strategies have evolved.

To supplement and complement the evaluation of NLS and NNS carried out by the Office for Standards in Education (Ofsted), the Standards and Effectiveness Unit (SEU) of the Department for Education and Skills (DfES) commissioned an external evaluation. SEU retained a team of researchers centred at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT) to provide this outside view of the implementation of NLS and NNS.[1]

1 *The team also included Dr. Ben Levin of the University of Manitoba, who took primary responsibility for the value-for-money component of the evaluation.*

The government has also committed to a programme of public third-party evaluations of other major policy initiatives. Both the government and the Department should be commended for these steps. Subjecting key policy priorities to external public evaluation can be risky for any government, which is one reason why it seldom happens.

In this final report, we review the key findings of our four years of data collection to provide a coherent account of the Strategies and the implementation process. We also articulate what NLS and NNS have added to the knowledge base about large-scale reform and identify issues for the next phase of the initiative. The intended audience for our report includes DfES, the NLS and NNS leadership, educators in Local Education Authorities (LEAs) and schools, and the broader educational policy community, both in England and internationally.

The Canadian external evaluation team has acted as a *critical friend* (Costa & Kallick, 1995; MacBeath, 1998) to DfES and other key partners by describing NLS and NNS from different perspectives, drawing connections between the international research literature on large-scale reform and the Strategies, and identifying issues for attention. Playing this critical friend role over a period of four years from November 1998, the team has examined evidence (collected by others as well as us) and followed the implementation of NLS and NNS at the national, LEA, school and classroom levels.

Our evaluation is inevitably limited in scope and we mention here two points about our mandate and focus. First, questions have been raised about the assumed definitions or models of literacy and numeracy (e.g., Brown, 1999; Dadds, 1999; Fisher, 2002) that are embedded in the Strategies. Literacy and numeracy are not unproblematic categories, although such debates are more salient in the higher education community than they are in schools. Although we recognise the importance of such issues, as we are charged with looking at the *implementation* of the Strategies, we will address them only as they come up as implementation questions in schools and LEAs. Second, although the question of impact on pupil learning is an inevitable issue in any study of the Strategies, and we do discuss questions relating to pupil learning, the OISE/UT evaluation did not address this dimension in a systematic or focused way. Evaluation of teaching and change in pupil attainment are the focus of the HMI/Ofsted evaluation in two samples of approximately 300 schools, one for Literacy and the other for Numeracy. We have drawn on the HMI reports and on the work of other researchers to supplement our data gathering and strengthen our conclusions about the implementation of the Strategies as major large-scale reform initiatives.

Framework for the OISE/UT Evaluation

Factors in Large-scale Reform

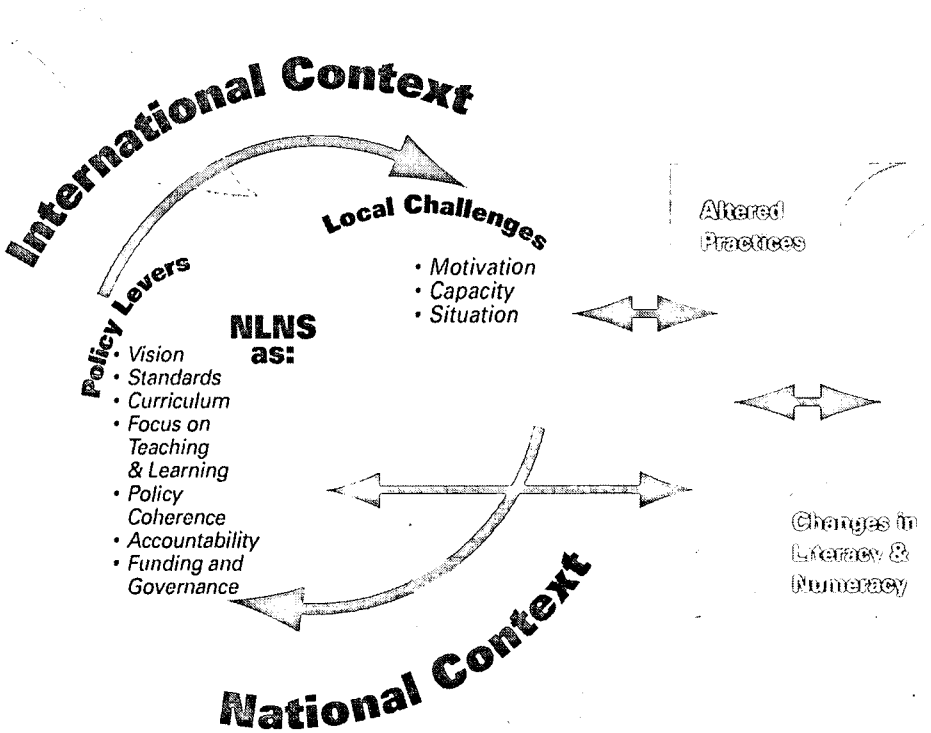
The OISE/UT evaluation is an investigation of the process of *large-scale reform*. Under what conditions will large-scale reform succeed? Is it possible to create a central government initiative that (1) motivates educators to change their practice in line with the reform initiatives, (2) provides them with opportunities to acquire the necessary knowledge and skills, and (3) builds contexts that sustain the motivation and capacity for change? What does it take to reform a large national education system? Can the important elements of large-scale reform be described for others who are undertaking or aspiring to

the same ends? If large-scale reform is possible, how long does it take to institutionalise the practices? Finally, the most significant question is whether or not large-scale reforms can be sustained, and if so, what seem to be the necessary and sufficient conditions for sustainability?

We developed a framework for looking at such questions by drawing on two reviews of pertinent international literature. The first (Fullan, 2000) described the international context for the Literacy and Numeracy Strategies by looking at the return of large-scale reform as a major force, identifying features of those reforms that appear to be making a difference. A second review, done by Leithwood, Jantzi and Mascall (2000), examined both the macro level (policy levers) and the micro level (local challenges) of reform. The two papers provide different lenses for examining large-scale reform, recognising the importance of both central mandates and local action. The framework highlights different aspects of the Strategies, with little of importance left in the shadows. Throughout the course of the evaluation, this framework has been reviewed and refined to reflect our learning from NLS and NNS.

Figure 1-1 provides a graphic representation of our framework for viewing the Strategies, showing policy levers at the national level (on the left), conditions for implementation in LEAs and schools (in the middle) and improvements in pupils' literacy and numeracy (on the far right). Together the policies and local conditions influence practices and lead to changes in pupil outcomes. The framework was developed

Figure 1-1: Framework for the Evaluation of NLS and NNS



by mapping backwards from what NLS and NNS aim to accomplish, *improvements in pupils' literacy and numeracy*. We assume that, for such improvements to occur, pupils must directly experience more powerful teaching and learning. Changes in pupils' levels of literacy and numeracy are thus dependent on *altered practices*, particularly on the part of teachers, but also headteachers, LEA advisers and consultants and, at least potentially, parents. At the central or national level, the Strategies can be seen as *policy levers* that stimulate the desired changes in schools and LEAs. All of this activity is occurring within a unique cultural, political, economic and educational *context*.

Policy Levers

Viewed through the first lens of NLS and NNS as major national policy levers for large-scale reform, the framework draws attention to the content and structure of the initiative. Comprehensive reform initiatives need to include:

- a vision and goals for the reform and for the education of pupils;
- standards for judging the performance of pupils and others;
- curriculum frameworks and other teaching resources to assist in meeting the standards;
- a focus on teaching and learning (including teacher learning);
- coherent, aligned policies to support the initiative;
- accountability and incentives linked to performance; and
- sufficient funding and workable governance structures.

This list of factors was derived from our study of relevant literature in 2000; since that time, we have become aware of research that would suggest making one adjustment in emphasis. The study of the effort to change mathematics teaching in California schools in the early 1990s (Cohen & Hill, 2001) reinforces the importance of all the factors listed above, but highlights in particular the necessity of teacher learning. If teachers do not have deep and sustained opportunities to learn what the reform is about and what is expected of them in teaching, the desired changes are unlikely to occur and will not be sustained (e.g. Little, 1993; Neufeld & Boothby, 1999). The research into the California mathematics reforms reinforced other research in showing how difficult it is to provide such high quality learning experiences on a broad enough scale to impact more than a minority of schools and teachers. As we will outline in Chapter 4, the infrastructure developed by NLS and NNS has been key in providing such learning experiences to teachers in England.

Local Implementation: LEAs and Schools

The second lens on NLS and NNS focuses directly on schools and LEAs, and on variations in the success of efforts to improve teaching and learning. Such variations can be explained, broadly, in terms of the influence that reform efforts have on educators, looking at three features:

- motivation;
- capacity; and
- situation.

Motivation refers to the willingness to put effort into implementing the Strategies, while capacity refers to pre-existing or newly developed skills and understandings that individuals bring to their work with NLS and NNS. Situation refers to the extent to which the organisational context in the school and LEA fosters appropriate changes in practice: This could be termed *organisational capacity*.

The complete framework suggests that to be successful, centralised actions must build and sustain a comprehensive infrastructure to support change in classroom and school practice. The support must motivate educators, build their capacity to implement the reforms and foster the development of school cultures that will sustain improved practices.

At the beginning of our study, the Strategies could be considered as clearly defined policy interventions, with launch dates, clear expectations for initial implementation in classrooms and specific targets for 2002. The Strategies four years later are more complex; our conceptual framework has proved to be flexible enough to handle the nuances of these 2002 versions, which are a set of many inter-related policies and practices that have evolved through the interaction between central initiatives and local contexts. Our investigation moved from looking at the initial adoption of the Strategies to a consideration of how the Strategies were being implemented several years on, when the novelty had faded.

Sustainability

Throughout the evaluation we have identified sustainability as the ultimate indicator of success. Sustainability, however, does not necessarily mean fidelity to all aspects of the Strategies. NLS and NNS embody a set of principles, together with a wealth of teaching approaches to realise these principles in classrooms. The long-term success of the Strategies will depend on teachers developing the capacity to select and modify teaching approaches, making decisions on a moment-by-moment basis to best meet pupils' learning needs. This recognition adds another dimension of complexity to our model of change and to the goals of NLS and NNS over time. Here we look briefly at how the issue of sustainability relates to motivation, capacity and situation (organisational capacity).

Motivation and Sustainability

When innovative policies are introduced there may be substantial fanfare, as well as visible pressure and support to encourage involvement. As we document later in this report, such was the case with NLS and NNS. Early motivation to implement the Strategies was usually *extrinsic* (i.e., the behaviours happened because of an external pressure to conform and to meet a particular expectation). Although such a call to action can create awareness and focus the agenda, actions based on extrinsic motivation persist only as long as there is an external reinforcement to continue. When the pressure is gone, the concomitant behaviours disappear as well. When the motivation becomes *intrinsic*, the behaviours are more likely to carry on (Deci & Ryan, 1985; Deci, Koester & Ryan, 2001). With regard to the Strategies, we would look for indicators of intrinsic motivation to increase over time, such that teachers and headteachers felt a sense of ownership and commitment.

Capacity and Sustainability

Making and sustaining changes in schools is hard intellectual and emotional work (Hargreaves, Earl, Moore & Manning, 2001).

Sustainable change depends on ongoing learning, individual and collective. With regard to literacy and mathematics learning, teachers and headteachers need the individual capacity – skills, knowledge and understanding – to go beyond initial implementation and superficial understandings.

Organisational Capacity and Sustainability
Although motivation and capacity are essential to sustain the push for higher standards and enhanced learning for pupils, they will not be sufficient. Many attempts at educational change have flourished and then disappeared for lack of attention over time (Elmore, 1995) in cases where the situation (or organisational capacity) does not provide enough support for changes to become established. For shifts as far reaching as those embedded in NLS and NNS to continue, schools must support ongoing teacher learning through development of local work cultures where self-monitoring and ongoing improvement have become part of the daily life of the school.

Methodology

Overview

Throughout the four years of the evaluation, we have used a number of data collection procedures to ensure that our conclusions were based on multiple sources of evidence, using a variety of methods. These were:

- semi-structured interviews;
- postal surveys;
- participant observation (meetings, training sessions);
- school site visits (these included interviews and classroom observations);
- a review of current UK research relevant to the Strategies; and
- document analysis (NLS and NNS documents as well as material from DfES and other agencies).

We used research by others in the UK as a supplement to our own data. In some cases, such studies focused on questions that were important but not part of our mandate; in other cases, the research addressed questions in more depth than we were able to do given our remit and resources.

Data gathering

National/regional: NLS and NNS as policy levers, view from the bridge (regions and LEAs), value for money

- **attended meetings of Literacy and Numeracy regional directors, Policy Programme Group, Implementation Group, and Literacy Numeracy Strategy Group, as well as regular meetings with various DfES staff;**
- **observed NLS and NNS regional briefing/training sessions for LEA line managers and literacy/numeracy consultants;**
- **attended NLS and NNS headteacher conferences;**
- **participated in DfES/TTA ITT conferences;**
- **reviewed documents related to all aspects of Strategies;**

- interviewed DfES and CfBT staff and NLS and NNS leaders (national directors, deputy directors, primary and ITT regional directors) (Sample interview protocols in Appendix A); and
- conducted interviews (individual and group) with people from a range of educational groups and organisations with an interest in various aspects of the Strategies.[2]

Local: Schools and LEAs – the view from the schools, the view from regions and LEAs (the bridge), value for money

- two postal surveys (in 2000 and 2002), each to two samples of 500 schools, one for Literacy and the other for Numeracy. Parallel questionnaires went to headteachers and teachers (sample questionnaires in Appendix B);
- a postal survey to all literacy and numeracy consultants in LEAs across England in 2002 (questionnaires in Appendix B);
- repeated visits to 10 selected schools (with various sizes, locations, pupil populations, levels of attainment) and their LEAs: 4 to 6 days in each school; team interviewed headteachers and teachers, observed literacy and mathematics lessons, and analysed documents (protocol for interviews in Appendix A);
- interviews with literacy and numeracy managers and consultants from LEAs of the 10 selected schools, attended training sessions and staff meetings in some of those LEAs; and
- observations and interviews in 17 other schools (including special schools) and LEAs. Three of these were one-day visits to schools early in 2000, while the others were single visits as part of shadowing regional directors or HMI, or attending meetings locally.

Members of the team spent 354 days in England collecting data, from November 1998 to July 2002, plus approximately 8 days gathering data through telephone interviews and conversations.

We interviewed approximately 350 persons, some individually and others in small groups. Although some individuals were interviewed only once, we talked with many others several times over the course of our study. Sample interview protocols are given in Appendix A.

Throughout the study, we found people very willing to speak with us and share their thoughts and experiences. Because we were outside the system, with no ownership of the Strategies and no responsibility for judgements about schools or individuals, we may have heard slightly different reports from those given to DfES, HMI/Ofsted,

2 *The Canadian team interviewed spokespersons from teacher unions and headteacher associations; higher education institutions (about both research and teacher training); HMI/OFSTED; QCA; associations such as the Literacy Trust, the Basic Skills Agency, the Teacher Training Agency, the General Teaching Council and the British Dyslexia Association; subject associations; LEA management and professional staff; and independent consultants involved with education and/or with various aspects of the Strategies. In most cases, interviews were conducted several times over the course of the evaluation. Questions focused on the interest that each organisation had in the teaching of literacy/mathematics or in the Strategies.*

regional directors, or even LEA advisers or consultants. All respondents were guaranteed confidentiality.

Schools and LEAs

The two data sets that provided insights into the view from the schools for this report were (1) surveys of teachers, headteachers and consultants and (2) interviews and observations in selected schools and their LEAs.

Surveys of Teachers, Headteachers and LEA Consultants

The external evaluation team contracted with the National Foundation for Educational Research (NFER) for a significant amount of the work entailed in collecting the survey data. The external evaluation team developed the survey instruments (NLS surveys for headteachers, teachers, and consultants; NNS surveys for headteachers, teachers, and consultants; see Appendix B for sample questionnaires). NFER was then responsible for their distribution, collection and entry into a data file. The data file was returned to the external evaluation team for analysis and interpretation.

School surveys: Two representative samples of 500 schools were selected for the teacher and headteacher surveys, one sample receiving surveys about NLS and the other sample about NNS. Both samples were selected at random from the NFER database of schools to be representative of the whole primary school population in terms of school type, national curriculum test results, region and proportion of pupils eligible for free school meals. An NFER staff member telephoned each of the schools in the two samples to find out the number of teachers at each school. Many headteachers, when informed of the purpose of the call, declined to participate in the survey, usually citing lack of time due to pressures of other commitments for teachers. Of the 499 schools contacted in the Literacy sample (one school was withdrawn by the LEA), 223 (45%) agreed to participate. Of the 497 schools contacted in the Numeracy sample (3 were withdrawn by their LEAs), 245 (49%) agreed to participate. The mean number of teachers per participating school was 12.

The response rates for the participating schools were as follows:

- For the NLS survey, 79% of headteachers responded (176 respondents). Teachers responded from all schools; of the 2617 teachers sent surveys, 1501 or 57% responded.
- For the NNS survey, 80% of headteachers responded (197 respondents). Teachers responded from 99% of schools; of the 2828 teachers sent surveys, 1527 or 54% responded.

Consultant surveys: The consultant surveys, which paralleled those sent to schools but included additional questions related to the consultant and LEA role, were sent to all the literacy and numeracy consultants who were supported by money from the DfES Standards Fund as of February 2002 – 350 literacy consultants and 398 numeracy consultants. Response rates were 85% (299 consultants) for NLS and 85% (340 consultants) for NNS.[3] The great majority, 85% of surveys returned, included responses to the open-ended questions about strengths and limitations of the Strategies.

3 *Some initial uncertainties with the consultant database arose with some former consultants still listed as being in those positions. With these uncertainties resolved, the numbers were 350 NLS consultants and 398 NNS consultants.*

Site Visits and Interviews

While the survey data provided a cross section of views on many of the issues surrounding the implementation of the Strategies, site visits to schools and LEAs allowed a fuller exploration of some issues from the perspective of a diverse, though small, group of educators. We visited a set of 10 schools and their LEAs on repeated occasions over the last three years of the study.[4] These schools offer a view of NLS and NNS in a broad range of circumstances and contexts. The group includes schools in difficulty and schools that are high performing. Some schools have received considerable outside intervention while others have received little or no additional support. Overall, these schools contribute to a picture of the implementation of the Strategies as experienced by teachers, headteachers and pupils.

The repeated school visits were designed to provide a detailed picture of the implementation process of the National Literacy and Numeracy Strategies in the ten sites. The research questions addressed the extent to which the Literacy and Numeracy Strategies were being implemented in the sample schools and the organisational and teaching changes associated with the implementation of the Strategies. More specifically, we looked at the successes associated with the Strategies (with any clues as to whether such successes could be replicated in other school settings); the obstacles or barriers blocking implementation of NLS and NNS (and how these were being dealt with and with what success); and any unintended consequences arising from the implementation of the Strategies.

The following table compares results from our pool of selected schools to the national averages for Key Stage 2 English and mathematics assessments from 1996 to 2002.

Despite much individual variability in the year-to-year results of the selected schools, the average scores for the group of 10 schools are generally similar to the national average scores and show overall improvement from 1996 to 2002. For the smaller schools in the sample, the Year 6 cohort may have as few as 12 to 15 children, and therefore, as teachers and headteachers usually recognised, differences between cohorts from year to year may be marked. Year-by-year changes need to be interpreted with caution. It is also the case that, like many schools in England, a few of our sample schools began implementing aspects of NLS prior to 1998 and aspects of NNS prior to 1999.

During our visits, we talked with teachers, literacy and numeracy co-ordinators and headteachers in each school and observed literacy hours and daily mathematics lessons. In LEAs, we talked to Strategy and line managers and in most cases, literacy and

4 *The OISE/UT team used the 1998 DfEE (as it then was) database of schools in England to select a random sample of 50 schools, from which we intended to select a set of 10 schools varying in location, type of community, size of school and performance on the 1999 Key Stage national assessments. As the random sample did not include schools representing all relevant categories, we supplemented the pool with names of 15 additional schools. From this expanded pool, a set of 10 schools was drawn based on the 1999 primary school performance tables, geographic location, size of school, and urban to rural setting. The set of 10 schools ranged in size from 115 to 475 pupils, and in performance on the Key Stage 2 assessments from 33 to 92% Level 4 in English and from 40 to 87% Level 4 in mathematics. The 10 schools were each in different LEAs and varied in geographic location and in rural to urban type of community. Three schools declined the offer to participate (because they felt unable to give the time necessary); similar schools replaced them. The 10 selected schools were chosen to characterise typical schools in various settings and circumstances and to provide illustrative examples. They do not constitute a sample that would allow generalisations to the whole primary school population in the country.*

Table 1-1: Percent of Pupils Achieving Level 4 on KS2 English and Mathematics National Assessments from 1996 to 2002

Year 6 tests	1996	1997	1998	1999	2000	2001	2002	1996 to 2002
English								
National Average	56	63	64	70	75	75	75	+19
Selected Schools	46	60	60	63	77	73	75	+29
Mathematics								
National Average	53	61	58	68	72	71	73	+20
Selected Schools	50	57	59	63	72	66	72	+22

numeracy consultants. In addition to the selected schools, we have had opportunities to talk to teachers, headteachers and LEA advisers from other settings, thus supplementing the data from the selected schools. The sample schools and LEAs were assured that they would not be identified in any of our reports, oral or written.

OISE/UT Interim Reports

During the four years of our study, we produced two interim reports (Earl et al., 2000, Earl et al., 2001). Here we review key findings and highlights from these two reports.

Highlights from First Report

In our first report, covering the period from November 1998 through December 1999,[5] we based our conclusions on data gathered in relation to the view from the centre. Looking at the Strategies as central government policy levers, we concluded that, viewed in relation to other efforts at large-scale reform across developed nations, NLS and NNS were among the most comprehensive and fully developed. Each of the dimensions emerging from the education reform literature had been attended to, although with varying degrees of emphasis and success.

We concluded that NLS and NNS were characterised by notable strengths in areas such as leadership, policy alignment, pressure and support, communication, resources and responsiveness. At the same time, we identified a number of challenges for the next stage of policy intervention, highlighting the importance of the Strategies paying more attention to new teachers, assessment literacy, professional learning communities and dissenting voices.

In the first report, we suggested that the initial gains in the 1999 national tests were probably due largely to higher motivation on the part of teachers and others at the local level. The clear direction and support, including the NLS and NNS materials and widespread communication, together with awareness of the national Key Stage 2 tests, led teachers to spend more time and focus more intensively on teaching literacy and mathematics. Although schools generally used the lesson

5 *For a more detailed description see the first report, entitled* Watching and Learning: OISE/UT Evaluation of the National Literacy and Numeracy Strategies, *and the second report,* Watching and Learning 2: OISE/UT Evaluation of the National Literacy and Numeracy Strategies. *Both are available on the DfES Standards Site (Watching & Learning: OISE/UT Evaluation of NLNS): http://www.standards.dfes.gov.uk/literacy/publications/?pub_id=134&top_id=0&art_id=2139) (Watching & Learning 2: http://www.standards.dfes.gov.uk/literacy/publications/?pub_id=530&top_id=0&art_id=0)*

and timing guidelines of the Strategies, we concluded that teachers were probably using their existing capacities more fully, rather than having developed substantial new skills and knowledge. We observed that future increases in pupil learning would require further increases in professional capacity (both individual and organisational), along with continued development of supportive work situations.

Highlights from Second Report

In our second report, published in mid-2001 on the basis of data gathered through the end of 2000, we continued to be guided by the framework presented in our first report. In addition to looking at the Strategies as policy levers directed by the government, we broadened the focus to include the view from the schools. We also addressed the question of value for money, concluding on the basis of information then available that the Strategies were providing reasonable value for money. A relatively small additional central expenditure (in the region of 5% of the overall cost of primary schooling) levered significant shifts in the use of ongoing resources in schools, such as teacher time and attention.

To learn how NLS and NNS were perceived and experienced in schools and LEAs, we gathered data through postal surveys and through site visits to schools. Using our framework, we looked at the motivation and capacity of teachers and headteachers to implement the Strategies and the extent to which their work contexts supported their efforts. We also explored the relationship between local perceptions of the Strategies and the central intent, particularly where the two differed from each other. Our data indicated that the majority of teachers were implementing the lesson plan and timing of the Strategies; in other words, the structures were in place. However, we concluded that many of those in schools needed further professional development and increasingly supportive work situations in order to deepen their skills and knowledge.

We found that the National Literacy and Numeracy Strategies had made significant changes in primary education in England in a remarkably short period of time. The change was pervasive, moving literacy and mathematics to the top of the teaching agenda. We indicated, however, that sustaining change would require consistent pressure and support, and raised several questions for consideration by DfES and the Strategies:

- How deep are the changes in teaching that occur as a result of the reform?
- Are there unintended costs or consequences of the reform?
- How is the reform being organised to be sustainable in the long-term?
- What data are available about implementation, training needs and success in changing learning, and how are such data being used?
- How are parents, families and the community engaged in understanding and supporting the reform?

Our second interim report concluded that much had been accomplished but much more needed to be done to address the reform agenda more comprehensively. The questions we raised suggested directions for future development.

Dissemination

During the four years of our evaluation, we began to disseminate our initial findings

beyond the interim reporting meetings with various DfES and NLS/NNS audiences. Members of the Canadian team also gave presentations to the following:

- a joint DfES/TTA ITT conference in London in 2000;
- the International Reading Association (IRA) in New Zealand (with NLS presenters) in 2000;
- the British Educational Research Association (BERA) in Cardiff in 2000;
- the International Congress for School Effectiveness and Improvement (ICSEI) in Toronto in 2001;
- the UK Reading Association (UKRA) in Canterbury in 2001;
- the Canadian Association for Educational Administration in Ottawa (CAEA) in 2001;
- the American Educational Research Association (AERA) in New Orleans in 2002 (with NLS/NNS presenters);
- the Canadian Society for Studies in Education (CSSE) in Toronto in 2002;
- the International Reading Association (IRA) in Edinburgh in 2002 (with NLS presenters)[6]; and
- a DfES-organised academic symposium, in which researchers from universities and other educational organisations heard from the evaluation team and discussed issues related to our external evaluation of NLS and NNS, in London in 2002.

In these sessions, questions and observations from the audience contributed greatly to our thinking about the evaluation and about issues related to large-scale reform.

Organisation of the Report

Over the four years of our evaluation, our framework for large-scale educational reform has provided a useful lens on the Strategies and their impact on primary schools in England. We have continued to use this framework throughout our work, although as a more flexible organiser in the latter phases of the study. In Chapter 2, we look briefly at the international and national contexts in which the Strategies were developed and launched. The remainder of the report portrays the results of our enquiry – Chapter 3, the view from the centre; Chapter 4, the view from regional directors and LEAs (the bridge); Chapter 5, the view from the schools; and Chapter 6, an estimate of value for money. We conclude, in Chapter 7, with a summary of notable successes of the Strategies to date, as well as discussion of the challenges emerging from the evaluation and some suggestions for future directions. The picture we present is not always straightforward. The Strategies themselves are complex policy initiatives, weaving together various strands intended to change practice across an entire country and evolving considerably over the past four years. We have integrated information from a range of perspectives and from people who have diverse roles, differential access to information and varied kinds of experience. The context and frame of reference of these individuals inevitably shape their perceptions and levels of understanding, not only of the Strategies but also of other central policy initiatives.

6 *Symposia will be held at the International Congress for School Effectiveness and Improvement (ICSEI) in Sydney in January 2003 and at the annual meeting of the American Educational Research Association in Chicago in April 2003.*

Chapter 2: National and International Context

We noted in our earlier reports that the design and implementation of NLS and NNS are inevitably much influenced by the national and international context in which the reform is taking place. We briefly outline themes in the international literature on large-scale reform and identify several issues in the English policy context that have influenced the development and implementation of the Strategies.

International Context

In many countries, the 1980s and 1990s were characterised by roller-coaster economic conditions, dramatic swings in political ideology and leadership and an eroding consensus about societal values. Rising levels of education have led to declining public confidence in institutions, an escalation of mistrust in public figures and an irresistible demand for greater accountability in public institutions.

During this period, education became a "hot button" for public attention because it was and still is considered to be at least part of the solution to many of these social and economic problems. Our global society, it is argued, is increasingly complex, requiring educated citizens who can learn continuously and who can work in diverse contexts both locally and internationally. As Rohlen (1999) argues:

> *our schools need to teach learning processes that better fit the way work is evolving. Above all, this means teaching the skills and habits of mind that are essential to problem solving, especially where many minds need to interact.*
>
> (pp. 251-252)

The problem of large-scale improvements to the core technology of schooling has been at the heart of school reformers' efforts in many locations during this period. For example, in the United States, publication of the report, *A Nation At Risk* (National Commission, 1983), is typically cited as the most obvious event precipitating an unprecedented period of concern about teaching and learning in schools that continues unabated to this day. Furthermore, reflecting the prevailing sentiment of the public-at-large, many reform-minded governments have little patience for the usual pace of educational change; reform needs to be done immediately.

Teachers may complain not so much about the nature of the changes being asked of them, but about the number and speed of the changes (Hopkins & Levin, 2000). Such impatience has meant the elimination of such deliberate procedures as small-scale trials, pilot studies, and research and evaluation of the preferred policy initiatives. Instead policy makers may move more or less immediately to large-scale implementation.

Hasty policy launches, however, do not often result in speedy school improvement. Indeed, Elmore (1996) argues that even the most successful efforts to significantly change the core of schools have rarely influenced more than 25% of U.S. classrooms. This claim is focused specifically on:

> *how teachers understand the nature of knowledge, and the student's role in learning, how these ideas about knowledge and learning are manifested in teaching and class work. The core also includes the structural arrangements of schools, such as the physical layout of classrooms, student grouping practices, teachers' responsibilities for groups of students, relations among teachers in their work with students, and processes for assessing student learning and communicating it to students, teachers, parents, administrators, and other interested parties.*
>
> (pp. 294-295)

While Elmore's claim is embedded in the U.S. context, and justified with reference to American evidence, there is little reason to believe that efforts to improve the core technology of schooling in other jurisdictions have been significantly more successful. Yet improvements in such core processes seem to be essential if the aspirations held by many governments and their constituents are to be met. Virtually all the recent efforts at reform, in various jurisdictions, have included a focus on curriculum, accountability and governance, and in most, governments have centralised educational policy while decentralising much of the responsibility for implementation (Hopkins & Levin, 2000; Levin, 2001a).

Most large-scale reform strategies have attempted to influence teaching and learning at least in part by holding schools more accountable for pupil performance. This is evident, for example, in the widespread adoption of pupil testing policies. The United States has seen a strong push for high-stakes testing but the experience in many states suggests that although such tests can be highly motivating, they do not lead to deep and sustained change. But pupil testing and its attendant baggage is just the most obvious policy tool for holding schools more accountable. A recent analysis (Leithwood & Earl, 2000) suggests four basic approaches to such accountability, each premised on quite different assumptions about what is wrong with schools and how to fix them. In practice, however, most large-scale reform strategies include elements of all these approaches to accountability (see also Adams & Kirst, 1999).

The fiscal approach to reform, adopted in jurisdictions such as New Zealand, Ontario and some American states, attempts to reduce the size of government but not with any particular vision for education. This is primarily a structural reform using a centralisation/decentralisation approach, devolving power to schools but retaining considerable control at the centre. Intermediate agencies such as local education authorities or district school boards are reduced in power or in some cases eliminated.

The international context provides encouragement for reform-minded governments to view education as a source of solutions to many of their economic and social problems. Governments tend to adopt reform strategies that assume that greater school accountability will improve pupil performance, often implementing those strategies on a large scale very quickly. Whether such policies can be expected to be successful, however, is in some doubt, based on current knowledge about how schools actually improve (Hopkins & Levin, 2000). The phenomenon of "reform overload" causes further difficulties. In many jurisdictions, a succession of reforms, often with conflicting ideologies from different governments, has led teachers to be sceptical about any new effort. Ontario is a good example of such overload and scepticism, with teachers now displaying negative motivation to implement government accountability policies (Leithwood, Steinbach & Jantzi, 2002).

There are, however, alternatives to starting with an emphasis on high-stakes accountability. The state of Connecticut, over a ten-year period, developed and implemented a comprehensive set of policies focused on improving the teaching profession (and thus teaching in the classroom). Described as "low-stakes, standards-based reform" (Wilson, Darling-Hammond & Berry, 2001, p. 31), the reforms included:

- raising teacher salaries;
- increasing licensing requirements;
- facilitating the entry of qualified out-of-state teachers;
- toughening requirements for temporary licenses;
- creating a staged licensing process for beginning teachers, with a master's degree required for a professional license;
- requiring and funding trained mentors for all beginning and student teachers; and
- requiring school districts to develop professional development plans, career incentive plans and teacher evaluation systems, and contribute to the cost of implementation of such plans. (p. 9)

Connecticut's reforms appear to have achieved considerable success. Teacher shortages no longer plague school districts, while student achievement has increased. As with all good policies, this has been steady, hard work.

> *The story of Connecticut's reform is one of focused, purposeful capacity-building throughout the educational system, driven by pointed attention to teaching quality and the creative use of available policy levers. ... Examined over time, this array of constantly unfolding policies is an unusual story of large-scale, iterative, system-wide, state-wide reform.*
>
> (Wilson et al., 2001, p. 32)

Our brief review of the international context for reform gives a glimpse of the increasing complexity of the reform process. Policy makers are confronted with the need to balance different ideologies, include different points of view and communicate complex initiatives in terms that will be accessible to the public. They are also trying to do this within the usual time span of a government term, usually no more than four to five years. During this relatively brief period, policies must show visible results if political support and resources are to be continued over the longer term – a development that is necessary for change to be embedded and sustained.

National Context

The Policy Context for NLS and NNS

In addition to these international forces, unique social, political and economic histories of a political jurisdiction shape the nature of large-scale reform strategies in powerful ways. Among the critical factors in understanding education in England are the country's perceived decline in world status after 1945, the tremendous importance of social class in shaping life chances and the highly polarised politics with two main national parties alternating in government. The education system has a long history of elitism as evidenced by highly selective institutions and, until recently, quite limited access to advanced education. Each of these factors has had an important influence on the development of education policy.

For the last 20 years England has been engulfed in educational changes, stimulated largely by a concern about global economic competitiveness. In the 1980s and for much of the 1990s, the Conservative government made a series of major changes, including greater parental choice, local management of schools at the expense of the powers of local authorities, a national curriculum, national testing and a national system of school inspections (Ofsted). In addition, collective bargaining for teachers was eliminated and teacher training substantially restructured.

Prior to the introduction of the national curriculum in the late 1980s, primary teachers in England were in many ways "left alone to teach." For some, this might be termed the era of "uninformed professionalism."

> *I started teaching in 1972. There was no curriculum. You could do what you liked. ... I hadn't the faintest idea of what I was doing but I went out there and did what I could. ... Nobody should have been expected to do what I was expected to do.*
>
> (Strong, 2002, p. 11)

In England, as in many other countries, an international focus on language and mathematics education fuelled concerns about how well primary schools were providing their pupils with the foundations for learning. Questions arose as to whether pupils were learning important basic skills (Reynolds & Farrell, 1996), with a particular focus on what has been popularly termed the "long tail of under-achievement."

Education in England has a long and contentious history of accountability. Beginning with research showing that schools had differential effects on their pupils (Rutter, Maughan, Mortimore & Ouston, 1979; Mortimore, Sammons, Stoll, Lewis & Ecob, 1988), there has been a concerted emphasis on identifying the qualities of effective schools and on trying to improve ineffective ones. Pupil attainment results are published in performance tables and Ofsted inspections provide detailed public reports of school performance. Over the years, heated and sometimes acrimonious debates developed about the form of accountability that has emerged, especially the focus, at one time, on "naming and shaming."

When the Labour Party won the election in 1997, education was identified as the number one priority. In a speech to the National Association of Head Teachers, Prime Minister Blair inserted a concern for equity to this education priority:

The fundamental failure of British government in the 20th century has been a failure to attach sufficient importance to public education for the broad majority of people. ... We have been good at educating an elite at the top but ... the imperative to raise standards for the many in line has been neglected.

(2 June 1999)

Elements of the national context are particularly important as influences on how policies are perceived and understood in schools. The history of government pressure and support for education over the last 15 years has shaped the way that schools view government intervention. The late 1980s and early 1990s saw a sudden and dramatic increase in pressure, with little or no additional support, at least from the perspective of schools. With the change of government in 1997, some in education hoped for a reversal of this trend. The government, however, although increasing funding and other support, did not ease the pressure. Instead, DfEE (now DfES) explicitly adopted a "high challenge, high support" stance toward schools, combined with the principle of "intervention in inverse proportion to success." Many teachers and headteachers were disappointed to find that pressure would remain a dominant feature of government policy. Such apprehension and scepticism coincided with the introduction of NLS, which came a year earlier than its mathematics counterpart. Some concern was expressed in schools and in the media, about what was seen as the overly prescriptive or top-down nature of a government policy that sought to actually change teaching practice.

The national context shaped the development of the National Literacy and Numeracy Strategies to a considerable extent. The context permitted the expenditure of greater government resources on school improvement, ensured that a strong element of accountability would be part of any reform effort, provided the structures for holding schools more accountable and justified the focus on literacy and numeracy. A distinct contribution of the Labour government was the emphasis on the long tail of under-achievement and on raising standards for low-attaining pupils.

In capitalising on the national context, the government developed a high-profile initiative that was based on the previously established National Literacy and National Numeracy Projects and guidance from evaluations of the Projects by the National Foundation for Educational Research (NFER) (Sainsbury, 1998; Minnis, 1999) and Ofsted (Office for Standards in Education, 1998a, 1998b). The Strategies focused attention and resources on a common goal – improving the literacy and mathematics of all pupils, but especially the disadvantaged, in primary schools across the country. In a speech to the Organisation for Economic Cooperation and Development (OECD), Michael Barber (at the time the head of SEU and the primary mover behind the education reforms) indicated that the government had put into place a framework for continuous improvement. In his words, the framework centred on *high challenge, high support*, with NLS and NNS at its core, intent on narrowing the achievement gap and raising standards for all.

Related Education Policy Issues

Workload

Teacher workload has emerged as an issue of considerable concern in England over the last few years. One recent study of teacher workload concluded that "the teachers

involved in the research, while on the whole enthusiastic about their work, felt downtrodden, stressed, overworked" (Edwards, as cited in Johnson & Hallgarten, 2002, p. 3). Such views are shared by teachers internationally (as documented by Scott, Stone & Dinham, 2000). In our interviews with LEA and school staff, the concern appeared to be not so much excessive workload as the large number of initiatives from the central government, without time for reflection and consolidation. As well, concerns about autonomy inevitably interact with workload, affecting teachers' motivation.

Prompted by frequent expression of workload concerns, DfES commissioned a review by PricewaterhouseCoopers (2001), who found that the total volume of work on an annual basis was comparable to that of other professional and management occupations, but the work of teachers and headteachers was more intensive. Most worked fifty to sixty hours per week during term times. The report concluded with suggested directions for improvement, as well as requirements for a successful implementation strategy. In response to these findings and following initial pilot programmes, the School Teachers' Review Body also made recommendations about workload, with guaranteed time in the school week for marking and lesson preparation.

Workload issues are seen as contributing to recruitment and retention challenges: A recent report on the future of the teaching profession in England noted that "the government is right to concentrate on workload as the most unattractive feature of the profession" (Johnson & Hallgarten, 2002, p. 1). The government is committed to continuing to address this issue through a variety of approaches, including greater use of teaching assistants and other support staff to take on some non-teaching duties, easing the load on teachers, as well as other policies intended to reduce excessive hours of work.

The Teaching Profession

The modernisation of the teaching profession has been a major focus of the government. Government actions have included establishing the General Teaching Council as a regulatory body setting criteria for professional practice, developing national standards for the teaching profession (based on work by Hay/McBer, 2000), beginning performance-related pay for teachers and implementing a performance management review scheme in schools.

Difficulties in attracting and retaining teachers, experienced in many countries, are affecting schools across England, particularly in and around London where high housing costs add to the difficulties. Government incentives such as "golden hellos" and living stipends for trainee teachers have had some impact on recruitment, with applications to teacher training increasing between 2001 and 2002, according to the Graduate Teacher Training Registry. As well, the number of teacher vacancies has fallen slightly during the same period (Office of National Statistics, 2002), although some commentators wonder to what extent the rosier picture may be due to increased use of teachers who are not properly qualified or use of overseas staff not trained in the Strategies.

Teacher shortages not only affect regular staffing and coverage in case of illness, but also may create a revolving door of training and expertise. LEAs train newly-hired staff, who may then leave, requiring the LEA to repeat the training over and over. Shortages also make it difficult to obtain the supply coverage

necessary for teachers to take part in professional development sessions. To address this latter problem, LEAs have begun offering training on weekends or during holiday periods.

An increase in the number of teaching assistants may help to ease the impact of teacher shortages, although there has been considerable debate about what the limits of the teaching assistant role should be. The government has provided funds and opportunities for recruitment and training of such assistants. The role is developing as a career option, with national standards and a national 4-day training programme delivered by LEAs. Trained teaching assistants are widely used to work with small groups of pupils, under the guidance of the classroom teacher.

As we will outline later in the report, in the autumn of 2002 the government issued further proposals designed to address issues related to the profession of teaching.

School Leadership

School leadership, especially the role of headteacher, is increasingly recognised as a crucial requirement for education reform. The National College for School Leadership (NCSL) began operation in September 2000 as a centre for headship and senior management training; the aim is to strengthen leadership through nurturing, supporting and developing school leaders. It has been proposed that the NCSL qualification will be a requirement for new headteachers, in recognition of the increased complexity of the role and the need for expert management and pedagogical leadership on the part of headteachers. Other initiatives may be needed to attract prospective candidates for headteacher positions, given what some data suggest is becoming a difficult situation with regard to recruiting senior staff (Howson, 2000). On the other hand, some of our informants suggest that from their experience, the pool may be smaller but it is of high quality.

> *People who are becoming heads now are better prepared and better supported than heads ever have been. There is a much better sense of what leadership is. ... I know it is a cliché but there is a better culture of shared leadership in schools. The role of subject leader particularly has developed.*
>
> (Strategy leader)

Issues Beyond Education

Beyond these topics and issues specific to education, the Strategies are inevitably influenced by the broader policy context. For example, social pressures such as those caused by poverty are critical; research consistently shows that children's academic achievement is strongly related to various measures of family socio-economic status (e.g., West, Pennell, West & Travers, 2001). There is evidence that the United Kingdom has greater social inequalities than most European countries, although less than the United States (Seymour, 2000). To address the situation, the government has expanded programmes such as Sure Start and other initiatives intended to address child poverty. In July 2002, the new School Standards minister, David Milliband, spoke of plans for schools to be centres for many child services, an indication of the government's awareness of how social and educational issues are linked in the lives of children.

Education as a Political Priority

In reviewing the national context for the Literacy and Numeracy Strategies, the impact of the high political profile of education policy is obvious. When party leaders make

education their first priority and when it is reported that ministers will resign if achievement targets are not met, the political stakes around education become very high indeed. In such circumstances, education policy will be the subject of careful attention not only by politicians but also by the media and other commentators. Such has certainly been the case in England, at least during the period of our study.

In some ways high political visibility is desirable, in that it is often linked to more resources as well as more attention from key people. However, a high political profile can also lead to the demand for simple solutions and instant results. There will tend to be less tolerance for subtlety of approach and less willingness to accept mistakes or delays and more pressure on everyone involved, from ministers to children. This is the inevitable price of political attention and the resources it brings. As one of our interviewees observed:

> *There are days when I wish we could have this Strategy without its political dimension, but then I wake up and know you can't have one without the other. If it were not for the political imperative, the whole thing would never have happened in the first place.*

In the next chapter, we look at how the Strategies operated as policy levers, looking at the sophisticated and many-faceted efforts to change school practice through a co-ordinated policy initiative driven from the centre. At the end of the chapter, we return to the national context, showing how the factors identified in this chapter continue to influence the evolution of NLS and NNS.

Chapter 3: The View from the Centre: The Strategies as Policy Levers

Highlights

Judged as a large-scale reform effort, using the international knowledge base about such initiatives, NLS and NNS generally come off well – with some cautions and questions.

Some High Points

- **Early momentum with high political profile, substantial funding and well-publicised targets.**
- **Strategies have evolved, with greater flexibility for LEAs and schools once the basic "building blocks" are in place.**
- **High quality of central leadership throughout implementation, even with major changes in post holders.**
- **Central push and support has continued (funding extended, more policy coherence, development of quality materials, ITT, Key Stage 3, expansion of support).**
- **Continued emphasis on both accountability and capacity building.**
- **Key principles remain constant, with priorities modified as appropriate to guide work each year; policy adjusted in response to challenges and changing circumstances.**
- **Increased focus on leadership and management at school level (headteacher, subject co-ordinators).**
- **Increased focus on "assessment literacy" (the appropriate use of data) for improving teaching and learning.**
- **Greater attention to appropriate differentiation and intervention programmes for specific groups of pupils.**

Cautions and Issues

- **Funding and support, although generous, stretched thin when covering close to 20,000 schools.**
- **Limits of cascade model and brief training – challenge of ensuring sufficient understanding on the part of teachers.**
- **Reliance on single public measure of success (percentage of 11 year olds scoring Level 4 in Key Stage 2), although useful as political target, has unintended consequences in terms of shaping teaching.**
- **"Initiative overload" and difficulty in attracting and retaining teachers may threaten success.**
- **Question about future organisational framework for ongoing support and sustainability – clarifying roles of centre, LEA and school to foster continuing improvement.**

NLS and NNS as Policy Levers

The National Literacy and Numeracy Strategies are centrally developed policies designed to have an impact on all primary schools in England. In this chapter, we use our framework to describe the evolution of the Strategies as national policy levers and to highlight questions or issues that arose in the course of our investigation. The reference points for our discussion are the dimensions identified through our reviews of the international literature on large-scale reform indicated in Chapter 1. We look at each in turn – vision, standards, curriculum and teaching resources, focus on teaching and learning, policy coherence, accountability, and funding and governance. Within each of these dimensions, we make reference to specific elements that are relevant for our evaluation of the Strategies as policy levers. These elements are highlighted in shaded boxes at the beginning of each section.

It is worth noting that the government was in a relatively favourable position to use these levers, given the national policy context outlined in the previous chapter. The existence of a national curriculum and a national pupil assessment programme, together with Ofsted school inspections, focused the attention of schools on any new central policy initiative to a greater extent than would be the case in a more decentralised system. Even though the Strategies were not statutory and thus schools were not compelled to adopt them, the nature of the inspection and accountability system meant that schools would need considerable confidence not to do so. The incentive provided by targeted funding provided another stimulus to early adoption, as did the increasing availability of resource materials for teachers.

Vision and Goals

- **Reform efforts are guided by a vision of the outcomes for pupils.**

There is little question about the central vision for education in England. Literacy and numeracy are high priority outcomes and the focus is explicit and consistent. Even before the election of the Labour government, Tony Blair announced that the priorities for his government would be "education, education and education." He was clear that the goal was "a world class education system in which education is not the privilege of the few but the right of many." This conviction was reinforced regularly after Labour came to power by the then Secretary of State for Education and Employment and by the Prime Minister.

> *Much of the money for education is earmarked for specific purposes, including literacy and numeracy. ... Literacy and Numeracy Strategies are the two most critical educational polices of this Parliament ... whose objective is nothing less than the abolition of poor reading, writing and maths skills among the generation of tomorrow.*
>
> (Tony Blair, speech to the National Association of Headteachers, 2 June 1999)

The vision of raising standards through the Strategies was broadly shared and supported by Strategy leaders at all levels. Regional directors typically described NLS or NNS in terms such as:

> *It's a centrally driven, high profile government initiative focused on raising standards of maths in primary schools through improving the quality of teaching with local training by consultants and the production of guidance materials.*
>
> (Numeracy regional director)

> *The Strategy came about as recognition of the need to do something about literacy across the country and the issue of the attainment gap. The NLS is trying to narrow the gap and give all children the same expectation.*
>
> (Literacy regional director)

This focus has been sustained through both terms of the current Labour government. Shortly after his appointment as School Standards Minister, David Miliband reinforced the government's resolution and its commitment to equity by stating that:

> *The government's strategy is to use a combination of general policies to raise standards across the board with targeted policies to raise achievement in some of our toughest areas. ... We need to aspire to above-average education to give children in disadvantaged communities average life-chances.*
>
> (speech to the National Association of Head Teachers, July 2002)

When NLS and NNS were introduced into English primary schools, there seemed to be little disagreement with the decision to focus on literacy and numeracy. Some debate arose, however, particularly among academic commentators, about the research evidence supporting various features of the Strategies, such as the structure of the literacy hour and of the daily mathematics lesson and the emphasis on whole class direct teaching (e.g., Brown, 1999; Brown, Askew, Baker, Denvir & Millet, 1998; Wragg, Wragg, Haynes & Chamberlain, 1998; Wyse, 2000, 2001). A review of supporting research published after the introduction of NLS set out evidence for much of the content and structure of NLS (Beard, 1999), while an annotated bibliography provided background for NNS (Reynolds, 2000). Assessing the weight of

evidence on various sides of this discussion is not within our mandate. We recognise, however, that elements of both Strategies have been contentious. Alexander (2000) pointed out difficulties in accommodating the Strategies to existing pedagogy and practice, especially with regard to teacher interaction with children and children's articulation of their thinking. Certainly many elements of good practice, as identified by research, are embedded in the Strategies and there has been considerable adjustment based on information from ongoing monitoring, including evidence about the kind of difficulty pointed out by Alexander.

While the vision for NLS and NNS has remained constant, the goals have become even more ambitious over time. The targets for 2002 – that 80% of children would reach Level 4 in English and 75% would do so in mathematics – were increasingly framed as the first stopping point on a climb towards ever-improving pupil outcomes. The moral imperative was summed up in the NLS headteacher conferences in the autumn of 2000: "Level 4 matters for children – it is a passport not a token. It is the least we should expect for most children."

Given these high and ever increasing targets, the challenge was to produce and sustain improvement over time. However clear and bold, vision statements on their own cannot produce improvements. Both Strategies encompass goals related to broader understandings of literacy and numeracy.[7] For teachers and headteachers to understand and implement the vision, they need guidance and elaboration to help them see what is involved and what they are expected to do (Cohen & Hill, 2001). The myriad of support and monitoring activities of NLS and NNS has clarified the vision in considerably more detail. The revised National Curriculum, a result of close co-ordination between the Strategy leaders and the Qualifications and Curriculum Authority (QCA), has contributed to such clarity, as have Strategy guidance documents, resources and training materials that have been developed over the past few years.

The Strategies are intended to give guidance to schools but at the same time be flexible enough to be delivered effectively in a range of local contexts. Research on policy implementation has shown how teachers and schools inevitably adapt any innovation to suit the local context and the needs of particular groups of pupils (e.g., McLaughlin, 1990; Huberman & Miles, 1984; Hall & Hord, 2001). The danger, of course, is that such adaptation weakens the innovation; the adaptation may lead teachers back to their old practices. The clarity of vision tends to become obscured.

The Strategies focused on clarifying and sustaining the vision in many ways – for

7 *NLS documents state that literate pupils should read and write with confidence, fluency and understanding; orchestrate a full range of reading cues; understand the sound and spelling system; have fluent and legible handwriting and a growing vocabulary; and show understanding and facility with a range of genres in fiction and poetry as well as non-fiction texts. Pupils also should demonstrate an ability to plan, draft and edit their own writing; a technical vocabulary for discussing their reading and writing; an interest in books; and developing powers of imagination and critical awareness. (See* National Literacy Strategy: Framework for Teaching.*) According to NNS, the broader understanding of numeracy refers to a proficiency that involves a confidence and competence with numbers and measures. Numerate pupils have an understanding of the number system, a repertoire of computational skills and an ability to solve number problems in a variety of contexts. Numeracy also demands practical understanding of how information is gathered by counting and measuring, and is presented in graphs, diagrams, charts and tables. (See* National Numeracy Strategy: Framework for Teaching Mathematics from Reception to Year 6.*)*

instance, through constant messages delivered in person throughout the country by Strategy leaders as well as reinforcement through training programmes and resources. The Strategy leaders have also worked, along with other agencies, to support the development of schools that would be able to maintain the long-term vision even as they adapt to changing conditions and demands. As elaborated by school improvement research, (e.g., Hopkins & Levin, 2000), such schools have developed the capacity to monitor and evaluate their own performance, working together to challenge and build on the strengths of all members of staff. In our framework, we use the term *organisational capacity* – when teachers and school leaders share a coherent sense of what is important in the school, with clear, shared goals and effective ways of achieving these.

Standards

- **Clear standards for pupil outcomes.**
- **Standards accommodate individual pupil differences.**
- **Standards for pupils accepted and valued by teachers.**
- **Standards for teachers, based on defensible conception of good teaching.**

The mantra of recent government education reform efforts in England has been "raising standards." Standards, however, can be defined in many different ways. NLS and NNS include content standards, with the objectives for each Year or age level outlined in the frameworks of the two Strategies. For many schools, however, the aim of raising standards was equated with raising results on the national assessments, particularly the Key Stage 2 test results. When school results are reported publicly in performance tables, with consequently high stakes for schools, there is some risk that the assessments might become more important than the learning they represent.

> *When academic progress is judged by a single indicator and when high stakes ... are attached to that single indicator, the common effect is to narrow curriculum and reduce instruction to "test prepping."*
>
> (Thompson, 2001, p. 358)

There has been a long standing public debate in England about national testing programmes, including the Key Stage assessments. Controversy continues about what the scores mean and about efforts to develop measurements of value added. We say more about this debate later in the chapter.

The case in England differs from some other jurisdictions, in that high stakes are attached to Key Stage 2 results for schools, but not for individual pupils. With published performance tables and Ofsted inspection reports available on the web, schools have every reason to do what they can to ensure good performance, including focusing intensive efforts on pupils just below expected levels. Low-attaining pupils may be targeted for summer schools or for intensive Year 7 catch-up efforts, but their secondary school placements will not depend on the level achieved in the Key Stage 2 assessments.

Although the proportion of pupils reaching Level 4 is still the public target, NLS and NNS include a broader range of indicators, albeit mostly ones related to Key Stage assessments. Compared to many other reform situations, schools in England have more

information available about what the NLS and NNS standards represent in practice and a more diverse set of standards to consider. Regional directors, for instance, work with LEAs in careful analysis and consideration of LEA data, including, for example, results on the Key Stage 1 assessments, the progress of pupils between Key Stage 1 and 2, the performance of pupils learning English as an additional language and differences between boys and girls.

Guidance from QCA, based on analysis of annual test results, has led to greater clarity about what skills and knowledge are required for pupils to reach various levels in both English and mathematics. Regional directors have reinforced these messages through training sessions and ongoing production and dissemination of resource materials. Headteachers and teachers have been strongly encouraged to "go beyond the numbers" to develop curricular targets – gaining a secure understanding of what Level 4 or 5 work "looks like" and determining what should be done to move specific groups of children forward. Such descriptions of performance levels are translated into child-friendly language as well, to help children understand how to assess their own work and what they should be trying to achieve.

Various reports that go far beyond the percentages of pupils reaching Level 4 have been produced and distributed to schools by DfES, Ofsted and QCA. These reports include more data about performance (both local information and national trends) and provide schools with additional information that allows them to interpret their results in a variety of ways. For instance, schools and LEAs are encouraged to look at the complete distribution of scores to confirm that all pupils are progressing, not just those who might be the particular focus of attempts to reach the Key Stage 2 targets. Schools are also encouraged to compare their results with those of schools with similar pupil profiles. LEAs now provide considerable assistance to schools in making sense of the data and using it for planning.

In spite of such encouragement to consider and use a broad range of indicators, the Key Stage 2 national targets for 2002 remained the most visible test of success for the Literacy and Numeracy Strategies at the national and the local level. The well-publicised targets, framed in terms of the percentage of children reaching Level 4, along with the high political profile of these targets, made performance on the assessments a high-stakes issue, not only for LEAs and schools, but also for the Strategies and DfES.

Curriculum Frameworks and Other Teaching Resources

- **Clear curriculum tailored to intended outcomes.**
- **Curriculum includes details about teaching approaches and implementation.**

The launch of each Strategy (NLS in 1998 and NNS in 1999) was accompanied by delivery of a substantial package of curriculum and teaching resources to every primary school in the country. These packs contained the framework for teaching (literacy or mathematics), together with explanatory booklets or manuals outlining the desired format for lessons – the literacy hour and the three-part daily mathematics lesson. Accompanying videos provided illustrations of the kind of "direct interactive whole class teaching" that was recommended.

The provision of curriculum and teaching resources for teachers has continued to be a vital component of NLS and NNS; the initial packs were only the first in a series of initiatives intended to expand or elaborate on various components or features of the Strategies. Such programmes and modules, their development often prompted by feedback from the field, were designed to support identified priorities (such as children's writing or mathematical problem solving) or provide additional support in dealing with particular groups of pupils (such as those with special educational needs or those identified as particularly able). Lists of available Strategy support materials, both in print and on CD-ROM, help schools find the resources they need.

The importance of the curriculum and teaching resources cannot be overstated. Through working with such materials, teachers have the opportunity to develop a better understanding of what the Strategies actually entail. An intensive and well-designed study of a state-wide mathematics reform initiative in California (Cohen & Hill, 2001) concluded that for effective implementation of policies intended to change teaching, professionals must have "adequate opportunities to learn what the policy requires of them." The curriculum and teaching materials, even more than the training opportunities that we outline later, have been potentially accessible to every primary teacher, although as we found in our school visits, teachers were rarely aware of the full variety of resources available.

As the Strategies have moved from early implementation to the later phases of embedding and consolidation, there has been a shift in the nature of the teaching resources coming from the centre. Early materials provided elaborated descriptions of key objectives for each Year group from Reception to Year 6 and a structure for teaching to those objectives. Assuming increasing teacher familiarity with the content of the frameworks, more recent materials flesh out the initial frameworks with detailed guidance for teaching and assessing particular groups of children at different stages of skill development. Such material is usually intended to be part of a menu of possible resources that teachers might use, rather than being treated as obligatory. From the initial launch, the Strategies, particularly Literacy, have been dogged by a perception that they are "prescriptive" or "rigid." As we discuss later in this report, such perceptions are no longer accurate (if they ever were), but have been difficult to overcome.

A sample of the multitude of teaching materials and modules introduced during 2001 and 2002 gives a flavour of the range of support and exemplification provided. In many cases, material included written documentation, PowerPoint slides, and a video illustrating classroom or school practice. In general, the intent has been for consultants to introduce the materials to teachers, either in training sessions or at their schools, although in some cases the material can be readily used without such mediation. A sample of such materials includes:

- Assess and review lessons: NNS developed lessons to help teachers assess children's understanding of key objectives in mathematics, especially those children whose progress they are unsure about. The focus is on using "probing questions," and sample lessons are provided.
- Further Literacy Support (FLS) designed for Year 5 pupils who need additional support to reach the expected levels.

- Mathematics in mixed Reception/Year 1 classes: This NNS four-page flyer, directed at early years' practitioners with mixed Reception/Year 1 classes, responds to frequently expressed concerns about mixed-age classes. Suggestions are given for organising the daily mathematics lesson either with or without the support of a teaching assistant.
- Teaching writing – Text level objectives: NLS produced a set of 10 four-page flyers, each focusing on a particular aspect of writing, for example, narrative, explanation and persuasion. This material builds on the more extended work in writing ("Grammar for Writing" and "Developing Early Writing") to provide teacher-friendly support.

In 2001–2002, both Strategies developed much more specific and complete resources to assist teachers. NNS developed detailed lesson plans for several units of work, initially for Year 4 and Year 6, and subsequently for Year 5. Each Unit Plan has lessons and resources linked to the yearly teaching programmes in the framework for teaching mathematics. Each file contains a compact disc with Word and PDF versions of the plans, allowing teachers to modify the plans electronically. During 2002–2003, similar plans for use in Years 1, 2 and 3 are being developed and piloted.

NLS took a slightly different approach – producing what they termed "planning exemplification" to assist teachers. Initially targeted at teachers new to Year 6, the material is presented as "one example of how Year 6 planning can be constructed." One three-week unit, for instance, involves children reading a model "quest adventure" and using this as a basis for developing an extended story through shared and independent writing. The underlying idea is that, once such units show how to group or cluster objectives and then use such clusters in planning, teachers can apply this principle on their own, with texts of their choosing.

Regional directors in both primary Strategies, along with Key Stage 3 colleagues, also developed transition units to be used in the last term of Year 6 and the first term of Year 7. Such units contributed to efforts to improve the transition from primary to secondary school, identified by HMI as a problem area (Ofsted, 2002a).

As well as material designed for use by classroom teachers, the Strategies have produced material intended for those who provide support to schools – for instance, LEA advisers and inspectors and leading mathematics teachers. Again, this material shows a shift from "transmitting the message" to "building capacity." With an emphasis on understanding and using data as the basis for planning, together with clarity about the national priorities for NLS and NNS, the material is intended to help LEAs refine their intervention approaches, targeting under-performing schools or categories of pupils not making the expected progress.

Both NLS and NNS developed websites (located on the DfES Standards site). Teachers and other educators have been encouraged to use the web for their own professional development, keeping up with recent developments and downloading material. Our survey data, reported in Chapter 5, suggests that as yet only a minority of teachers are making use of the websites but it is hoped that this will increase as awareness and comfort grow. In autumn 2002, the Strategies

reported a considerably increased number of documents downloaded, for instance.

Focus on Teaching and Learning

- **Changes in teaching organised around important areas for pupil learning.**
- **Teaching primarily concerned with the depth and quality of pupils' work.**

The core of the Strategies has always been the focus on the teaching of literacy and mathematics in schools – through the frameworks and curriculum materials, as well as the training and the consultant support for teachers. Over and over again, we heard how the common frameworks, consistent teaching approaches, and clear progressions of objectives have had a significant impact on teachers and on the teaching of literacy and mathematics. Throughout the period of our study, both materials and training associated with the Strategies became more purposeful and differentiated, often in response to feedback from schools and LEAs. With explicit attention to the diversity of pupils in schools, training and support has been extended to include not only practices for use in most classrooms and under typical conditions, but also adaptations for specific situations or particular groups of children. NLS and NNS training has been extended and customised for a range of groups, with updated support materials that reflect "best practice" from schools and LEAs.

Recent professional development programmes for literacy and mathematics co-ordinators and leading mathematics teachers exemplify the emphasis now placed on leadership – building the capacity to support colleagues in implementing change in the school. In particular, jointly developed training programmes for literacy and mathematics co-ordinators in the summer of 2002 provided a menu of modules from which LEAs could select to provide customised learning opportunities to suit local needs. Modules addressed topics such as subject leadership and management (establishing priorities and analysing data), managing the deployment of additional adults in the classroom, and planning for effective professional development in the school. Such a focus on strengthening the role of co-ordinator is consistent with research showing the importance of this demanding role and the variety of ways in which co-ordinators worked (Millett & Johnson, 2000).

Differentiation of Teaching

NLS and NNS have been developed with the assumption that all children should participate in the literacy hour and the daily mathematics lesson, while acknowledging that some children will require differentiated support and assigned learning tasks. The Strategies addressed the challenge through a variety of approaches, developing resource materials and training sessions to assist LEAs and schools to meet the needs of such children, including those with special educational needs, the more able and those learning English as an additional language. Many of these efforts were summarised in our second report (Earl et al., 2001).

In early 2002 the Strategies together appointed a regional director who took responsibility for Special Educational Needs (SEN) issues in both literacy and numeracy. Prior to this appointment, a regional director in each of NLS and NNS had special responsibility for SEN in addition to their regional and other central assignments.

The appointment of a dedicated position recognises the importance and the challenges of addressing special educational needs in the teaching of mathematics and English.

Intervention Programmes

Both Strategies have developed intervention programmes aimed at children whose progress is slower than that of their peers – children who need more intensive support if they are to reach the expected levels of performance. Early in the implementation process, funding was made available for children in Years 5 and 6 to have "booster classes" delivered in a variety of ways either in class or after school. As of 2002, a range of more structured intervention programmes has been developed – most involve teaching assistants who have undertaken specific training, often with the classroom teacher, to deliver components of a specific support programme to small groups of children.

NLS has now developed such programmes for children at different stages of primary schooling. Early Literacy Support (ELS) is aimed at children in Year 1, Additional Literacy Support (ALS) Year 3, and Further Literacy Support (FLS) Year 5. The aim is first to ensure high quality initial teaching in the literacy hour as the main method for reducing the number of children needing further assistance. Additional targeted interventions are then provided for children (about 20%) who are not making satisfactory progress, even with high quality teaching. Such assistance is provided in small groups, usually by a trained teaching assistant, using materials specifically developed to accelerate the children's progress so they catch up with their classmates. Further interventions, if necessary, would be provided for the much smaller proportion of children (approximately 5%) for whom the additional small group teaching proves insufficient and who will need more focused one-to-one support if they are to catch up to their peers. Efforts are underway to ensure a minimum standard for such specialised programmes, with the SEN regional director appointed jointly for NLS and NNS taking a lead in such efforts.

In mathematics, NNS Springboards, for Years 3, 4 and 5, are highly structured intervention programmes delivered to small groups of children by a teaching assistant operating under the direction of the class teacher. Springboard involves additional teaching time over a period of 10 weeks. Funding provides time for the teaching assistant to meet with the class teacher on a regular basis. As additional support for schools and teachers, the Strategy recently produced an 8-page booklet, *Effective Implementation of Springboard 5*. Aimed at sharing and deepening good practice, the booklet links Springboard units to plans in the framework for teaching mathematics and gives examples of how schools have used the Springboard materials.

NLS and NNS Training and Professional Development

Strengthening teacher learning has always been a key goal for NLS and NNS, with approximately half the funding for the Strategies allocated to training and support. Over the four years of our study, a shift has occurred in the nature of much NLS and NNS training. Initially a cascade model was used, particularly in NLS, with the intent of delivering content messages from the centre out and down to schools. Regional directors delivered training to groups of consultants, who in turn delivered the same or very similar sessions to subject co-ordinators and teachers, often with headteachers present as well. This kind of top-down model works well for raising awareness and for ensuring a

basic level of knowledge about a new initiative, although messages are distorted somewhat as they move through the cascading levels. NLS and NNS leaders, well aware of the difficulties of a cascade approach, also developed materials that could be used directly by schools – what was termed a distance learning model. Much research on professional development confirms, however, that actually changing behaviour or sustaining improvement requires more than information and guidance. Teachers need extended opportunities to think through new ideas and to try out new practices, ideally in a context where they can get feedback from a more expert practitioner and continue to refine their practice in collaboration with colleagues (Joyce, 1992). NLS and NNS training sessions, both regional and local (LEA and school), increasingly incorporate tasks that connect to classroom practice, often with provision for follow-up sessions in which participants can review and extend their learning.

For schools, professional support has come predominantly from consultants and, increasingly, from approximately 2000 leading mathematics teachers and the same number of expert literacy teachers. Whereas the consultants are employed in LEAs on a full-time basis, leading mathematics teachers and expert literacy teachers (various terms are used for such positions) continue teaching their own classes but also serve in a leadership role in relation to colleagues. The original idea was to give teachers an opportunity to observe and learn from an experienced and expert colleague, but these teachers are being deployed in a range of ways, including delivering NLS and NNS training sessions. Within the school, literacy and mathematics co-ordinators play an important role – they usually take responsibility, after initial training from consultants, for introducing the Strategies to their colleagues, helping them access resources and providing support for planning. Co-ordinators also serve as the main NLS or NNS connecting point for each school.

Regional directors provide most of the professional development sessions for NLS and NNS consultants. Consultants devote several days each term to such sessions, meeting on a regional basis, to ensure that they have current information about the Strategies, a strengthened understanding of English and/or mathematics issues, and opportunities for sharing good practice and solving implementation problems. Each Strategy provides a "consultant handbook" that pulls together resources to assist consultants in their practice, particularly those newly appointed.

Literacy and numeracy consultants, working within LEAs but with half their salaries paid by DfES, not only deliver most of the training for teachers but also provide more intensive and focused in-school support. By 2002, virtually all schools have had direct training opportunities in at least some aspects of both NLS and NNS, although many teachers have not had any direct input from anyone outside the school. The philosophy of support in inverse proportion to success means that schools with the furthest to go were the first to get training and to receive in-school support from literacy or numeracy consultants. Over the course of our evaluation, the balance of support for "intensive" schools or for all schools shifted depending on the perceived priorities. As of 2002, the focus is on assisting schools that, based on analysis of data, do not appear to be "adding value."

Demonstrations and discussions of good practice by leading mathematics teachers and expert literacy teachers enabled more teachers to increase their understanding and skill in relation to the desired teaching approaches. The opportunity to observe skilled colleagues and to talk about various aspects of the planning and lesson delivery can be a powerful force for both motivating teachers and developing greater expertise. For a variety of reasons, however, it seems that leading mathematics teachers have been an under-used resource, an observation we made in our 2001 interim report. Our 2002 survey data, reported in Chapter 5, confirm this finding. In 2002, NNS, responding to such evidence, held a series of one-day conferences across the country, with the aim of clarifying the role and strengthening the impact of leading mathematics teachers. As well, regional directors elicited information from LEAs about how leading mathematics teachers were being deployed – this collated information about good practice was then shared with other LEAs as a stimulus for more effective use of this resource.

Headteacher conferences (in 2000 for NLS and 2001-2002 for NNS) were held as a response to concerns about the management of both Strategies in schools. In literacy, the focus of the conference was on improving writing, seen as a weak area, and helping schools set curricular targets, based on what children needed to learn next. In mathematics, the conferences served to remind headteachers that mathematics needed to be a continuing focus, since Key Stage 2 results had actually dropped slightly in 2001. The conferences emphasised problem solving and clarifying what was involved for children in moving from mental to written methods of work, as well as guidance on the monitoring of mathematics teaching. In addition, NNS collaborated with the National College for School Leadership on the production of support materials for headteachers, to increase their capacity for leading and managing NNS in their schools.

If teachers are going to go beyond a somewhat superficial understanding of NLS and NNS, they need opportunities to learn in more depth, avoiding false certainty and inappropriate simplicity. In stressing the need for teachers to learn "principles rather than routines" in teaching writing, for instance, Bailey (2002) argues:

> *The most important way of developing pupils' writing is by developing teachers' understanding of writing. ... We can see that much of the National Literacy Strategy, particularly shared and guided writing at its best, is supported by the research on writing ... even if this is not always explicit in the framework itself. However, there is a danger that without a principled understanding of writing, we will, perhaps implicitly, disseminate a "simple view."*
>
> (Bailey, 2002, p. 34)

Initial Teacher Training

In addition to providing more training for those already in the profession, NLS and NNS now extend explicitly into initial teacher training (ITT) with the appointment in 2000 of additional regional directors who work with ITT institutions. The aim is to promote best practice in the areas of literacy and numeracy and ensure that newly qualified teachers (NQTs) enter schools equipped to teach the literacy hour and the daily mathematics lesson. DfES and TTA also co-sponsored an ITT conference in July 2000, an initial launch followed by regional meetings and conferences as well as regular regional director visits to all institutions providing

initial teacher training, with videos specifically produced for teacher training institutions.

Building Organisational Capacity

An important aspect of the evolution of the Strategies has been the increasing emphasis on building organisational capacity. Early training efforts focused more on individual knowledge, skill and understanding. Although this focus continued, there is now a much greater emphasis on helping school leaders manage the Strategies more effectively. The headteacher conferences and the co-ordinator professional development day in the summer of 2002, for instance, were designed to increase the capacity of schools to evaluate their own progress and increase their understanding about the core principles of the Strategies and the specific programmes that were available. Schools would then be in a better position to plan appropriately and monitor the implementation of such plans, making them less dependent on LEA or other outside guidance. The number and nature of intervention or catch-up programmes, for instance, has proved to be somewhat overwhelming. Headteachers need to know how to select from the array those programmes that best address the specific priorities and needs of their pupils.

Although headteachers were included in initial training, organisational capacity building was not stressed in early messages about the Strategies. Its emphasis in more recent professional resources is an indication of how the Strategies have continued to evolve in response to knowledge about reform and feedback about progress.

Coherent and Integrated Policies

- **Policies surrounding the reforms are internally consistent.**
- **Comprehensive, coherent policies are tied to reforms.**
- **Policies focus resources and attention on serving *all* pupils.**

Efforts at "joined-up thinking" characterised the Strategies from the beginning. We noted in our first report that an unusually high degree of alignment had been achieved between NLS and NNS and other DfES policies, as well as those of other relevant agencies such as Ofsted, QCA and TTA. The revision of the National Curriculum, the establishment of the new Foundation Stage for young children and the extension of the reform efforts into Key Stage 3 are all evidence of increasing curriculum alignment. The revised National Curriculum, a response to concerns about "fitting everything in," was intended to be more manageable given the increased focus on literacy and numeracy (although the reduction in requirements for other subjects may have contributed to a concern about these subjects being squeezed).

The work of ITT regional directors with higher education institutions has increased coherence between ITT curricula and the Strategies. Such links are now embedded in policy through the new TTA Standards for Newly Qualified Teachers, which specify that newly qualified teachers be able to teach in accordance with "the frameworks, methods and expectations set out in the National Literacy and Numeracy Strategies" (Teacher Training Agency, 2002, p. 7). Although such a requirement may be seen by higher education institutions as unduly prescriptive, it does bring greater coherence to efforts to improve

English and mathematics teaching in primary schools.

From the perspective of the central government, NLS and NNS are part of a larger plan for systemic reform of the education system. The Strategies are seen as powerful tools for improving the quality of teaching and learning. Other policies and initiatives are intended to support this effort – for example, smaller class sizes, revision of the National Curriculum and modernisation of the teaching profession. The head of the DfES Standards and Effectiveness Unit recently put forward a vision for the future that sets out the larger context of reform:

> *The raising of standards of learning and attainment for all of our students now needs to be seen within a whole school or systems context and to impact both on classroom practice and the work culture of the school.*
>
> (David Hopkins, in a message on the DfES Standards website, August 2002)

In our first report, we talked about progress in bringing together curriculum and standards from QCA and Ofsted on the one hand, and the Literacy and Numeracy Strategies on the other. If the various frameworks and requirements that impinge on schools are giving consistent messages, there is greater clarity about desired directions and, presumably, greater likelihood that policies can be implemented. In spite of valiant efforts, however, the sheer scale of government and the number of initiatives makes it difficult to maintain communication and links. Many of those who spoke with us talked about "slippage" – where one agency or department may be seen as out of step with others.

At the national level, policy coherence has increased over the four years of our study. Schools, however, do not always experience such coherence, particularly when the number of new policies continues to increase. Teachers, focused on what the Strategies mean for them and their pupils, often struggle to see how various initiatives fit together. Although headteachers are more aware of links to the larger policy context, classroom teachers often see each new initiative as "one more thing" coming from above. As the Strategies evolved, the relative clarity of the early messages about the literacy hour and the three-part daily mathematics lesson was sometimes obscured at the school level by the various initiatives, programmes and resources developed to support implementation. Teachers did not always see the connections.

Accountability and Incentives Based on Performance

- **Performance data aligned with reform objectives.**
- **"Transparency" of performance data to practitioners and the public.**
- **High quality performance data used to foster improvement.**
- **Development of "assessment literacy."**
- **Assistance for schools and LEAs not meeting targets.**

As a result of the policy directions in the last fifteen years, accountability is a strong feature of education in England. Ofsted regularly inspects schools, LEAs and higher education institutions, while results of national assessments at the end of each Key Stage

provide data that is published in performance tables, allowing comparison of the results for each school. Much of the monitoring of NLS and NNS is embedded in this general structure; monitoring of progress, which leads to adjustments in pressure and support, is a vital component of the drive to raise standards.

The yearly National Assessments in English and mathematics, particularly those at the end of Key Stage 2, form the basis for target-setting and for monitoring progress towards the literacy and numeracy targets at the national, LEA and school level. Targets and results are expressed in terms of the percentage of Key Stage 2 pupils achieving Level 4 results on the national tests; targets for 2004 have now been set for percentages of pupils to achieve Level 4 (85%) and Level 5 (35%).

As Table 3-1 indicates, improvement has been evident since the establishment of the tests in 1996, although the 2002 targets were not met. It is difficult to know what might account for the substantial improvement in science results, since there was no concerted effort to improve science teaching and learning in primary schools. Although the increase raises questions about what has driven the improvement in science, higher levels of literacy and numeracy might be a factor, as well as improvements in lesson planning and delivery that reflect principles of the Strategies, for example, teaching to explicit objectives.

Table 3-2 gives more detail about the Key Stage 2 results from 2000 to 2002. English results have not changed for three years; in 2002, reading scores declined, offsetting the increase in writing scores. Mathematics results, after a slight dip in 2001, increased 2% in 2002. The data show that in English, boys' attainment lags behind that of girls, particularly in writing, where there is a 16% difference in the percentage reaching Level 4. There are no differences between boys and girls in the percentage reaching Level 4 in mathematics.

Table 3-1: Percent of Pupils Achieving Level 4 or Above in Key Stage 2 Tests – 1996-2002

	1996	1997	1998	1999	2000	2001	2002	1996 to 2002
English	**57**	**63**	**65**	**71**	**75**	**75**	**75**	**+18**
Reading	–	67	71	78	83	82	80	–
Writing	–	53	53	54	55	57	60	–
Mathematics	**54**	**62**	**59**	**69**	**72**	**71**	**73**	**+19**
Science	**62**	**69**	**69**	**78**	**85**	**87**	**86**	**+24**

Table 3-2: Percentage of Pupils Achieving Level 4 or Above in 2000-2002 Key Stage 2 Tests (provisional) (DfES SFR 21/2002, 26 September; DfES, 2002a)

Subject	Boys			Girls			All			Change	Difference
	2000	2001	2002	2000	2001	2002	2000	2001	2002	2001-2002	Girls-Boys 2002
English	**70**	**70**	**70**	**79**	**80**	**79**	**75**	**75**	**75**	**0**	**+9**
Reading	80	78	77	86	85	83	83	82	80	-2	+6
Writing	48	50	52	55	57	68	55	57	60	+3	+16
Mathematics	**72**	**71**	**73**	**71**	**70**	**73**	**72**	**71**	**73**	**+2**	**0**
Science	**84**	**87**	**86**	**85**	**88**	**87**	**85**	**87**	**86**	**-1**	**+1**

Some question has been raised about whether the increases represent a real gain in pupil attainment, particularly in literacy (Hilton, 2001; Tymms & Fitz-Gibbon, 2001), with data from other tests not always reflecting the same increases. Although differences in the nature of the tests make it difficult to come to any firm conclusions, the Key Stage 2 English tests are developed with considerable care (Sainsbury, 2002), with efforts to reflect the complex domain of literacy as accurately as possible. Nevertheless, there are always margins of uncertainty associated with measurements of complex human qualities.

As we indicated earlier in this chapter, the possible unintended effects of relying on a single indicator for high-stakes accountability are well known (e.g., Thompson, 2001). A single measure cannot fully capture all the important dimensions and nuances. Furthermore, when stakes are high, teachers and headteachers may put undue effort into attempts to raise scores, giving less attention to important components not tapped by the measure.

Our data suggest that although schools are indeed focusing considerable attention on the Key Stage 2 tests, the Strategies are avoiding some of the dangers of using high-stakes large-scale testing. For NLS and NNS, the increased emphasis on curricular targets and identifying the next appropriate learning objectives for specific groups of children helped to broaden the focus beyond the scores on the Key Stage 2 tests. Consultants help schools focus on the children in their classes and on the use of curricular in addition to numerical targets.

The extent to which high-stakes testing distorts teaching and learning also depends on the nature of the test. The Key Stage 2 English test, requiring children to produce complete pieces of writing, is less problematic than a multiple-choice standardised test focusing on recall of facts. To assess reading, rather than de-contextualised tests of word recognition or sentence completion, the tests use complete texts, asking pupils to, for example, retrieve information, make inferences and comment on the author's purpose and use of language (Horner, 2002).

With NLS and NNS, there were two issues – the reliance on the Key Stage 2 national assessments as "the indicator" of learning and the target framed in terms of the percentage of pupils reaching Level 4 on that assessment. Key Stage 2 intervention programmes tend to be directed at the "not quite Level 4" group, raising the possibility that these children may benefit disproportionately from the intervention efforts. Evidence to date, however, indicates that this has not happened; the entire distribution of scores has moved up (DfES, 2002b). In other words, children at all levels have improved; the percentage of children getting the lowest scores has declined, while the percentage reaching Level 5 has increased.

In addition to the routine monitoring through Key Stage assessments and OFSTED Section 10 inspections, NLS and NNS are specifically monitored by HMI, by the NLS and NNS directorates, and by LEAs. All of these provide additional useful data beyond that generated by the national assessments, broadening the base on which planning and decisions are made.

The HMI/OFSTED evaluation involved two samples of 300 schools – one for literacy and one for numeracy. Information was gathered through several thematic reviews, based specifically on NLS and NNS, as well as an

annual testing programme in Years 3, 4 and 5 to augment the National Assessment results. Recent reports (OFSTED, 2001a, 2001b) from these studies indicate that the Strategies were having a major impact on the teaching of English and mathematics in English schools. OFSTED suggest that NLS has transformed the teaching of reading in primary schools although the impact on writing is much more limited. The HMI findings support the earlier decision of NLS leaders to give high priority to providing training and resources focused on improving the teaching of writing. In mathematics, HMI conclude that NNS has made a very good start but concur with the NNS leaders in observing that teachers are not yet secure about their subject knowledge and teaching of mathematics.

HMI also published occasional reports on specific aspects of the teaching of literacy and mathematics – for instance, on the teaching of literacy and mathematics in Reception classes (Ofsted, 2001c), the teaching of phonics (Ofsted, 2001d) and teaching calculation in primary schools (Ofsted, 2002b). As well, a report late in 2002 looked at how a number of primary schools successfully blended high literacy and numeracy standards with provision of a broad and balanced curriculum (Ofsted, 2002c).

Regional directors monitor NLS and NNS progress through visits, meetings and observations in LEAs, as well as through LEA reports and analysis of test scores. DfES advisers also look at literacy and numeracy during ongoing monitoring of LEAs in their regions. Regional directors of both Strategies give special attention to LEAs that are causing concern. These less formal monitoring activities have resulted in better understanding of the needs in particular areas and prompted regional directors to sharpen the intended focus for LEA literacy and numeracy consultants, to maximise the impact of their time and support. LEAs, often working closely with NLS and NNS regional directors, use data and school visits to monitor the Strategies in their schools, using these mechanisms for setting targets, creating Education Development Plans and planning additional professional development.

In our earlier reports, we stressed the value of developing greater "assessment literacy" on the part of teachers and headteachers. SEU and the Strategies have devoted considerable effort to improving the understanding and use of data at both LEA and school levels. As we document in Chapters 4 and 5, they have achieved notable success in these efforts. Briefing material for LEA advisers highlighted graphs showing the wide variation across LEAs in the rates of progress of children between Key Stage 1 and Key Stage 2 (DfES, Targeting for Success, 2002c). The document went on to note:

> *This kind of value-added analysis applied at school and pupil level is being increasingly well-used by LEAs in identifying 'underachieving' schools and in target setting, which is based on the prior attainment of individual children plus the kinds of progress rates being achieved in successful schools.*
>
> (pp. 10-11)

DfES and the Strategies have not been alone in their focus on improving the capacity of schools and LEAs to use assessment data. A recent ATL publication entitled *Assessment Literacy for Wise Decisions* (Swaffield & Dudley, 2002) takes readers through the main questions and issues involved in understanding and using assessment data, focusing on the

classroom teacher. Examples referring to National Curriculum progress, the Autumn Package for English schools, and LEA analyses of Key Stage results ground the work in the specific context experienced by teachers in England, making the work particularly useful for the intended audience. The authors conclude with a cautionary reminder:

> *Realising that it is very difficult to respond to all the issues raised by assessment may help us to think carefully about the resources expended on collecting assessment data and how much of it is actually analysed and used. Thoughtful responses to valid and reliable assessment information, arrived at through appropriate analysis, is what using assessment for wise decisions is all about*
>
> (p. 28)

In an earlier report, we cautioned that data can take on heroic proportions, overshadowing the hard thinking that should enter into decisions about policy and practice. As we document later in this final report, efforts to avoid this difficulty have been considerable, both at central and local levels. The focus on setting objectives, using curricular targets, broadening the range of indicators of progress – all these are useful in avoiding the narrow focus on data as an end in itself.

Numerical target setting has helped to focus attention on literacy and mathematics and to raise expectations for what pupils can achieve. The continued emphasis on numerical targets at the national level, however, with ever more challenging targets set for the proportion of children to reach Level 4 in the Key Stage 2 tests, is not helpful in moving to broader and richer conceptions of assessment and accountability. As targets become more and more difficult to reach, they detract from, rather than support, teaching. Teachers can become disillusioned and cynical if success is elusive because the bar is always being raised.

Funding and Governance Structures

- **Funding policies consistent with reform efforts.**
- **Transparent and equitable funding procedures that support school performance.**
- **Governance structures that integrate pressure and support, provide coherence, and balance centralised direction with local capacity building.**

A major allocation (and re-allocation) of resources is required for a reform initiative of the scale of NLS and NNS, with policy makers attending to how funding can be structured to encourage schools first to adopt the reforms and then to continue using them. In terms of governance, the question is what kind of infrastructure will be required not only to launch the reforms, but also to sustain them over time. Both funding and governance for NLS and NNS have featured new structures and new procedures, with modifications in these over the four years of implementation.

Funding

In Chapter 6, we undertake a more in-depth look at costing and value for money and related resource issues. Here we provide a brief sketch of recent developments.

From the beginning, NLS and NNS have been adequately funded, at least compared to large-scale reform efforts in other jurisdictions. Through the Standards Fund, which provides financial support specifically targeted to raise standards, the central

government covers approximately half the salary costs of literacy and numeracy consultants and part of the costs for leading mathematics teachers and expert literacy teachers. The Standards Fund provides books and materials, as well as the costs of venues and supply cover for training. Briefing/training for the LEA literacy and numeracy consultants, provided by the regional directors, represents a further investment. The government has also provided additional monies to address several identified priorities. Most significantly, large amounts of money have been devoted to efforts to assist particular groups of pupils through catch-up intervention programmes, with substantial funds allocated to hiring teaching assistants. At the same time, even generous levels of funding are stretched thin when policies are expected to produce significant changes in teaching practice over nearly twenty thousand schools. LEAs and schools also used a variety of other sources of funds, such as Education Action Zones (EAZ), the Single Regeneration Budget, and the New Opportunities Fund to support literacy and numeracy work.

Changes in guidelines regulating access and use of the Standards Fund from April 2001 resulted in somewhat less flexibility for LEAs, with more funds going directly to schools. This change caused some concern on the part of the NLS and NNS directorate that schools might weaken their emphasis on literacy and numeracy. To counter this possibility, LEAs were allowed to retain a substantial amount of funding for targeted support of literacy and numeracy.

Governance

A complex infrastructure has developed over time to manage, support and monitor the Strategies. The National Literacy and Numeracy Centre, now renamed the National Centre for School Standards, was established in the city of Reading, as the administrative base for the two national directors and the two groups of literacy and numeracy regional directors. Regional directors work with LEAs and also take responsibility for central tasks such as developing materials and training courses. At DfES, oversight of the Strategies has been done by SEU. This kind of structure and organisation is quite different from the loose coupling that has been characteristic of the relationship between DfES on the one hand, and LEAs and schools on the other. Other agencies, such as Ofsted, QCA and TTA, have been involved with and supported NLS and NNS in various ways, in general through working to make policies and guidelines consistent with the Strategies.

The organisational structure has undergone frequent review and reorganisation as circumstances and personnel changed. Such modifications serve as examples of the level of responsiveness and adaptation that has characterised the literacy and numeracy effort. As central initiatives increased, more regional directors were added to manage these without jeopardising the monitoring and support of LEAs across the country. Six regional directors were added in recognition of the importance of initial teacher training – their major task has been to work with Higher Education Institutions (HEI) and other ITT providers to ensure that newly qualified teachers are prepared to teach literacy and mathematics. The Key Stage 3 Strategy resulted in further additions. As the original core teams of about a dozen people expanded, the groups became too large for the flat structure and participatory problem-solving meetings that had characterised the organisation in its early days.

The solution was to reorganise within each Strategy into layered smaller groups that would meet regionally and according to level (i.e., Key Stages 1 and 2), Key Stage 3, ITT. Within each Strategy and across the two, a senior management team met regularly to ensure that communication and co-ordination were sustained. Meetings of the full group of Literacy or Numeracy regional directors still occurred, but on a less frequent basis. Although regional directors understood the need for the new arrangements, they also reported some difficulties in having sufficient detail to be adequately informed about all components of the reforms.

Until 2002, each Strategy developed and used its own linkages in dealing with LEAs, although some primary regional directors, particularly in mathematics, dealt with some Key Stage 3 questions and issues. At this point, there is further discussion about the most efficient methods for liaison with LEAs. Regional directors acknowledge the need for NLS and NNS to work more closely together to support primary schooling but some expressed concern about maintaining strong subject-specific support to LEAs. As of autumn 2002 the structure is still under review.

Although the regional directors have provided a powerful and effective force for change across the country, the actual management of NLS and NNS has largely been conducted through LEAs. This represents a shift in the role of LEAs in England. For each Strategy, LEAs appointed from their advisory and inspection service, a Strategy Manager (SM) and a Line Manager (LM) (sometimes the same person), who in turn managed the work of literacy or numeracy consultants. The consultants worked directly with schools, providing in-school support and running training sessions to provide teachers with the understanding and knowledge to implement the Strategies. The regional organisation allowed line managers to meet regularly (usually once a term) with the appropriate regional director and their other LEA colleagues in the region. Such meetings began as vehicles for regional directors to clarify expectations about LEAs and the Strategies, but they soon evolved into two-way communication vehicles in which the Strategy leadership could deliver key messages to LEAs, at the same time hearing useful feedback about progress and barriers in local implementation. Frequent meetings have helped to strengthen line manager networks, fostering discussion of problems and sharing of good practice.

The National Context for the Strategies as Policy Levers

In Chapter 2 we explored how the international and national contexts influenced the development and initial perception of the Labour government's education reform initiatives, in particular, NLS and NNS. Such contextual influences did not, of course, end with the introduction of the Strategies. Events over the period of our study reinforced the importance of the national context in shaping the development and impact of policy initiatives. Although our mandate was limited to studying NLS and NNS, they cannot be considered in isolation; we briefly mention a few examples of developments during the past four years that have affected the Strategies, both directly and indirectly.

A number of policies and programmes, some of which have already been mentioned, support implementation of the Strategies. They contribute to the emerging infrastructure that helps to sustain improvements. Examples include reducing class sizes in early primary,

establishing the Foundation Stage for children from age 3 to the end of Reception, building on NLS and NNS work through the Key Stage 3 Strategy and increasing funding to support children learning English as an additional language. The increase in trained teaching assistants, many of whom are focused on literacy and mathematics, provides additional support for the Strategies.

Other contextual issues, mentioned in Chapter 2, have also affected the implementation of NLS and NNS. Workload, for instance, is a more general concern, but the Strategies were seen as contributing to the challenge. One national study, for instance, reported how the Literacy and Numeracy Strategies "placed significant workload demands on teachers" due in particular to the time required for planning and for documenting plans and assessments (Hulusi, Stone & Joyce, 2000). A more recent study (Galton & MacBeath, 2002) reported similar findings:

> *Teachers' responses to the Numeracy and Literacy Strategies reflected a complex pattern. Teachers said that these Strategies gave a consistency and progression, yet they also spoke about the long hours spent preparing for them.*
>
> (p. 45)

NLS and NNS, recognising the burdens of planning, have instituted a multi-pronged approach to assist schools. Although NLS planning exemplification and NNS unit plans are the most direct support, professional development aimed at improving management capabilities of headteachers and co-ordinators also addresses the challenge of planning.

Conclusions

We have shown how NNS and NLS addressed each of the factors taken by our framework as critical to the success of such large-scale policy initiatives. We have frequently pointed to the evolution of the Strategies – how certain features or emphases changed over the four years of our study. For the most part such changes were in keeping with guidance derived from the international literature on large-scale reform. Early messages were relatively straightforward, aimed at getting the attention of headteachers and teachers, and getting them started with the literacy hour and the daily mathematics lesson. Setting ambitious, specific Key Stage 2 targets, with a high political profile, focused attention, particularly in a context where school performance tables were publicly distributed. The more complex messages about flexible use of the frameworks came later in the implementation process, after teachers had developed more familiarity with the Strategies. Such a shift was noticeable in the training and professional development programmes, which moved from an initial approach that was almost one-size-fits-all to a much more flexible menu of options to be selected on the basis of professional judgements by LEAs and schools.

In our first report in this external evaluation, we observed "what a difference a stage makes." In other words, what is appropriate in initiating a policy, to provide momentum and get moving, is quite different from what is required for sustainability. The use of pupil attainment targets, for instance, has had a positive effect on schools and on LEAs, performing "the service of reminding us all of the prime importance of basic literacy and numeracy skills" (Johnson & Hallgarten, 2002). Carried to an extreme, however, such

an approach becomes less effective at motivating schools and can distort the curriculum.

The challenge for SEU and the Strategy leaders is to fine-tune the policy levers to better suit the growing expertise and confidence of schools. In many schools, teachers and headteachers have internalised the new approaches and have gone on to refine the Strategies to meet the needs of their pupils. In other schools, however, teachers and headteachers may still be at an early stage of understanding; they will continue to benefit from more directed guidance. The needs of the two groups of schools are not the same, and designing policies and structures to address such varying states of readiness for autonomy is not easy.

As the Strategies have evolved, some shifts are noticeable in the nature of the guidance and materials provided. Although in some cases materials provide much greater specificity and detailed plans (e.g., NLS planning exemplification and NNS unit plans), there is no expectation that teachers should necessarily make use of these. The materials are available for those who need them or who choose to use them. As well, at a more general level, the Strategy leadership increased the emphasis on building capacity, for individuals and for schools and LEAs. The Strategies can be seen as supporting a shift from "informed prescription" to "informed professionalism" – greater autonomy but within a framework of accountability and support.

The next chapters look in more detail at the infrastructure for implementation and the experience of LEAs and schools in working with the Strategies. Before shifting our view, however, it is worth mentioning that the National Literacy and Numeracy Strategies do differ, at the policy level, from many other large-scale reforms. Four features seem significant. First, the Strategies do refer to research evidence and use research in the development of programmes and resources (e.g. Anghileri, 2001; Wray & Medwell, 2002; Huxford, 2002), although there is considerable debate about the extent to which all Strategy recommendations are consistent with research findings. Second, they provide support and capacity building, rather than relying on sanctions and incentives alone. Third, to some extent, they do represent a "forced march," in that schools needed considerable confidence to ignore them. And fourth, the government and the Strategy leaders have been, and continue to be, open to feedback, both from LEAs and schools, and also from Strategy evaluators.

Chapter 4: The View from "the Bridge" (Regions and LEAs): Infrastructure for NLS and NNS

Highlights

The Strategies have developed a powerful and effective national infrastructure, with literacy and numeracy regional directors dealing with regions of the country and working directly with LEAs and LEAs working directly with schools. Another group of regional directors provide support to initial teacher training institutions. The effectiveness of this infrastructure has been one of the most critical factors in the success of the Strategies to date.

Regional directors supporting LEAs

- **The Strategies have shifted somewhat from an early focus on incentives for implementation to a greater emphasis on building and supporting local capacity in schools and LEAs.**
- **Regional directors connect with LEAs mainly through strategy managers, line managers and literacy or numeracy consultants.**
- **Regional directors carefully balance the support and pressure they provide to LEAs, differentiating according to perceived need for concern; some LEAs, however, feel that more flexibility is needed.**

LEAs working with schools

- **The work of LEAs has been essential in achieving the level of implementation of the Strategies – mediating between the centre and the schools.**
- **NLS and NNS have provided a clear focus for LEAs to support schools in the implementation of the Strategies. A few LEAs are categorised as "causing concern" to Strategy leaders because of low pupil attainment or difficulties with leadership or management.**
- **Literacy and numeracy consultants express strong support for the Strategies.**

ITT regional directors

- **ITT (Initial Teacher Training) regional directors have provided a parallel service, linking ITT providers and the Strategies. Their work differs from that of their LEA colleagues; ITT regional directors provide more support and less pressure, as ITT institutions have not received direct funding to implement NLS and NNS.**

Regional directors and LEA literacy and numeracy staff believe the Strategies have had a substantial positive impact on teaching and learning. They believe that the potential of the Strategies, however, is limited by several factors, most particularly gaps in teacher subject knowledge, misunderstandings of the principles underlying the Strategies and a need for more effective leadership of the Strategies in schools.

Sustaining a strong and flexible infrastructure to support ongoing improvements in primary schools is an important part of long-term success of the Strategies; LEAs might play a larger role in such an infrastructure, although some central steering would continue.

Introduction

In our second report we focused on the view from the centre and the view from the schools; we now expand the picture with the view from the bridge. This intermediate level includes the National Centre for School Standards, the NLS and NNS regional directors and LEAs, particularly literacy and mathematics staff. This bridge or infrastructure links the Strategies to the schools and to initial teacher training (ITT) providers. Through the course of the external evaluation, it has become clear that this bridge is one of the most critical elements in the success of NLS and NNS. An impressive and efficient infrastructure has been developed to support and foster changed practice in primary schools. At the national level, the National Centre for School Standards (formerly the National Centre for Literacy and Numeracy) provides an organisational base for NLS and NNS. Within each Strategy, a national director and senior management team are supported by a group of regional directors, each with specific central and regional responsibilities.

Most regional directors deal directly with a group of LEAs, although a smaller number work with ITT providers. National and regional directors, LEAs, ITT programmes and other surrounding agencies and organisations have all played a role in helping schools understand and implement both Strategies. The sustainability of changes induced by NLS and NNS will be dependent on what happens in these bridging structures and processes. As one regional director noted,

> *One of the key strengths is the way the regional networking has brought LEAs much closer together. There is a common programme of support for the consultants and the line managers that gives a coherence to the Strategies.*

Our conceptual framework, as described in Chapter 1, identifies motivation, capacity and situation as the factors that determine whether teachers adopt and implement reforms. This general perspective guided our enquiry into the work of regional directors and LEAs, whose job it is to foster implementation of NLS and NNS in schools. Meaningful changes do not occur in

classrooms unless teachers are motivated to try the new practices, have opportunities to develop the relevant skills and knowledge, and work in contexts that are supportive of the changes. Regional directors, together with LEAs and often ITT institutions, provide the mediating infrastructure for developing and sustaining motivation, capacity and supportive situations over time. In particular, LEAs were charged with the responsibility of managing the Strategies at the local level, in effect trying to ensure that these three factors were favourable for as many teachers as possible. The work of regional directors, in turn, could be seen as aimed at increasing the motivation and the capacity, both individual and organisational, in the LEA or, in the case of ITT regional directors, in initial teacher training providers.

In our first report, we identified what we believed to be an important issue to follow over time, the difference a stage makes. At the launch of the Strategies – NLS in 1998 and NNS the following year – the challenge was to motivate teachers to begin using the literacy hour and the daily mathematics lesson and to start building capacity through training and resource materials. After three years for NNS and four years for NLS, the challenge now is to sustain motivation and deepen capacity so that attention to improving literacy and numeracy continues.

> *The theme is now embeddedness rather than the initial emphasis on managing change. It is a real case study of how to implement a massive change through a very co-ordinated approach. Embedding also takes time.*
>
> (Regional director)

At the same time, support and intervention have become differentiated, both for LEAs and for schools.

> *There's been a shift from all LEAs getting the same number of inputs and visits to tailoring input depending upon how the LEA itself is performing and the extent to which it has local expertise. Regional director time has increasingly focused on LEAs needing additional support and stepping back from others who are succeeding.*
>
> (Numeracy regional director)

> *In the beginning it was more of a blanket thing, but now we are focusing more on particular schools and children that did not improve as much as we had hoped initially.*
>
> (Numeracy regional director)

The challenge for the future is to embed the Strategies, or more importantly the improvements in teaching that the Strategies have fostered, within local jurisdictions, with local infrastructures to sustain the momentum. In this chapter, we detail the role and influence of the work of the people on the bridge, as these have evolved over the four years of implementation, and offer ideas about how this vital link can be continued into the future. The data for this analysis have emerged from a range of sources. We intentionally sought the input of many constituents to develop our description, since the experience of centrally generated initiatives may not be the same for LEAs and schools as it is for centrally placed leaders.

The main sources of data for our analysis were:

- interviews with all NLS and NNS regional directors, including ITT regional directors (in 1999, 2001 and 2002);
- frequent attendance at/observation of meetings of regional directors, line/strategy managers, literacy/numeracy

consultants (throughout the four years of the study, from 1998 to 2002);

- within LEAs, attendance at meetings and training sessions for school participants, usually led by line managers and consultants (throughout the four years of the study);
- interviews with LEA strategy/line managers and literacy/numeracy consultants in the LEAs associated with our 10 sample schools (from 1998 to 2002); and
- surveys of literacy and numeracy consultants in the spring of 2002. The number and percentage of surveys completed and returned are shown in Table 4-1.

Table 4-1: Number of Consultants Responding to NLS and NNS Surveys

Strategy	Total Returned	Percent Returned
National Literacy Strategy	299	85%
National Numeracy Strategy	340	85%

We have organised our discussion of the supporting infrastructure for initial implementation and for sustainability by looking first at regional directors' work in Strategy development and with LEAs, followed by LEAs' work with schools, and finally, regional directors' work with teacher training institutions.

Regional Directors and their Work in Strategy Development and with LEAs

When the Strategies were first announced, the beginning of a new infrastructure was already underway. DfEE (now DfES) appointed approximately ten regional directors for each Strategy to work as part of the central team to develop the materials and training sessions for consultants and provide training and support to the LEAs. The people who were selected to fill these roles were recognised experts in literacy or numeracy, most of them already living and working in the regions that they served. Many had been deeply involved in the work of the Literacy and Numeracy Projects, smaller scale forerunners to the Strategies.

The Role of Regional Directors

In the early stages of the Strategies, regional directors spent much of their time developing the initial resources, bringing LEAs on board and providing the first round of training for consultants. As the Strategies have developed over time, they have come to wear many hats in their roles within the central strategic development and implementation team and as the frontline DfES presence in LEAs and schools.

> *The role of the regional director was always partly working with LEAs and partly developing materials. I think there has been a shift more to an outcomes focus – Key Stage 2 results and why one LEA improved 5% and another only 2%. The basic organisation is similar, but there is now more emphasis on standards.*
>
> (Numeracy regional director)

The addition of the Key Stage 3 Strategy in 2000 somewhat complicated the organisational arrangements for NLS and NNS. First, the founding NNS national director moved to Key Stage 3, as did several primary regional directors. This necessitated new hiring to fill the depleted ranks. More significantly, the addition of Key Stage 3 meant a sudden large increase in the number of regional directors focused on English and

mathematics, all dealing with LEAs. As we will outline later, this has meant a shift in how regional directors work with their LEA colleagues, "with more of a hierarchy, more senior management than there was three years ago."

Planning and Development

Throughout the life of the Strategies, the regional directors have been the main working group for planning and development. They have brought together the guidance and training materials for use in training of consultants and of teachers by developing, locating and refining materials for inclusion in the various resource packs that are provided to schools. Regional directors took the lead for specific topics or issues, such as boys' achievement, special educational needs, early writing, and developing various intervention programmes for children needing extra help. They have also met regularly as a group, usually fortnightly, to be kept up to date with DfES priorities, to brief one another on projects and to discuss the overall implementation.

Providing Resources and Training

When asked about their roles, regional directors describe providing resources and training to consultants as a major function. All regional directors do this in their regions, often teaming up with colleagues as well, so that they become familiar with the context and issues of more than one region. In addition, within each Strategy, two or three regional directors take responsibility for organising additional training for groups of new consultants – such sessions are usually held twice a year.

The sessions for consultants (usually 3 or 4 days per term) emphasise two somewhat different themes. The first is training that consultants will then give to schools in their LEAs. The idea is that consultants will become sufficiently familiar with a centrally developed training programme to be able to competently deliver the programme, adapting it slightly if appropriate. Early training programmes aimed at providing enough information to allow teachers and schools to begin implementing the Strategies (for instance, 3-day introductory sessions for teachers). Later ones have focused more on developing local capacity for English and mathematics leadership (for instance, 2002 sessions for English and mathematics co-ordinators in schools).

The second theme for the termly sessions that regional directors hold for consultants in their regions is professional development for consultants. The intent is to build, in a variety of ways, the capacity of consultants to support the Strategies. Recent sessions, for example, explored different approaches for working with schools (e.g., demonstration lessons, working with heads, paired teaching), identifying benefits and limitations of each, and the circumstances under which each could be most effective.

> *In terms of consultants, support is about training and helping them to analyse their existing practice to look at how they need to move on and respond to changes and developments, to be more flexible in their role. It's about how to meet the needs of an increasingly differentiated group of schools, as schools are all at different stages of development.*
>
> (Literacy regional director)

Table 4-2: Consultants' Views of NLS and NNS Training and Support

Statement	Strategy	% Agree
Strategy training has helped me support literacy/mathematics in the LEA more effectively.	Literacy	94
	Numeracy	97
The Strategy training that I get in regional meetings/ conferences prepares me well to provide literacy/mathematics training in my LEA.	Literacy	82
	Numeracy	89
I have access to the resources (e.g., people, materials) that I need to support the Strategy.	Literacy	87
	Numeracy	89
As a literacy/mathematics consultant I have sufficient flexibility to modify Strategy training to fit the specific needs of all participants in my LEA.	Literacy	95
	Numeracy	96

Regional directors also follow up with consultants to assess progress of the Strategies.

> *I meet with consultants on a regular basis (15 days a year dropping to 10 next year). I shadow them through the training and the work they do to see how effective they are. We offer guidance and advice to help them be more focused in their work, or lead training to make the messages clearer.*
>
> (Numeracy regional director)

In our survey of literacy and numeracy consultants, we asked about this training and support. Table 4-2 shows that the respondents expressed overwhelming agreement that they have been well trained and supported for their roles by the regional directors.[8]

Support to LEAs

Beyond the training programmes that regional directors organise and deliver to LEA personnel, they make regular visits to the LEAs in their regions for meetings with line managers, strategy managers and consultants. The following quotes give a sense of how regional directors see this kind of support and also demonstrate how support and monitoring (or challenge) are inevitably intertwined in their work.

> *Part of the support role is to work with line managers and consultants who are delivering the training and providing feedback to them about their training. We do the half termly visits where we go in and talk with line managers about the progress of the work being carried on within the LEA, to recognise their strengths and weaknesses and help them achieve more in the areas not working as well as one would expect.*
>
> (Numeracy regional director)

> *I meet formally with each maths adviser each term in each authority with a set agenda. Where things are not going well, I ask if they have thought about different things and share good practices that I have seen elsewhere. If they feel their inspectors or advisers are not sufficiently involved in the strategies, I'll offer to go and talk to their adviser team with them.*
>
> (Numeracy regional director)

8 *For each item in the survey, respondents indicated the extent to which they agree, using a 5-point scale – Strongly Disagree, Disagree, Undecided, Agree or Strongly Agree. We report figures separately for literacy consultants and numeracy consultants. In summarising the data for this report, we have in some cases, as in Table 4-2, reported only the percentage who agree, combining responses for Agree and Strongly Agree. In other cases, we have combined responses for Agree and Strongly Agree, as well as for Disagree and Strongly Disagree and reported the percentage in three categories – Agree, Undecided and Disagree.*

Regional directors frequently speak of the growth in LEA capacity that they have observed.

> *Previously, their use of data was quite weak and they didn't see what it meant beyond the crude scores, looking at it in a superficial way. Now they're using data more sharply to steer their priorities. They have taken a stronger lead with headteachers and have involved the strategy manager with regular meetings.*
>
> (Literacy regional director)

> *LEAs have more information about schools and schools have more information about their individual pupils so my work with them is becoming more focused. It is more about the details of particular groups, cohorts, schools. That's fascinating work because the authorities get beyond the numbers to the composition of school staff, the level of training within the school, as well as access to training outside.*
>
> (Literacy regional director)

Regional directors also convene meetings of groups of line or strategy managers from all LEAs in the region, usually once a term. Agendas for these are developed collectively by the regional directors, in response to centrally determined priorities and what LEAs need, based on feedback from strategy/line managers and on observation by regional directors themselves. Such meetings have shifted from being predominantly a one-way communications system for getting central policies out to LEAs; the focus is now more on open communication and sharing of good practice, although the sheer number of central policies and initiatives continues to squeeze agendas. In addition to these meetings, regional directors have ongoing contact with people in LEAs via telephone and e-mail.

Monitoring Implementation in LEAs

Regional directors use a wide range of approaches for monitoring LEA progress – meetings, shadowing and observing training sessions. One regional director's description is typical of the variety:

> *We train consultants and shadow them in schools to check how their work is going. I meet with teams of consultants in LEAs and with line managers. Some line managers need help in sorting out priorities, when they should put certain things into the programme. At the senior level we look at how the funding is managed and spent, how the personnel are supported.*
>
> (Numeracy regional director)

Although national priorities influence the focus for monitoring, so do a range of other factors.

> *We have common agendas in the team for what should be monitored, but there are other things that are pertinent to LEAs that we need to investigate further, based on our knowledge of what has gone on.*
>
> (Numeracy regional director)

Regional directors not only use a variety of activities to monitor but they also draw on a range of sources of information. Such information might include NLS and NNS internal reports, Ofsted reports, national assessment data at the LEA and school level, data on free school meals, PANDA reports (reports sent to each school on an annual basis, summarising school performance data in relation to comparable schools across the country), and other information provided by LEAs.

With regard to how judgements are made, regional directors describe informal but systematic approaches:

> *Working with LEAs you get to know what works and what doesn't. So you've got a range of contexts that you can draw on for similar LEAs, not just in the region, but in the entire country. As a team we talk about what is going well and the difficulties and how we found ways around those difficulties.*
>
> (Literacy regional director)

> *At the macro LEA level, our monitoring is thorough and comprehensive. Monitoring what's going on at school level is shakier. I try to get into schools once or twice a week, but that is a relatively small sample of schools. You are dependent on what consultants, line managers and chief advisers tell you about what is going on in schools.*
>
> (Literacy regional director)

In some cases, the outcome of regional director monitoring is that an LEA is identified as "causing concern" – these are LEAs that for a variety of reasons may require additional support. Observations from regional directors demonstrate that the difficulties may be systemic or at least go beyond pure literacy or numeracy issues.

> *The issues causing concern include difficulties in recruiting and that can be within the literacy team itself but sometimes it's link inspectors or the more senior level in the LEA. Because of the critical link between the Strategy and school improvement in general, you can have a fully staffed literacy team but have gaps in other critical areas in the LEA.*
>
> (Literacy regional director)

> *A main issue is senior management understanding of what the Strategies are trying to do to and where they fit into the whole school improvement agenda. The line manager and consultants may be doing a good job as far as they can, but things can be happening around them that make them less effective than they could be.*
>
> (Numeracy regional director)

LEA staff sometimes commented on how the regional director monitoring appeared from their perspective. They were aware that the regional directors were sometimes caught between monitoring for compliance and allowing LEAs to make changes and generate their own materials to support the Strategies.

> *I wonder about his role, which is checking up on the LEAs, and how much it has been part of the debate about the future of LEAs. There must be a tension for him. I wonder how much their roles restrict their creativity.*
>
> (Numeracy line manager)

LEAs and their Work with Schools

The Role of LEAs

LEAs in England have undergone a number of dramatic changes since the 1988 Education Act. Before that time LEAs were largely independent local governance bodies, responding to broad directives from the central authority. Although funding came from the government, its use locally was very much in the hands of the LEAs. Many of the reforms introduced by the Conservative governments substantially reduced the powers of local authorities. During the 1990s the English education service moved towards local management of schools through governing councils and the potential for schools to opt for grant-maintained status.

At the same time, the emergence of National Curriculum, National Assessment and Ofsted put serious parameters around the role of LEAs. There was a belief in some quarters that these changes reduced the role of LEAs to a point where LEAs were "no longer able to provide a coherent infrastructure of support for schools in respect of advice and in-service training" (McGilchrist, Myers & Reid, 1997). In some LEAs the services were severely reduced and in others they were reorganised as business units that "sold" advisory time to schools (Kerfoot & Nethercott, 1999).

When the Labour government took office in 1997, announcing that the priorities of the government were "education, education and education," the role that LEAs would play was not clear initially. As the Strategies were launched, however, LEAs became the locus of support and pressure for NLS and NNS. They were given a clearer role as an operational arm of central government with responsibility for supporting school improvement (Lincoln & Southworth, 1999). The government made raising standards a clear priority (DfEE, 1998, 1999), with LEAs expected to provide both pressure and support to schools, especially those causing concern, by monitoring performance and intervening in inverse proportion to success. LEAs are required to produce Education Development Plans and be inspected by Ofsted for their work in school improvement, provision of special education, access to schools for all pupils and strategic management (Ofsted, 1999). For management of NLS and NNS, each LEA was required to appoint a Strategy Manager and Line Manager for each Strategy. Also at the LEA level, money has been provided through the DfES Standards Fund for literacy and numeracy consultant positions (with half the salary costs covered by the LEA). Since half the cost is covered by DfES, LEAs are accountable for how consultant time is allocated and used.

Strategy/line managers, link advisers[9] and consultants provide services to schools to help them implement the Strategies. Some of the services are targeted at particular schools and some are directed at all schools. In the early days of the implementation, most of their efforts were directed at assisting schools in setting targets, applying for Standards funding and training teachers, especially those working in "intensive" schools, to use the Strategies. As the Strategies have matured, the LEA role has become more diversified, with many more schools receiving service and the addition of a number of new roles such as helping schools use data for decision-making, monitoring implementation, and fostering school improvement networks and leadership development. Our interviews provided insights into how critical the LEAs are for success.

> *LEAs have a major role. ... We need them and can't possibly keep in contact with [so many] teachers on our own. Centrally, there has been a growing awareness of that. ... If we can encourage more LEAs to have mathematically competent people on staff to guide teachers, we can be even more successful.*
>
> (Numeracy regional director)

Our data on LEAs was gathered through interviews and through our survey of literacy and numeracy consultants. In the consultant survey, we asked questions about the distribution and roles of consultants in various

9 *Link advisers are roughly equivalent to area or field superintendents in other jurisdictions.*

LEAs.[10] Responses came from consultants working in LEAs that ranged in size from fewer than 50 schools to LEAs with over 300. The size of consultant teams reported ranged from 1 to 15. The majority of respondents had been subject co-ordinators prior to taking up the position of consultant – this was so for 56% of literacy consultants and 67% of numeracy consultants. For each Strategy, approximately half had 3 or more years experience as a consultant.

There appear to be six main roles that LEAs have with respect to the Strategies: providing professional development and training, monitoring the Strategies, supporting target setting, supporting the use of data in schools, fostering school improvement networks and leadership development. We discuss each of these in the following pages.

Providing Professional Development and Support

The primary role of LEAs in the implementation of NLS and NNS has been providing training and support to teachers, particularly in low performing schools. Strategy managers, line managers and consultants all play major roles in this process. Strategy managers have overall responsibility for ensuring that implementation proceeds smoothly and reasonably. They may not be experts in literacy or mathematics but they are expected to be well-organised managers who can co-ordinate the various activities that make up successful implementation. Line managers have more of the hands-on responsibility for day-to-day management of NLS or NNS, including management of the consultants. They are responsible for developing literacy or mathematics action plans and ensuring effective use of resources to implement these plans. As they are LEA advisers, they also work directly with headteachers, monitoring, negotiating target setting and assisting schools in accessing and using various forms of performance data. Consultants are subject experts who conduct training sessions and provide support to schools in a variety of ways. Expert literacy teachers and leading mathematics teachers provide further assistance.

Consultants who responded to the survey told us that they expected, on average, to support 24 schools during the academic year, an average of 11 schools intensively (4 or more days), 10 schools less intensively (3 or fewer days), and 8 schools for school-based in-service training. Responses varied widely regarding the number of schools supported by individual consultants. Although the majority of consultants have worked with 25 schools or fewer in the past year, a large number supported between 25 and 50 schools, and a few have supported as many as 75.

Consultants also indicated some variability in the proportion of time that they spend in various dimensions of their role. Most respondents reported spending the bulk of their time leading professional development sessions and supporting schools directly. Literacy consultants reported spending a higher proportion of time leading training or other professional development sessions; numeracy consultants reported spending a larger proportion of time providing in-school support to individual schools. Our interviews indicate that the role of consultants differs across and within LEAs. In addition to delivering training and professional

10 It is important to remember that the survey was completed by individual consultants within LEAs, not by LEAs. A combination of response rate and size of LEA therefore may skew these results. Nevertheless, they provide some indication of the role and deployment of consultants.

development sessions for teachers and providing individual support to schools, consultants may, for instance, run conferences or fora for co-ordinators that focus on their management role, and be involved in the monitoring and evaluating of school improvement plans.

In providing training and support, consultants and LEAs adapted the role to suit their particular contexts. Early on, consultants offered multi-day training sessions to literacy and numeracy co-ordinators, who then trained their in-school colleagues. The consultants also followed up with direct support to teachers in schools that had been designated for more intensive support. As time moved on, there was a shift in focus to broaden the number of schools and teachers receiving support, although there were resource constraints on what they could do.

> *We knew that if you didn't talk to someone in each school, they wouldn't have the messages. But we haven't got the resources to do them all. So, we did what we could.*
>
> (Literacy consultant)

In our recent visits to LEAs, strategy managers and consultants talked about providing focused attention for particular schools and feeling that many schools need less support. At the same time, they expressed a worry that there were some schools that had never received in-school support, where LEA personnel could make a valuable contribution.

> *We might want to look at schools that are doing all right and have not been identified by link inspectors but maybe where there is an impact to be made. We don't have any knowledge of what's out there in terms of these schools.*
>
> (Numeracy consultant)

> *A number of people come up to us after conferences and say "Please, can we have some support? We're reaching our targets but there is so much more we could do. Can you come to a staff meeting?"*
>
> (Numeracy consultant)

Consultants reminded us that work in some intensive schools can be time-consuming, and may not always show positive results.

> *This year we've done about 6 days at each intensive school. Some of them, with 2 or 3 days of good quality input will be fine. And there are some schools that we go into over and over and over, and they don't seem to make any progress.*
>
> (Literacy consultant)

Although their views about the Strategies were very positive, the consultants offered some opinions about ways that they believed the training and support could be improved. In retrospect, some of the consultants felt that their initial training sessions with teachers were far from thorough.

> *There were a lot of things that we glossed over. And now there's a sense of a bit of work to do. We're coming back and taking more time to do things more thoroughly.*
>
> (Literacy consultant)

Although the consultants agreed that the early messages about the Strategies, especially Literacy, suggested rigidity, they pointed out that the message has changed, necessitating a change in training and support.

> *Now, we show teachers how to use the Strategy flexibly.*
>
> (Literacy consultant)

The message from the centre has definitely changed over the last 2 years and some schools are quicker to get the message than others. That's one of the reasons why the link inspectors are so important – sometimes, through no fault of their own, link inspectors might be going in with the old model and upbraiding someone for not doing two guided readings in their hour, or not doing their word level first, whereas all of the messages now are encouraging schools to be flexible.

(Literacy line manager)

I've changed the 5-day to a 3-day with action points for teachers and offer the teachers two extra days to work in their own school with supply cover to actually do these things.

(Numeracy consultant)

Monitoring of NLS and NNS in Schools

LEA advisers monitor the implementation of the Strategies and use their insights to suggest action plans. This includes working with schools around target setting and considering evidence from a variety of sources.

We used the national tests to identify schools to be supported in the first year. Last year we picked underachieving schools based on trends in test results over the last 3 years and looking at Ofsted reports in terms of leadership, quality of teaching in maths, teacher understanding, and looking at the PANDAs. These are the ones we work with.

(LEA line manager)

The most obvious monitoring done by LEAs is attached to target setting and to Ofsted inspections. In several LEAs, we heard about systematic monitoring of pupil progress and discussions with schools about their targets and their expectations for pupil performance.

We look at the cohort of pupils and consider where they were at the end of Key Stage 1. And using that data we actually suggest to schools what proportion of pupils we think they might get up to this hurdle. And we say, "Well, this is what we think is possible with this cohort based on how it performed under test conditions last time." If they tell us that they have different pupils now, we can adjust.

(Strategy manager)

LEA advisers and consultants also visit schools, watch lessons and look at pupil work.

We really look at what's happening in the quality of the work the children are doing. That tells us more than watching the teachers. We monitor the evaluation, assessment, record-keeping. How are they tracking progress? What does the teacher need to do next?

(Strategy manager)

I'm becoming increasingly interested in refining teacher assessments of the learning achievement of pupils. The test is not satisfactory. It's instantaneous and it's under pressurised conditions.

(Line manager)

Finally, several Strategy managers commented on what might be seen as the tension between monitoring schools and supporting them. While monitoring is a necessary component, it is not the primary focus, but rather a tool for supporting schools in their own improvement.

In the end, I approach the schools and ask "Do you want us to work with you? These are my reasons for asking. Here is the evidence." But I'm not going to force it. In the end, this isn't an inspection process; we're trying to help.

(Line manager)

Target Setting

LEAs are the mediating body for target setting between the schools and DfES. For the most part, we have found that LEAs negotiate the targets with their schools but vary in terms of the flexibility they allow. Targets are often based on past performance on Key Stage tests as well as other data that are available within the LEA, and, in many, targets follow a systematic process of analysis and discussion.

The headteacher and link adviser jointly consider the attainment of all pupils, as well as differences between boys and girls, individuals and groups, as a result of the analysis that we get. We look at the relationship between teacher assessment and test level, and we consider the actual attainment in relation to target level. After we finish the analysis, we identify interventions and propose targets for next year.

(LEA strategy manager)

Although LEAs and schools dedicate a good deal of time and effort to setting targets, this remains a contentious area for many reasons. We discuss the use and interpretation of the targets elsewhere in the report but, at this stage, point out that there are some tensions involved in target setting. Some LEA personnel felt that the attention to targets and to test results was diverting attention from the focus on pupil learning.

In a prior report, we identified another role of LEAs in relation to targets – LEA personnel have been instrumental in helping teachers and headteachers move beyond an exclusive focus on numerical targets that are, to some extent, imposed on schools. Consultants and advisers, with support from regional directors, have increasingly fostered the use of curriculum targets for planning programmes and working with children. Once again, we found that they helped schools use assessment and curriculum targets to plan and develop appropriate interventions to move pupils forward.

We did a lot of work, saying assessment isn't about tick sheets and boxes. It's about you knowing where your children are now. What do you want to do next? Also we're trying to skill up co-ordinators, saying that they also need to have a picture of what are the key issues across their school and how can they actually move those forward.

(Literacy consultant)

Support for Using Data in Schools

LEAs also play a substantial role in the extent of and nature of the use of data for decision-making in schools. DfES, Ofsted, QCA and other agencies produce and distribute many reports for schools, LEAs and the country as a whole, and LEAs and schools collect data of various kinds to support their Education Development Plans. Some LEAs are very adept at organising, developing and using data for strategic decision-making and planning for improvement, and have attempted to provide assistance to schools in the use of data. In these LEAs, advisers and specialised technical staff produced detailed analyses of results, often with longitudinal comparisons and value-added measures for the schools in the LEA. They also worked in partnership with schools to support staff in their use and understanding

of the reports that they produced as they planned for school improvement.

> *I try to produce evidence for the schools and report it so that it makes sense to them.*
>
> (LEA adviser)

> *We've got clusters of schools and we get them together to look at their data and see what they should be doing.*
>
> (Literacy consultant)

Support for School Improvement Networks

In an earlier report, we suggested professional learning communities as a mechanism for strengthening the profession and fostering continuous learning among educators. At that stage, we saw the potential for such networks in the regular subject-specific meetings of literacy and mathematics co-ordinators occurring in some LEAs. More recently, it appears that a number of LEAs have fostered fora for teachers and headteachers to discuss and work with elements of the Strategies as they are evolving. Many of the co-ordinator meetings, for instance, look more like professional learning communities and less like top-down training and information sessions than they did in the early days of implementation. We often heard that the centrally organised headteacher conferences led to headteachers deciding to continue meeting their LEA colleagues in a context in which topics would arise from local concerns. Teaming across schools is another networking approach that is particularly helpful for small schools with only one teacher per Year group where collaborative planning might otherwise be difficult. In some LEAs, opportunities to work together can lead to outcomes that will be useful to other schools as well as to the participants:

> *We've used lots of teachers from different schools and brought them together to work on exemplar materials.*
>
> (Numeracy consultant)

Such encouraging signs of growth, however, should not obscure the lack of progress in other LEAs:

> *I know that in some LEAs there are regular co-ordinator meetings. We've tried to organise some but there isn't a culture within our LEA for doing it.*
>
> (Numeracy consultant)

Leadership Development

As we mentioned earlier, school leadership has become a central issue for attention in schools. The national directorate of NLS and NNS has already held regional conferences for headteachers and the DfES is planning to focus attention on leadership in the future through the work of the National College of School Leadership. In our interviews, we heard about the importance of leadership for the success of the Strategies.

> *The head's role is crucial. Where schools are doing really well, and it's embedded, and the schools are able to take on new initiatives in literacy without balking, it's because there is good leadership – in literacy and for the staff generally. We also have a lot of schools that are very weak on leadership and we do a lot of bolstering.*
>
> (Literacy line manager).

LEA personnel also talked about leadership concerns and about how they were attempting to rectify the problems that they saw in schools. Their concerns were often expressed as a combination of "no whole school agreement on how to move forward

to implement the Strategies" and "low morale among the staff."

> *Consultants aren't going to make a difference in what's happening in that school because it's a leadership issue. ... Teaching the teachers about the fundamentals of grammar isn't going to do anything in the long term*
>
> (Literacy strategy manager).

> *Sometimes we see good practice at the level of the classroom but no whole school approach. And the heads are sitting there thinking "This has nothing to do with me." It's simplistic thinking to believe that they're going to be converted. The world doesn't work like that.*
>
> (Numeracy consultant)

When these situations occurred, the LEAs often made a concerted effort to strengthen both accountability (through the link adviser) and support (through consultants). They also felt that the conferences for headteachers were useful but were not always enough, so some LEAs were augmenting them with local sessions for headteachers.

> *There's a one-day conference on managing the Literacy Strategy in the autumn term for all heads. And as a result, heads asked if they could have more specific subject-related literacy training. They felt that they didn't know enough. So we ran a day for them.*
>
> (Literacy line manager)

At times, however, LEA personnel were less than optimistic about the likelihood that they could actually change the orientations or practices of existing leaders.

> *When they don't have a vision or a long-term plan, it doesn't happen overnight. When you've got these short-term remedies, they aren't going to work. It takes a lot more.*
>
> (LEA line manager)

Although the contribution of the headteacher is critical, the Strategies have also stressed the importance of developing shared leadership in schools, especially through the role of subject co-ordinator.

> *Co-ordinators' management in the Strategy was long needed and giving them some training went down really well.*
>
> (Literacy consultant)

LEA Leadership for NLS and NNS

LEAs have been pivotal organisations in the success of the Strategies to date, taking considerable responsibility for day-to-day management and implementation. In this section we provide further data about how LEAs were exercising leadership in relation to NLS and NNS and about their capacity to take the lead in the future.

Consultant Views

We look first at consultant perceptions of LEA leadership. Table 4-3 indicates the percentages of consultants who agreed with survey statements about various dimensions of the planning and action within their LEAs.

Table 4-3: Leadership for NLS and NNS: Consultants' Perceptions

Statement	Strategy	% Agree
This LEA is supportive of the principles of the Strategy.	Literacy	79
	Numeracy	90
Leaders in this LEA demonstrate high expectations for work with pupils in literacy/mathematics.	Literacy	82
	Numeracy	79
Leaders in this LEA see literacy/mathematics as a very high priority.	Literacy	79
	Numeracy	73
This LEA provides schools with assistance in setting curricular targets for literacy/mathematics teaching and learning.	Literacy	80
	Numeracy	75
Leaders in this LEA (advisers, line managers, CEO, etc.) have a clear vision for literacy/mathematics learning in schools.	Literacy	57
	Numeracy	63
There is coherence in this LEA between policies for literacy/mathematics and other policies.	Literacy	49
	Numeracy	50
Leaders in this LEA encourage teachers to consider new ideas for teaching literacy/mathematics.	Literacy	59
	Numeracy	64
Leaders in this LEA model a high level of professional practice in relation to the Strategy.	Literacy	55
	Numeracy	58
This LEA encourages and supports collaborative work in literacy/mathematics across schools.	Literacy	60
	Numeracy	47

Responses, while generally positive about the situation in LEAs, were somewhat mixed, with a relatively high proportion of consultants indicating that they were undecided about how to describe their LEA. LEA leaders (advisers, line managers, CEOs, etc.) were seen as supportive of the principles of the Strategies (particularly NNS) and as setting high expectations for pupils in literacy and mathematics. Consultants agreed that LEA leaders saw literacy and mathematics as high priorities and provided schools with assistance in setting curricular targets. About 60% agreed that LEA leaders had a clear vision for literacy or mathematics learning in schools. On the other hand, only half of the consultants saw coherence in the LEA between policies for literacy or mathematics and other policies. Fewer than two-thirds of the consultants felt that their leaders encouraged teachers to consider new ideas for literacy and mathematics teaching or modelled a high level of professional practice in relation to the Strategies. A higher percentage of literacy consultants felt their LEAs encouraged and supported collaborative work in literacy and mathematics across schools than did numeracy consultants.

Consultants also responded to a number of items about LEA support for the work of literacy and numeracy consultants. Results are summarised in Table 4-4.

Again, responses were somewhat mixed, probably because LEAs are quite different from each other in the structures and supports provided. Although the majority agreed that they got consistent messages about their role from advisers and managers, about one-third of literacy consultants either disagreed or were uncertain, as were just over one-fifth

Table 4-4: LEA Support for Consultants: Consultants' Perceptions

Statement	Strategy	% Agree	% Undecided	% Disagree
I get consistent messages about my role from advisers and managers in my LEA.	Literacy	66	12	21
	Numeracy	78	9	13
In our LEA, there are enough literacy/numeracy consultants to provide necessary support to all schools.	Literacy	31	17	53
	Numeracy	39	16	46
I have sufficient opportunities to work with colleagues in my LEA.	Literacy	50	16	34
	Numeracy	54	18	28
My line manager encourages me to learn from colleagues in other LEAs.	Literacy	60	15	25
	Numeracy	52	27	21

of numeracy consultants. Perhaps not surprisingly, about half the respondents thought the number of consultants was too low to give schools the support needed. Given the importance of networking and informal learning, the fact that only about half the respondents agreed that they had encouragement and sufficient opportunities for working with colleagues within and across LEAs suggests some room for growth.

Constraints and flexibility for LEAs

In our visits to LEAs, advisers, although supportive of the Strategies, nonetheless often noted the constraints under which they operate. They pointed out that requirements from central government (and the Literacy and Numeracy Strategies) do not always coincide with their judgements about what would make sense for their schools, for instance in terms of setting targets or offering training. Similar concerns were noted in a study of the role of LEAs in school improvement (Derrington, 2000). Although the DfES principle of "intervention in inverse proportion to success" applies to LEAs as well as schools, some LEAs, although in general agreeing with NLS and NNS priorities and approaches, felt they needed more flexibility. Of these, of course, some may have a more accurate view of their own capacity than others.

Other LEAs felt they had the flexibility they needed to tailor policies to fit local needs. In a few cases, LEA spokespersons indicated that they simply went ahead and made minor adaptations without notifying regional directors. In other cases, the flexibility may have come through the regional director. Regional directors themselves noted differences among their colleagues in terms of scope given for local initiative.

LEA leadership for the future

In our earlier reports, we mentioned the difficulty of finding the appropriate balance between central and local responsibility for reform. With the Strategies, the initial impetus, direction and planning were entirely central, with LEAs given responsibility for implementation. Regional directors reinforce the idea of a continuing and perhaps increasingly autonomous role for LEAs in the future.

There has been a remarkable change in how proactive LEAs have become in a support and challenge role. ... The difficulty is how and when to pass over ownership. ... It's not my job to do it for them, the aim is to be moving them toward more self-sustaining systems so they can do the same with their schools. We are too remote from the schools; it's not realistic to think you can work as a national agency directly with the schools.

(Literacy regional director)

LEAs have a critical role long term; you remove the national layer and regional layer, and it continues at the LEA level. It definitely does need to be broader than an individual school level, so why not the LEA, which has a number of statutory obligations that will continue.

(Numeracy regional director)

ITT Regional Directors and Their Work with ITT Institutions

Initial Teacher Training and the Strategies

In our first annual report, we pointed out that new teachers are a long-term investment. The appointment of six regional directors with specific responsibility for initial teacher training was a welcome and much-needed extension of the Strategies' infrastructure. In the two years since their appointment, these regional directors have worked to strengthen the links between the Strategies and teacher training providers. ITT institutions have been in a different position from LEAs, in that they receive no additional funding for the Strategies and thus have not been under the same pressures to implement them. The main focus of the ITT regional director work has been to support ITT providers in developing courses to ensure that all newly qualified teachers are fully prepared to teach primary English and mathematics in line with the Strategies and with the National Curriculum. As well, the regional directors have served as liaison between the Strategies and the Teacher Training Agency (TTA). TTA standards for qualified teacher status recently have been revised; the standards now include a requirement that new primary teachers know and understand "the frameworks, methods and expectations set out in the National Literacy and Numeracy Strategies" (Teacher Training Agency, 2002).

Role of ITT Regional Directors

The work of the ITT regional directors differs in some important features from that of their colleagues who work directly with LEAs. Most significantly, because they have few "levers" to influence higher education institutions, ITT efforts are necessarily weighted toward support rather than pressure. The Strategies have no monitoring authority in relation to higher education institutions, nor are they the source of any significant funding for ITT.

We don't have an official monitoring role like Ofsted, so it's a delicate area. Ofsted inspects and gives grades based on that inspection. It was important to be clear that we were not there on any kind of inspectorial role; we were there to help and support.

(ITT regional director)

Unlike the LEAs, ITT providers don't receive extra funding to support the Numeracy Strategy. LEA regional directors feel they have the right to sit in on training, shadow consultants, and ask for a breakdown of how money is being used. We don't have the means to do that because there is no funding attached. So it's more of a support role and the pressure is done in a slightly different way.

(ITT regional director)

We have worked via support, consensus building and persuasion – including challenging their assumptions and correcting their misapprehensions.

(ITT regional director)

ITT regional directors often mentioned encountering an early negative attitude toward the Strategies from higher education institutions. Changing this negative stance was a challenge.

Within the ITTs there is a group of people who are intractably opposed to a lot of the Literacy Strategy.

(ITT regional director)

When NNS was first introduced Higher Ed was left out. For the first six months our job was to go around to every institution and listen to their complaints. For example, the new materials weren't sent to the Higher Ed Institutions that were trying to prepare next year's teachers. On one level it was quite easy to show them we were on their side and could get them the resources. We tried to provide whatever support they wanted, sessions with themselves and colleagues. That was our main support for the first few terms.

(ITT regional director)

An ongoing focus for both literacy and numeracy ITT regional directors has been strengthening the connections for ITT providers, both across institutions and with other parts of the education system.

We created a network that linked every English tutor in the country through email, network meetings, briefing meetings and involving them in the production of materials. The network is extremely powerful, but it can only be sustained if the structure remains in place to sustain it. In many ways ITT teachers and students have been outside the system, and we are working towards a system where they are part of the teaching and learning in schools. Unless there is a national structure to put it into place, that does not happen.

(ITT regional director)

ITT regional directors have undertaken a number of specific initiatives to support teacher training programmes. In NLS, a higher education writing initiative involved collaboration between English tutors and ITT regional directors, with 10,000 ITT students receiving training in all facets of teaching writing. In their school placements, the ITT students and their class teachers analysed and planned literacy lessons together, a professional development opportunity participants reported (in their evaluations of the session) as very helpful. In NNS, ITT regional directors, in collaboration with a group of tutors, recently worked on two projects to assist ITT providers and students. One focused on children's errors, misunderstandings and misconceptions in mathematics, the other on clarifying and strengthening the links between the Foundation Stage (Reception) and more formal schooling (Year 1). For both projects, participants collected together the NNS guidance or advice about the questions, some appropriate articles and a selection of NNS video clips. The idea was that ITT tutors would use these teaching resources to better prepare ITT students for teaching mathematics.

Impact of NLS and NNS: Perceptions from the Bridge

Policies should be judged largely in terms of their impact – the extent to which intended outcomes have been achieved and negative unintended consequences have been avoided or reduced. Elsewhere in our report, we look at other indicators of NLS and NNS impact – here we focus on the perceptions of regional directors and LEA personnel. In general, this group, all strong supporters of the Strategies, are convinced of the beneficial impact, speaking about positive changes in LEAs, schools and classrooms, as well as improved teaching and evidence of increased pupil achievement in literacy and mathematics. At the same time, however, they noted factors or conditions that limited the impact, usually related to LEA, school or teacher capacity. Many respondents also expressed concern about unintended negative consequences, in most cases connected to undue emphasis on target setting and the Key Stage 2 test results.

Regional Director Perceptions of Impact

Regional directors have little doubt about the Strategies having had a beneficial impact on schools, and in particular on teaching. They point out that, unlike most centrally developed policies, the Strategies "have gone right into classrooms and changed what teachers actually do day in and day out."

> *The important thing is that someone actually talks to the children and that's the most common change we see now compared with five years ago. Five years ago, nobody was talking in the maths lessons, some children went through a whole week immersed in published schemes without contact with the teacher to speak of.*
>
> (Numeracy regional director)

Regional directors also spoke of the significance of teachers now using the frameworks and objectives to guide their planning and teaching. Not only does this shift benefit pupils, but it also helps teachers work more effectively with each other.

> *The Strategy has given teachers common objectives that they know they are teaching towards. It has improved the debate between teachers because they know what they are talking about and they are talking about the same thing.*
>
> (Literacy regional director)

Regional directors, however, spoke candidly about some of the factors that limit the impact of the Strategies. In addition to the LEA leadership issues mentioned earlier, one challenge came up again and again. The perception of regional directors is that teachers' limited understanding restricts the depth of change in teaching and learning, as well as the extent to which the changes are embedded in schools.

> *The Strategy has not made bad teachers into good teachers, it has made them "alright," and not enough alright teachers have become good. That is because we could do more about developing teachers' understanding rather than just getting them to implement certain formats.*
>
> (Literacy regional director)

> *There's a lot of good practice out there and you see some really good stuff. But there are many more schools where it's there on the surface. One of the difficulties is that teachers go on the training, they enjoy the training, go back into schools and become very effective in the mental starter and have some nice activity for the children to do. They think the Strategy is in place.*
>
> (Numeracy regional director)

Regional directors frequently mentioned unintended consequences related to the numerical targets. For instance, some regional directors noted that the targets often seemed somewhat arbitrary and might in some cases be seen as imposed rather than negotiated. While seeing some value in target setting, many were concerned about what they saw as undue stress on this component of government policy.

> *The reliance at the national level on test performance as indicators of progress creates a tension, with too much emphasis in a number of schools on teaching to the test.*
>
> (Regional director)

LEA Perceptions of Impact

Like their regional director colleagues, LEA personnel expressed little doubt about the positive impact of the Strategies, at the same time indicating concern about the factors that limited impact.

Consultants responding to our survey indicated the extent to which they saw various changes in classroom practice. Their responses, given in Table 4-5, indicate considerable disparity in the extent to which such changes were observed, with a substantial proportion choosing *undecided*. Comments from respondents suggested that this option was often chosen when their supported schools varied a great deal – that is, the statement would be true of some schools but not of others. According to their responses, consultants thought that the majority of teachers were setting curriculum targets for their classes. In terms of the impact on other subjects, consultants indicated that a majority of teachers were using the teaching approaches from the Strategies in other curriculum subjects, while they were more divided on whether the focus on literacy and mathematics meant that other subjects got less attention than needed.

The survey also asked consultants further questions about impact, with responses summarised in Table 4-6. As Table 4-6 indicates, most literacy consultants agreed that pupils are performing at a higher level in reading and writing as a result of NLS. Virtually all of their numeracy colleagues agreed that pupils are now performing at a higher level in mental mathematics, and a majority agreed that pupils' written calculations had improved as a result of NNS.[11] A substantial majority of literacy and numeracy consultants agreed that their

Table 4-5: Changes in Classroom Practice: Consultants' Perceptions

Statement	Strategy	% Agree	% Undecided	% Disagree
Teachers set objectives or curriculum targets for groups or individual children in the class.	Literacy	63	22	15
	Numeracy	51	27	22
Teachers use Strategy teaching approaches in other curriculum subjects.	Literacy	51	32	17
	Numeracy	64	31	5
The focus on literacy/mathematics means that other subjects get less attention than they need.	Literacy	32	25	43
	Numeracy	39	28	33

11 In interpreting this response, it is important to note that NNS does not encourage the teaching of written calculations until considerably later than had been the case prior to the Strategy being implemented.

Table 4-6: Impact of NLS and NNS: Consultants' Perceptions

Statement	Strategy	% Agree
Pupils are performing at a higher level in reading/mental mathematics as a result of the Strategy.	Literacy	93
	Numeracy	99
Pupils are performing at a higher level in writing/written calculation as a result of the Strategy.	Literacy	88
	Numeracy	71
The Strategy has provided helpful approaches for engaging unmotivated pupils.	Literacy	84
	Numeracy	90
The benefits of the Strategy have outweighed the costs in terms of teacher time and effort required for implementation.	Literacy	87
	Numeracy	93

respective Strategies provided helpful approaches for engaging unmotivated pupils and that the benefits of the Strategies outweighed the costs in terms of teacher time and effort required for implementation. As we will see in the next chapter, many teachers did not share this view.

Beyond the surveys, in our visits to LEAs, consultants and strategy/line managers expressed confidence in the fundamental principles of the Strategies, stressing the value of a sustained national focus and an emphasis on the training and support aimed at increasing teachers' knowledge and skill. In particular, they extolled the benefits of a common framework to guide teachers and teaching, noting that it had "created a structure of clear learning objectives that have provided a direction for all schools" and "provided high expectations of what children can achieve." Consultants also spoke about Strategies "refocusing teachers on how to teach literacy and what to teach, and improving their subject knowledge and pedagogical skills."

LEA informants expressed similar views to regional directors about the factors that have limited the impact of the Strategies. Consultants note for instance "the mass of misunderstanding" and the "lack of confidence in some teachers who feel unable to be more flexible," together with "management teams not taking control of the Strategy in schools." They also mention "overload on schools, especially intervention programmes in Key Stage 2 and "the weight of NLS, NNS, alongside the rest of the curriculum."

Leading the list of unintended negative consequences is again concern about testing and targets, illustrated by comments such as the following:

> *Because of the concentration on performance tables, some schools and teachers teach to the test instead of teaching the subject. Key Stage tests have a distorting effect on the development of real mathematical understanding.*
>
> (Numeracy consultant)

> *There is a lack of vision at times – everything is geared towards Year 6 results. If we don't get it happening at Key Stage 1 and early Key Stage 2 we will always be playing catch-up.*
>
> (Literacy consultant)

Perceptions of Impact of NLS and NNS on Initial Teacher Training

The ITT regional directors gave somewhat mixed reports on the extent to which the Strategies had changed initial teacher training. They all agreed that, initially at least, ITT had been ignored, and that this lack of attention fed into some hostility in the higher education institutions about the Strategies. By 2002, however, the regional directors expressed considerable satisfaction about progress. Certainly the inclusion of the Strategy frameworks in the TTA standards for newly qualified teachers will have an impact on teacher training programmes. But more than this formal recognition, regional directors report much greater receptivity and interest on the part of tutors in higher education, and concomitant changes in programmes to strengthen the role of literacy and mathematics teaching.

From LEAs and schools, we heard varying reports on the readiness of newly qualified teachers to work with the Strategies. In many cases, the variations were specific to ITT programmes, in that graduates from one institution might be seen as much more skilled and knowledgeable than their counterparts from other institutions. We also heard from LEA personnel that, although newly qualified teachers (NQTs) had been introduced to the Strategies, they still needed time to become grounded and further develop their knowledge and skills when they arrived at their new schools.

From the perspective of NQTs themselves, a recent survey (Teacher Training Agency, 2002) found that more than 80 per cent reported that their preparation for the National Literacy and Numeracy Strategies was "good" or "very good." These figures are considerably higher than comparable figures from 2000, suggesting more coherence with the teacher training programmes.

Infrastructure: Looking Ahead

Emerging Issues

Although the national and regional infrastructure has for the most part been created since 1997, it has been skilfully connected to existing infrastructure and other organisations such as SEU and the LEAs. However, there is a danger in constantly expanding the infrastructure – as the numbers of initiatives and regional directors increase, with Key Stage 3 work and other new programmes, some fragmentation and dislocation is almost inevitable. For many participants and especially for those in LEAs and schools this may result in some confusion.

The infrastructure has been effective in building capacity at all levels. At the same time, this growing support network has depleted the pool in levels below. For instance, consultants are increasingly drawn from the ranks of outstanding literacy and numeracy co-ordinators at the school level, sometimes leaving a hard-to-fill gap, while new regional directors are increasingly drawn from the ranks of particularly good strategy or line managers. Regional directors and LEA personnel who spoke with us were well aware of the tensions and dilemmas related to NLS and NNS implementation. They understood how policy initiatives inevitably have unintended consequences. For instance, they indicated that targets have both positive and negative consequences, and expressed concern about undesired consequences such as too much teaching to the test. Some also warn of what one regional director articulated as "a tendency to provide more and more to try to meet all the needs and all the requests made

on us" and how this tendency may foster undue dependency.

The enormous variability found in LEAs and schools raises the question of how best to provide appropriately differentiated accountability and capacity building for LEAs and schools. This is not just an issue of maximising growth and development, but also one of making the most effective use of scarce resources, in particular training and expert support.

Questions for the Future

We briefly highlight several questions that have emerged from our examination of the infrastructure created to date.

- What are the key principles that should be sustained?
- What will it take to sustain changes?
- What should be the role and contribution of LEAs?
- What should be the extent and nature of the national infrastructure in the future?

> *How do we continue moving forward without just piling more and more pressure onto schools, with a negative result? Part of me recognises there still is a significant distance to go and to let people too much off the hook at this stage could be giving up too soon. I wouldn't like to be at that level [DfES], making those decisions.*
>
> (Literacy regional director)

> *Here lies the dilemma. We would not have got as far without the [central] direction of, "We will do it and it will be done!" The question is, can it continue like that and will it be effective? I don't think there's an easy answer. What I think might be worth exploring is a changing relationship for making it happen – so it's not so much telling and more working it out together. I don't think it will happen if you hand it over locally. But it won't be sustained if we continue to be told what to do, how to do it, when to do it and so forth.*
>
> (Numeracy line manager)

Chapter 5: The View from the Schools

Highlights

The view from the schools shows the complexity of implementing such large-scale reform on a national basis. There have been many positive changes in teaching and learning, with NLS and NNS having had much greater effects in some schools than in others. The perceptions of teachers and headteachers vary considerably, probably more at the end of our four-year study than they did at the beginning. The picture is complicated but our data do provide insights about what might account for at least part of the variation.

Perceived impact of NLS and NNS

- **The Strategies have altered classroom practice. Reported changes include a greater use of whole class teaching, more structured lessons and more use of objectives to plan and guide teaching. Most respondents believe that teaching has improved considerably.**

- **There is less agreement from schools about the extent to which the Strategies have improved pupil learning. The majority of teachers and headteachers believe that NNS has improved oral/mental mathematics, but beyond this, opinions vary greatly. Headteachers were more likely than teachers to feel that pupil performance had improved.**

- **Both teachers and headteachers hold widely differing views about the Strategies, views that can be described along a continuum. Headteachers are consistently more positive than teachers, the great majority of headteachers expressing strong support, with a large minority feeling more ambivalent. Very few could be described as openly sceptical. The variability among teachers is greater in terms of their support for the Strategies. At one end of the continuum, many teachers are convinced of the value of NLS and, even more of NNS, pointing to positive changes in many aspects of teaching and learning. These teachers, although aware of limitations, have little doubt that the Strategies are on the right track. At the other end of the continuum are teachers who express scepticism about one or both of the Strategies. These teachers may see Strategy**

approaches as being of limited value in fostering pupil learning, or they may believe that negative features of NLS and NNS outweigh any benefits. Between these two extremes are teachers who acknowledge some improvements in teaching and learning, but are uncertain about some aspects of the Strategies. They may express doubt about meeting the learning needs of all pupils through the Strategies or about the feasibility of implementing recommended practices.

- Based on our survey data and site visits to schools, we find that headteachers and teachers are more supportive of NNS than they are of NLS. For the most part, both teachers and headteachers believe that NNS has been easier to implement and has had greater effects on pupil learning than NLS.

Motivation and beliefs about the Strategies

- Headteachers and teachers generally are motivated to help pupils learn; most support the focus on literacy and mathematics and agree with the aims of the Strategies.

- Teachers who express doubts with regard to NLS and NNS often agree with the aims of the Strategies but may not see them as the most promising route to improved teaching practice and pupil learning, creating a challenge for future professional development and support initiatives.

- We have identified from our data several possible reasons for the ambivalence and scepticism expressed by people in schools. These include concerns that the Strategies do not address the needs of all pupils, doubts about Key Stage 2 national assessments as accurate measures of pupil achievement and, in some cases, teachers' superficial understanding of the Strategies.

Individual capacity

- Across the country, there has been striking growth in teacher and headteacher capacity in literacy and mathematics since 1998, with resource materials and training for NLS and NNS welcomed and widely used.

- The great majority of teachers have reviewed training materials together with colleagues or attended one-off training sessions offered by LEAs, but only a smaller proportion have received in-depth professional development or in-school assistance from LEA consultants.

- Teachers and headteachers feel that they have the subject knowledge and skills to implement the Strategies effectively. Consultants and regional directors, however, express doubt that teachers or headteachers have either the knowledge or the skills that are required for the effective teaching of literacy and mathematics.

Organisational capacity or situation

- Many schools are becoming "learning communities," working collaboratively, making decisions jointly, and taking more collective responsibility for self-evaluating (e.g., monitoring teaching, moderation or levelling of pupil work).

- **School accountability pressures continue (e.g., OFSTED inspections, national assessments and target setting) and schools use assessment data much more effectively than was the case at the beginning of our study. Increasingly, schools are using data to target teaching objectives and to decide how to provide additional pupil support (e.g., increased use of optional QCA tests in Years 3, 4 and 5, analyses of KS1 and KS2 test results).**

- **Schools are generally well-resourced for teaching literacy and mathematics, with high quality materials for both and increased staffing support in classrooms. Most schools value LEA support, particularly in-school support from literacy and numeracy consultants.**

- **NLS and NNS have provided a constructive focus for discussion and planning for school improvement in schools and, as implementation has proceeded, NLS and NNS have focused increasingly on developing school management and leadership capacity. Teachers generally believe their school leaders are helpful and supportive of their efforts in relation to literacy and mathematics teaching.**

Introduction

In this chapter we concentrate our attention on the view from the schools. Our focus has been how the Strategies were understood and implemented in schools and LEAs, and how understanding and practice may have changed over the course of our study.

For this investigation, we have drawn on data from several sources, including:

- the NLS and NNS school surveys completed by teachers and headteachers;
- information from the consultant surveys related to the view from the schools;
- interviews with regional directors; and
- interviews with personnel and observations of literacy and mathematics lessons in the 10 schools that we visited on a regular basis throughout the study, as well as interviews with literacy and mathematics personnel in the LEAs in which these schools are located.[12]

Table 5.1 shows the number of teachers, headteachers and consultants responding to the Literacy and Numeracy surveys and the percentages of surveys that were completed and returned by each group. For teachers and headteachers, response rates represent the percentage of completed surveys returned from participating schools.

Table 5.1: Number of Teachers, Headteachers and Consultants Responding to NLS and NNS Surveys

Strategy	Teacher Surveys Returned		Headteacher Surveys Returned		Consultant Surveys Returned	
	Total	Percent	Total	Percent	Total	Percent
Literacy	1501	57%	176	79%	299	85%
Numeracy	1527	54%	197	80%	340	85%

12 With the ten schools and associated LEAs we were able to observe and document the implementation of NLS and NNS. These sites have given us real images of the implementation of the Strategies in schools around the country. Quotes from these interviews provide exemplification of ideas or observations.

Perceived Impact of NLS and NNS

We ended the last chapter with a consideration of the impact of NLS and NNS from the perspective of those on the *bridge*. We begin this chapter at the same place because the view from the schools presents a somewhat different picture and one that deserves focused attention. We consider in this section teachers' and headteachers' perceptions of the impact that the Strategies have had on classroom practice and on pupil learning.

Impact on Classroom Practice

NLS and NNS are intended to foster classroom practices that will support increased literacy and mathematics learning for all pupils. In the early days of the Strategies, we focused on the extent to which teachers' classroom practices were consistent with the approaches recommended in NLS and NNS resource materials and training. As the Strategies have evolved, our focus is less on fidelity with the materials and more on coherence with the principles that underlie NLS and NNS. What are teachers actually doing in their classrooms? What do teachers and headteachers report as the strengths and weaknesses of the Strategies and why? What adaptations are being made by teachers and by schools and why?

Our data confirmed the value of a common framework to guide teachers, with clear learning objectives and a common focus for all schools. The Strategies re-focused teachers on how to teach literacy and mathematics and have led to improved subject knowledge and teaching skills. The supporting materials for teachers (video, print, CDs) are much appreciated and used by teachers, with particular praise for recently produced resources that are seen as increasingly practical and user-friendly. Headteachers, with support from LEAs and the Strategy leadership, were using the Strategies as an impetus to create school improvement teams and focus planning in the school.

From the perspective of schools, however, the limitations of the Strategies were, to a large extent, the flip side of the strengths. The clear structure of NLS and NNS had many benefits – providing clarity, focus and direction. When the Strategies were taken as rigid directives, however, or when teachers saw no scope for using their own professional judgement about how to teach, that same structure felt unduly constraining. This is, perhaps, the inevitable consequence of strategic initiatives that are driven from the centre as NLS and NNS have been. Because the needs and preferences of those in schools vary widely, a common initiative will be more appropriate to some schools than to others.

Most teachers and headteachers indicated in the survey that many practices recommended in the Strategies are present in their work. Most teachers indicated that they are using curriculum targets in their own classes (95% literacy; 94% numeracy). Many indicated that both they (58% literacy; 50% numeracy) and the children (68% literacy, 48% numeracy) are applying elements of the Strategies to other subject areas. Headteachers agreed that teachers are focusing on curriculum targets (93% literacy; 91% numeracy) and spending more time on literacy/mathematics than they did before the Strategies (74% literacy; 46% numeracy).

Many teachers in our sample schools spoke about how the Strategies had altered their practice and that of their colleagues, not only in literacy and mathematics, but also in other subjects.

The Numeracy Strategy is brilliant. It's transformed the way maths is taught. The way it used to be taught was basically you taught each child, wherever the child was. You had about 15 learning objectives to go after, so that child might be counting to 10, the next one you want to count to another number, another child might be doing a 2 times table. You weren't teaching; you were just kind of floating around, whereas now you know that they're all focused on the same objective.

(Year 2 teacher)

When I do a history lesson now I talk about objectives. I do my teaching, I focus on my objectives, they do their work, I come back at the end. And talking to staff, they're all doing that sort of thing unconsciously. They're looking at the way they're teaching English and maths, and they're modelling it on that. Because it's so successful, we think we'll do it all the time.

(Literacy co-ordinator)

Many teachers and headteachers indicated that they found NNS easier to implement than NLS.

People find the Numeracy Strategy much easier to work with than the Literacy. I would certainly say that, of the two Strategies, Numeracy has been enormously successful in this school.

(Headteacher)

I don't know if this is true, but you feel that when the Numeracy Strategy came out that they were more aware of how to put it into practice and are more aware of what goes on in the classroom. I think it was far less regimented. Literacy was far more regimented and too structured I think.

(Year 2 teacher).

Reasons for the differences in opinion about NLS and NNS are far from clear. We heard repeatedly in our site visits that Numeracy benefited from going second and "learned from the mistakes made by Literacy." For these individuals, NLS had been seen as rigid and prescriptive. We also heard in some of our schools that initial training and advice from literacy consultants had not gone down as well as early numeracy training but that changes in the quality and tenor of more recent advice seemed to have addressed this issue to a large extent. A number of teachers and headteachers indicated that they immediately saw the power of NNS when it was introduced in training sessions.

The big change that I made initially, my road to Damascus, when I literally saw the light, was at a conference for Numeracy when they first introduced empty number lines. I'd not come across that before and the moment I saw that and worked with them I saw the power of empty number lines. I'd taught for thirty years and then suddenly somebody showed me an empty number line.

(Headteacher, numeracy co-ordinator)

Many teachers indicated they were less comfortable teaching mathematics prior to NNS, suggesting one possible explanation for the differences in the way the Strategies were initially received. The majority of primary teachers had presumably developed teaching methods for delivering the English curriculum that they felt had been successful. The initial introduction of the literacy hour with its timed structure and emphasis on whole class teaching forced a radical departure from widespread practice for many teachers. Whatever the reasons for the discrepancies in how the Strategies were and are now perceived, it is clear that most schools

welcome more recent NLS advice that more explicitly advocates flexibility and adaptations to accommodate pupil needs.

Impact on Pupil Learning

Differences between the view from LEAs and the view from the schools became obvious when we considered survey data about perceptions of the impact of the Strategies on pupil learning and on engaging unmotivated pupils. Tables 5-2a and 5-2b show teacher and headteacher responses to statements about the impact of the Strategies on pupils.

The majority of teachers and headteachers believed that pupils were performing better in mental/oral mathematics as a result of NNS; in fact, fewer than 5% from either group felt pupils were not. These groups, however, were far from unanimous in their beliefs about the impact of the Strategies on other dimensions of pupil performance. As shown in Table 5-2a, teachers responding to the NNS survey were generally more positive about the impact on pupil learning than teachers responding to the NLS survey. Fewer than one-half of the teachers felt that NLS had improved pupil performance in either reading or writing, while over one-third of the teachers were undecided and a little more than one-quarter felt pupils were not performing better in either. For NNS, fewer than one-half of teachers believed NNS was leading to higher performance on written calculations, while about the same number were undecided. Only a small percentage felt that pupils' performance was no better as a result of NNS. Fewer than one-third of the teachers felt that NLS had helped to engage unmotivated pupils while slightly more than one-third either disagreed or were uncertain. Again teachers were somewhat more positive

Table 5-2a: Impact of NLS and NNS: Teacher Perceptions

Statement	Strategy	% Agree	% Undecided	% Disagree
Pupils are performing at a higher level in reading / oral/mental mathematics as a result of the Strategy.	Literacy	37	43	20
	Numeracy	79	18	4
Pupils are performing at a higher level in writing / written calculations as a result of the Strategy.	Literacy	38	37	26
	Numeracy	44	43	13
The Strategy has been helpful in engaging unmotivated pupils.	Literacy	29	37	35
	Numeracy	42	42	15

Table 5-2b: Impact of NLS and NNS: Headteacher Perceptions

Statement	Strategy	% Agree	% Undecided	% Disagree
Pupils are performing at a higher level in reading / oral/mental mathematics as a result of the Strategy.	Literacy	49	33	18
	Numeracy	83	15	2
Pupils are performing at a higher level in writing / written calculations as a result of the Strategy.	Literacy	39	33	29
	Numeracy	61	33	7
The Strategy has been helpful in engaging unmotivated pupils.	Literacy	41	38	21
	Numeracy	64	25	11

about NNS. While fewer than one-half of teachers felt NNS had helped engage unmotivated pupils, about the same number were undecided and a substantially smaller percentage felt that NNS had not helped.

As shown in Table 5-2b, headteachers were somewhat more positive than teachers about the impact of NLS on reading and of NNS on written calculations, while their responses regarding the impact of NLS on writing were very similar to teacher responses. One-third of headteachers were undecided about whether NLS had improved pupil performance in either reading or writing, or whether NNS had improved pupil performance in written calculations. Smaller percentages indicated that they felt that NLS and NNS had not had positive impacts on reading, writing and written calculations.

The views of teachers and headteachers are in sharp contrast to those expressed by consultants. As we indicated in Chapter 4, a large majority of consultants felt that pupil performance in reading, writing and oral mathematics had improved as a result of the Strategies, with a somewhat smaller majority indicating that pupils' written calculations had improved as a result of NNS. Again, unlike teachers and headteachers, nearly all consultants agreed that both Strategies had been helpful in engaging unmotivated pupils.

Most teachers and headteachers in the schools we visited, saw the impact of the Strategies as positive for both pupil motivation and pupil learning, although they also identified some limitations or shortcomings.

> *They may have the individual skills that we weren't perhaps as good at teaching before – using subject-specific vocabulary, vowels, consonants and all that, but in terms of actually being confident at reading and story writing, I don't think it's as strong as it used to be.*
>
> (Year 2 teacher)

> *There is no time for consolidation in maths. The less able find the required pace too quick. We need so much time for revision and this is not considered.*
>
> (Headteacher)

Costs and Benefits of the Strategies

The teacher and consultant surveys included a statement about the relative costs and benefits of NLS and NNS. Differences were evident in the opinions of these two groups about whether the benefits of the Strategy outweighed the costs, both in terms of the teacher time and effort required for implementation (as opposed to any financial costs). Table 5-3 shows the percentage of teachers and consultants who agreed that the benefits outweighed the costs for NLS and NNS respectively.

Table 5-3: Teacher and Consultant Perceptions of Cost and Benefits of the Strategies

Strategy	% Agree	
	Teachers	**Consultants**
The benefits of the Literacy Strategy have outweighed the costs in terms of teacher time and effort required for implementation.	31	87
The benefits of the Numeracy Strategy have outweighed the costs in terms of teacher time and effort required for implementation.	51	93

Teacher and consultant views show similar disparities to their views on the impact of the Strategies – particularly for NLS, where only a third of teachers agreed it was worth the effort, as opposed to nearly 90% of consultants.

The discrepancy in teacher opinion about the Strategies' impact on their classroom practice and on pupil learning is worth noting. While most teachers indicated they are using elements of the Strategies in their classrooms (e.g., explicit learning objectives and curriculum targets), most are ambivalent or sceptical about the benefits for pupil learning – other than in oral/mental calculations. While the discrepancy appears contradictory, it may reflect that many teachers believe that it will take time for changes in classroom practice to impact on pupil learning.

> *Pupils now can manipulate the information they've got. It's hard to measure that but you see it on a day-to-day basis. It may have an effect on their achievement levels down the road a bit. Hopefully the best effect it will have will be on their attitude towards the subject.*
>
> (Literacy co-ordinator)

Because of these marked contrasts between teacher, headteacher and consultant responses to the Strategies' impact on pupil learning, we were particularly interested in understanding more about how teachers and headteachers understood the Strategies and the impact on schools. We have used our original conceptual framework of motivation, capacity and situation as lenses to examine how schools experience the Strategies. While the distinction is useful for the purpose of analysis, in fact, motivation, capacity and situation (or organisational capacity) are inextricably intertwined, making it difficult to discuss one in isolation from the others.

Motivation

Motivation to change is an important part of implementing any new initiative. Teachers must first develop motivation to start exploring and using the new practices. Later, they must feel motivated to continue with the changes, adapting as necessary to address changing conditions. As we indicated in our second annual report, we found that much of the early implementation of NLS and NNS was prompted by incentives like funding, targets and inspections. Such motivation is sufficient for getting an initiative launched, but for it to continue, teachers have to develop more commitment to the initiative itself. In the case of the Strategies, we would expect that teachers would come to see these initiatives as more effective vehicles for delivering curriculum objectives than other methods that are available. As we show in the section below, this has happened with many, but not all, teachers.

Building the motivation to sustain innovation and continue to change in response to new developments over time is even more challenging. Such motivation requires a belief that there is always more to learn and more to do to enhance learning. This kind of motivation is dependent on both personal commitment and effective leadership. As the Strategies mature, we have been watching for indications of this kind of motivation, with teachers and headteachers not just implementing the Strategies, but engaging in continuous learning and adjusting practices to improve pupils' skills in literacy and numeracy.

The teacher, headteacher and consultant surveys and our interviews were designed to

assess respondents' motivation to continue using the Strategies, and, more significantly, to continue with the changes undertaken as a result of the Strategies. After three years of NNS and four years of NLS, what do we find? What emerges is not clear-cut. As we will show, the data reveal a complicated picture.

Support for NLS and NNS

Table 5-4 summarises teachers' responses to survey items regarding support of the Strategies.

As can be seen in Table 5-4, teachers generally responded positively to four of the items that are probable indicators of their ongoing motivation to implement the Strategies. In particular, they indicated that the aims of the Strategies were clear and that, for most teachers, these aims were consistent with their own. A clear majority of teachers felt that their teaching of mathematics was more effective because of NNS and many indicated that NNS made their teaching more satisfying and engaging. The picture for literacy was not as positive. While a majority of teachers felt that their teaching was more effective because of NLS, a substantial minority were uncertain or disagreed with the statement. When asked about whether NLS made their job more satisfying and engaging, respondents were divided – just over one-third agreed, just under one-third disagreed and approximately one-third were undecided.

Our conversations in schools and LEAs corroborate the findings that emerged from the survey, with considerable support for the Strategies and the focus on literacy and mathematics. Teachers told us that they were definitely spending more time on these subjects, and that they were following the Strategies, although often in adapted and personalised ways. Teachers supported the aims of the Strategies and the frameworks and talked about the Strategies improving both their competence and confidence.

> *I'm more confident teaching than ever I was. Literacy is something I can do well and Maths is another.*
>
> (Year 3 teacher)

> *I do enjoy teaching the Literacy Strategy and it's working.*
>
> (Year 2 teacher)

Table 5-4: Teachers' Support for Strategies

Statement	Strategy	% Agree	% Undecided	% Disagree
The aims of the Strategy are clear to me.	Literacy	93	5	1
	Numeracy	97	3	1
The aims of the strategy are consistent with my own aims for teaching literacy/mathematics.	Literacy	75	16	9
	Numeracy	88	9	2
My teaching is more effective as a result of the Strategy.	Literacy	57	26	17
	Numeracy	74	20	7
The Strategy helps make my job more satisfying and engaging.	Literacy	38	35	28
	Numeracy	59	29	12

Table 5-5: Headteachers' Support for the Strategies

Statement	Strategy	% Agree
The aims of the Strategy are clear to me.	Literacy	99
	Numeracy	99
The aims of the Strategy are consistent with my own aims for teaching literacy/mathematics.	Literacy	85
	Numeracy	96

On the whole, people are saying "We welcome Numeracy. It's what we've been looking for."

(Numeracy line manager)

Headteachers were strongly supportive of the Strategies, more so than many teachers. Table 5-5 shows that virtually all headteachers responding to the survey believed that the aims of the Strategies were clear; the overwhelming majority also indicated that the aims of the Strategies were consistent with their own aims.

Headteachers in our site visit schools reinforced these findings, with most indicating that the Strategies were making a major difference on the quality of teaching and learning in schools. They frequently mentioned the value of shared objectives and expectations, a consistent approach to teaching literacy or mathematics and the clarity about progression from year to year. Some also expressed the need for schools to adapt materials and planning to their pupils and their school context.

A lot of schools stuck slavishly to the videos and the overheads. But we learned that we choose what's important for our school. We identify that through observations, through teachers' comments, through courses we go on.

(Headteacher)

Discrepancies in the views of headteachers and teachers on these and other matters might be explained by the high levels of ownership those in leadership roles develop by virtue of feeling responsible for "improvements" across their schools. Such findings, with headteachers having more positive views than their teacher colleagues about many features of schools, are consistent with other research and survey data (e.g., Fullan et al., 2002).

Factors Influencing Motivation

Having a structure to guide their teaching and a clear set of learning objectives were seen as beneficial for teachers, who often commented on how helpful they found the guidance from the Strategies. One of the other reasons that both teachers and headteachers in the schools that we visited gave for their willingness to continue with the Strategies was the success that they were seeing for children. Teachers who saw pupils engaged and learning as a result of NLS or NNS approaches (as Table 5-1 indicated, teachers varied considerably on this matter) were likely to increase their own motivation to continue with changed practice.

Pupils really want to do the numeracy work. And I think a lot of it, especially in Key Stage 1, is so practically based that they get a better grasp of the concepts.

(Numeracy co-ordinator)

Children have made progress in reading – even those from families who receive no help at home.

(Headteacher)

The Key Stage 1 test was certainly a very difficult paper. ... They all took the test and they were brilliant. ... At the start of the year I would not have anticipated that they would do as amazingly as they did but again the Strategy and the way of working helped them to move on.

(Year 2 teacher)

They'll sit down to read any kind of text – and they'll give you their opinion about it. They are far more confident than they would have been.

(Literacy co-ordinator)

Throughout our visits we have heard a range of views about NLS and NNS. The majority of teachers and headteachers support the Strategies and believe that teaching is more effective as a result. However, many express uncertainty about their value for pupil learning. Some of the criticisms were what might be expected with a new initiative, especially one that was imposed on schools. Initially, for instance, teachers saw NLS as highly prescriptive.

In the early implementation, as we described in our prior reports, teachers and headteachers identified specific elements of the Strategies that were problematic or they drew attention to the overwhelming amount of time involved in planning. Some of these issues have now been addressed. Planning, for instance, was seen as more manageable, with many teachers encouraged to plan in less detail.

My discussions with the staff have been, "Make your planning manageable. Yes, it fulfils the criteria, but the most important thing is for you to stand in front of those kids, to have the energy to deliver it."

(Headteacher)

If I had a newly qualified teacher in September, I would expect her to plan at least for the first half term so I can see what her preparation is like. But with the experienced intelligent bunch I've got, it would be daft to ask them to do a lesson plan.

(Headteacher)

After four years, some of the original teacher concerns remain, in particular, a concern that the Strategies, especially NLS, are rigid or do not allow for teacher creativity. These were mentioned most frequently by teachers and headteachers in our survey as limitations or weaknesses of the Strategies. Although the headteachers and many of the teachers in our site schools acknowledge that the message from Strategy leaders had changed to one of greater flexibility in the literacy hour, this message had not yet reached everyone. Some teachers were still wondering whether NLS "allowed" them to make adaptations to fit the needs of their pupils. Consultants saw this perception, which many Strategy leaders regard as a misperception, as having serious repercussions for teacher motivation.

The very prescriptive nature of the initial training sent out very mixed messages to many teachers. This stifled creativity and had teachers virtually teaching to a 15, 15, 20, 10 format whether it was appropriate or not. It was seen as a one-size-fits-all approach.

(Literacy consultant)

There is a lack of confidence in some teachers who feel unable to be more flexible within the hour. They see it as a rigid format.

(Literacy consultant)

The clock still haunts us.

(Literacy consultant)

Other concerns have surfaced or increased over time. Of particular interest are those dealing with teacher perception of the impact on pupils. Some teachers, for instance, found that the Strategies were not effective with many pupils who were unmotivated, difficult to teach, or lacking in the basic skills needed to access the learning objectives specified in the frameworks for their year group.

> *The downfall in the Literacy Strategy is that there is nothing much on how to motivate children.*
>
> (Headteacher)

> *I get very frustrated with the Literacy sometimes because I know it's going over the heads of quite a lot of the children in the group – what I've got to teach them. And I find that they are then switching off. Some of them try hard to please you anyhow, but they're just not ready.*
>
> (Year 3 teacher)

> *In a school like this where standards are low, teaching Year 5 and Year 6s subordinate clauses and commas and whatever else, when they can't write all of the capital letters and full stops is too much.*
>
> (Year 6 teacher)

Although those knowledgeable about the Strategies might reasonably argue that these concerns are based on misunderstandings and inaccurate information, such perceptions exist, and obviously influence teacher commitment to the Strategies. Such scepticism, where it exists, does not bode well for long term support for NLS and NNS. Teachers and headteachers will ultimately be responsible for maintaining the focus on literacy and mathematics in their teaching, incorporating the principles and the approaches that are part of the Strategies into their programmes and continuing to adjust their approaches as needed. If teachers are not convinced that the Strategies are worthwhile, there is a danger that the focus on improving literacy and mathematics will erode. Although there is strong support for NLS and NNS in many schools, the persistence of large proportions of wavering or doubting teachers demands continuing attention in the next phases of work. In the final analysis, if teaching practices continue to evolve toward the Strategies' models of effective teaching without pupil learning improving also, the teaching models will be called into question and will need to be revisited.

A continuing area of concern is national testing. Teachers expressed scepticism about whether or not the Key Stage 2 national assessments reflected real gains in achievement and concerns about how the assessments influenced teaching. Although we address this issue elsewhere, we mention concerns about the national assessments here to underline the complexity of the issues that affect teacher and headteacher motivation. Many teachers and headteachers believe that children are learning more in English and mathematics since the implementation of the Strategies and that the tests reflect this to some degree. Nevertheless, in some interviews we heard that, because Key Stage 2 tests are the focus of so much pressure in the spring term, pupils might receive a score that is not an accurate reflection of their achievement. In other interviews, headteachers and teachers suggested that learning has not improved to the extent suggested by the changes in results; the improvement in Key Stage 2 scores, to some extent, reflects teaching pupils to take tests.

There's no point in sending the child to a high school with a Level 4 if they're not Level 4. You're doing them a disservice. And at the end of the day, tables and percentages and all the rest of it isn't what matters, it's how much progress that child's made and, you know, it's frustrating really.

(Headteacher)

Oh their scores are better – certainly they're better. But do children know any more? No. It's because we've taught them to jump through hoops.

(Year 4 teacher)

I have enormous problems with teaching them exam technique, which is then used to say "Look. This Strategy is working. Look at the standards in this country that are increasing. We can pay our teachers more because you got higher results." But what's that got to do with what the children have learnt? You know? It's very frustrating.

(Headteacher)

Our data confirm that teachers are motivated to help children become literate and numerate. The difficulty for a significant minority of teachers is that they have doubts about whether the Strategies, especially NLS, are the most promising way of achieving that objective. In other words, they support the goal but not necessarily the means of getting there. We found from our interviews that there are considerable differences of opinion among teachers, differences ranging along a continuum of unequivocal support at one end to open scepticism at the other. Teachers often hold several of these opinions simultaneously and many are more enthusiastic about one or other of the Strategies.

The following descriptors characterise the sources of teacher motivation that emerged from our site visits to schools and from our interviews with regional directors and LEA numeracy and literacy staff. We categorise these responses at three points along a continuum from enthusiastic support for the Strategies to sceptical compliance.

Enthusiastic support:

- Shared aims with Strategies
- Perceived benefits for all pupils
- Elements of Strategies fit the ways that teachers want to teach
- Appreciate the structure of the lessons
- Believe resources are good and adaptable
- Always seeking ways to improve teaching and learning

Ambivalent support:

- Shared aims with Strategies
- Perceived benefits for some pupils, but not all (e.g., less able, children with special needs)
- Believe resources are good
- Believe structure is better than previous way of teaching but may not be the most effective methods for some pupils

Sceptical compliance:

- Believe they have no choice but to follow Strategies
- Believe Strategies make little or no difference to pupil learning
- Believe lesson structures are too prescriptive
- Believe methods/resources are not adequate or appropriate for pupils in their classrooms

Teachers expressing greatest support generally believe that NLS and NNS represent a huge leap forward in primary schooling; many teachers told us of all the positive changes in their teaching and how children are learning more. Along the continuum, many teachers have more uncertainty. They may describe their own practice as changed, generally for the better, but see both strengths and weaknesses in what NLS and NNS have done for pupil learning. At the far end of the continuum there is a real scepticism on the part of some teachers. They may believe that teaching practice is only mildly changed by the Strategies, or more significantly, that children's performance has improved little. We have no reason to believe that these individuals are not committed and motivated to helping children when they express scepticism about the Strategies, rather they have serious doubts about whether or not the Strategies are offering the best route to improved learning.

It's all too much for the weaker children because they really need a lot more work at their level. It doesn't bring them on at all. The Strategies work much better for the more able children.

(Year 2 teacher)

We're actually disappointed in our achievement at this school, and we're trying to work out why it is. When they first came in we really felt the Strategies were affecting pupil achievement. What we've found is that they may do something really well in the literacy hour or in the maths lesson, but they're still not transferring those skills to the other curriculum areas.

(Headteacher)

When I look back, some aspects of the learning have dropped in some ways. Not particularly in literacy and numeracy. But what we have lost, to a certain extent, is independent learners. Now six, seven, eight years ago, the children in this school were very independent thinkers.

(Headteacher)

These differences of opinion reflect the complex mix of individual and school factors that make up any particular context for implementation (e.g., pupil population, amount of training and reflection on NLS and NNS, school leadership, teachers' own professional knowledge). This is where motivation and capacity become intertwined. For some teachers, the hesitations and concerns may arise from a lack of understanding about the principles and content of the Strategies or a lack of confidence as they encounter the need to develop new skills and new understandings of the context in which they work. We address these issues next.

Individual Capacity

The ultimate goal of NLS and NNS is to enhance the capacity of teachers to teach literacy and mathematics to children so that every child acquires the fundamental building blocks of language and working with numbers. The Strategies have been designed to engage teachers and headteachers in raising standards in literacy and numeracy, with access to the resources, training, skills and knowledge needed to change what happens in classrooms. An important factor in the success of the implementation is the extent to which teachers and headteachers have the knowledge and the skills to make the changes embedded in the Strategies and to keep the momentum going. Although our

methodology was not designed to assess teacher capacity in any systematic way, we have drawn on a range of relevant data sources, including self-reports and perceptions of consultants, regional directors and others, as well as items from teacher and headteacher surveys, to provide some insights. The surveys included items about the extent to which opportunities were available to acquire relevant knowledge and skill, the usefulness of the training and support, a self-assessment of knowledge and skill, estimates of personal success with the Strategies, and perceptions of the effects of the Strategies on teaching. The LEA consultants' survey also included items related to consultant perceptions of teacher and headteacher capacity; responses to those items are included here.

Teacher Capacity

Developing teacher capacity (knowledge and skill) is a centrepiece of NLS and NNS. Professional development opportunities include an ever-growing range of courses and opportunities for training and engagement with the Strategies and related topics. According to survey responses, most teachers had been involved in at least one professional development opportunity and many had been involved in two or more. For both NLS and NNS, the majority of teachers had participated in training using the videotapes in their school, and at least half of them had attended training sessions outside their school (one-off or multi-session). This represents a high saturation rate for a national programme, especially in a country with close to 200,000 teachers.

Using training materials with colleagues had the highest rate of participation, followed by attending a single training session with an LEA consultant or receiving assistance in their own classroom from the literacy or mathematics co-ordinator in their school. Relatively few teachers used Strategy websites or observed expert literacy/leading mathematics teachers. Those who had participated in professional development activities rated all of them as *useful* or *extremely useful,* with in-class or in-school support receiving the highest ratings.

The Strategies have been successful in providing professional learning opportunities for thousands of teachers. For some teachers, even the relatively brief early training provided by the Strategies had a powerful effect:

> *A few years before NNS, I wouldn't have seen the need for a change in the way maths was taught, but once I started going on the training, I could see that we needed to change the way we were teaching.*
>
> (Numeracy co-ordinator)

But, given the scale of the enterprise, it is not surprising that few teachers have experienced sustained and job-embedded learning. This, however, is the kind of learning necessary for large numbers of teachers to become competent and confident about new teaching approaches and content that may be fundamentally different from past practice. In our school visits, we have seen examples of such job-embedded professional learning, often sparked by a consultant spending time in the school working closely with teachers and headteachers on planning or assessment. In several of our sample schools, for instance, teachers met regularly to mark samples of pupil work, using the descriptions of the national curriculum levels as guides. As a result, teachers developed a better sense of how children were progressing. In some schools, such collective efforts in moderating marking led to the development of new

Table 5-6: Teachers' Perceptions of Their Own Capacity

Statement	Strategy	% Agree
I have developed new knowledge and skill through implementing the Strategy.	Literacy	84
	Numeracy	86
I have the knowledge and skill I need to implement the Strategy well.	Literacy	85
	Numeracy	86
Strategy training has helped me teach literacy/mathematics more effectively.	Literacy	64
	Numeracy	77
I feel comfortable making adaptations to the Strategy to fit the class.	Literacy	89
	Numeracy	92
I have the freedom that I need to teach literacy/mathematics in a manner that I believe is best for my pupils.	Literacy	54
	Numeracy	68

Table 5-7: Consultants' Perceptions of Teachers' Capacity

Statement	Strategy	% Agree	% Undecided	% Disagree
Most teachers have the subject knowledge that they need to improve literacy/mathematics learning.	Literacy	33	28	39
	Numeracy	21	27	52
Most teachers have the teaching skills that they need to improve literacy/ mathematics learning.	Literacy	46	31	23
	Numeracy	39	33	29
Teachers I work with display a thorough understanding of Strategy principles.	Literacy	34	41	25
	Numeracy	45	41	13
All teachers in this LEA have received adequate training for the Strategy.	Literacy	45	30	25
	Numeracy	25	24	51
Teachers need detailed classroom guidance in order to implement the Strategy successfully.	Literacy	65	23	12
	Numeracy	60	24	17
From my observation, many teachers in this LEA need deeper subject knowledge if improvements in literacy/mathematics are to be sustained.	Literacy	85	11	4
	Numeracy	88	10	2
Many teachers need greater pedagogical expertise if improvements in literacy/ mathematics are to be sustained.	Literacy	84	12	4
	Numeracy	82	15	3
Teachers feel comfortable making adaptations to the Strategy to fit their classes.	Literacy	28	35	38
	Numeracy	36	33	30
Teachers have the freedom that they need to teach literacy/mathematics in a manner that they believe is best for their pupils.	Literacy	53	26	20
	Numeracy	59	26	15

school-wide assessment policies, largely written by teachers.

Both teacher and consultant surveys asked about the extent to which teachers are equipped with the knowledge and the skills to implement the Strategies and make appropriate adaptations over time. Table 5-6 indicates the percentage of teachers who agreed with these survey items for Literacy and Numeracy.

The vast majority of teachers felt that they had developed new knowledge and skill through implementing NLS or NNS and indicated that they have the knowledge and skill needed for implementation. Most teachers believed that they are teaching literacy and mathematics more effectively. Nearly all teachers indicated that they feel comfortable making adaptations to the Strategies but, although still a majority, a much smaller percentage believed that they had the freedom to teach in a manner that they thought best for their pupils. Generally, teachers saw themselves as having the capacity needed to teach literacy and mathematics.

A different picture emerges from the consultant survey. Table 5-7 shows consultants' views about the capacity of teachers to improve pupil learning and sustain improvements in literacy and mathematics. Only about one-third of literacy consultants and one-fifth of numeracy consultants believed that teachers had the subject knowledge needed, while fewer than half believed that teachers had the teaching skills needed to improve pupil learning in literacy and mathematics.

Consultants expressed concerns about teachers' understanding of the principles underlying the Strategies, with less than half agreeing that teachers had a thorough understanding. Fewer than half of the consultants felt that teachers had received adequate training in NLS, with only one-quarter agreeing that this was the case in NNS. The majority of consultants felt that teachers still needed detailed classroom guidance, deeper subject knowledge and greater pedagogical expertise. Consultants did not believe that teachers were comfortable making adaptations to the Strategies, but, like teachers, just over one-half believed teachers had the freedom they needed to teach literacy and mathematics in the manner they thought was best for their pupils. In our interviews, consultants mentioned misconceptions and misunderstandings held by some teachers and how their lack of knowledge influences learning for pupils.

> *Teachers' misconceptions about key areas, for example, the purpose and practice of guided sessions, have deeply affected performance by some children.*
>
> (Literacy consultant)

> *There is still a mass of misunderstanding about NLS among teachers. Many are compartmentalising the elements – punctuation, grammar, spelling, and so on – and think a 1950s type approach is NLS.*
>
> (Literacy consultant)

> *Our consultants can tell by the kinds of questions many new teachers are asking that they don't have basic mathematics skills or any understanding of the principles underlying the Strategy.*
>
> (Numeracy line manager)

Such responses from LEA personnel draw attention to the differences between their expectations for the continuing improvement of literacy and mathematics and teachers'

perceptions. Most teachers indicated that they believe they have the knowledge and skill to implement the Strategies well, perhaps because they are delivering literacy hours and mathematics lessons to pupils on a daily basis with apparent success. This is not to say that most of these teachers would not see the benefits of further training and professional development around the use of the Strategies. However, some teachers may feel they have fully implemented the Strategies, but may lack awareness of the underlying principles (perhaps partly due to the early emphasis on the structure of lessons, e.g., the 'clock' in the literacy hour). Or some may lack subject knowledge that will limit their further improvements. Not knowing what they don't know, these teachers will have made the easier changes required by the Strategies and may not recognise that many changes and more knowledge are still required. For these teachers, unaware of their own learning needs, the sense of urgency that accompanied the introduction of the Strategies may have passed as well. Other studies of large-scale reforms that address teaching practice (e.g., Cohen & Hill, 2001) corroborate these conclusions, finding that teachers often failed to realise what was involved in sophisticated teaching or curriculum reforms. Missing the underlying principles, they tended to implement the changes in superficial ways, without an awareness of what would be needed for a profound change in practice.

Teachers need a good knowledge of literacy and mathematics, as well as an understanding of how children learn. They need to adapt and deliver the Strategies in ways that are appropriate for the particular children in their schools and yet remain true to the underlying principles. The consultants' surveys and our interviews with headteachers, regional directors and LEA line managers point to a need for ongoing and deeper learning on the part of teachers, a view shared by many people, including teachers, that we interviewed.

> *There's another layer missing and that's the understanding of how children learn from the teacher, and how teachers teach their children to learn. In other words, take the Strategies on board, but there's another bit that's got to go with them to make them even better.*
>
> (Headteacher)

> *This school has a relatively young team, a team of "national curriculum technicians." They are very good at bashing out the curriculum, but they need to work on looking at where children are at, listening to their needs. They still have a lot to learn about how children learn.*
>
> (Headteacher)

> *I think it's important to have a training programme that continues. We always need to be reminded on a regular basis of ways in which we might use the Strategies.*
>
> (Year 6 teacher)

Our observations of a variety of literacy and mathematics lessons in our sample schools corroborated these views. We watched teachers who demonstrated expert knowledge and skill at reaching their planned learning objectives, pitching questions to pupils at just the right cognitive level to prompt learning while boosting confidence and motivation. For these teachers, planning was complete but flexible. They made adjustments during classroom lessons as they took "readings" from pupils and were able to alter their teaching and their plans for the plenary part of the lesson based on that feedback. Other teachers, however, moved through their planned

material using the structures of the Strategies, without making the adjustments that might have brought pupils' attention more fully to the learning objectives for the lesson, seemingly unaware of pupils' gaps in understanding or lack of engagement. These same teachers felt strongly that they were "following" the Strategies.

> *The teacher stuck rigidly to everything. She didn't want to change anything so that at least she felt that she was doing what she was supposed to be doing.*
>
> (Numeracy co-ordinator)

Strategy leaders recognise that a rigid adherence to the surface features of the Strategies without deep understanding of the content and the pedagogical principles is not likely to improve teacher effectiveness or pupil learning. In addition to training, many teachers will need opportunities to deepen understanding of the content and the pedagogy, and to consolidate the new learning in a larger framework of teaching and learning.

> *What they need is time to reflect on their practice and develop – and that comes from all the initiatives, everything to do with the Strategies, the assessment, everything, performance in the classroom – all have to do with quality of teaching.*
>
> (Numeracy consultant)

> *You've got to know it's not only your planning of that lesson, it's your overall view of where it's going, and your knowledge of what the children have done beforehand. That has got to be in there as well.*
>
> (Literacy co-ordinator)

Teachers in several schools found it useful (although sometimes stressful as well) to observe in each other's classrooms and provide and receive constructive feedback. In several schools there was a growing culture of professionalism and accountability that included regular monitoring of classroom teaching by the subject co-ordinator and the headteacher, often in all subjects, not only literacy and mathematics. Many schools had formally scheduled monitoring and co-ordinators were given non-contact time for monitoring and feedback to teachers.

> *School team leaders monitor and provide supportive feedback to teachers on classroom teaching and organisation.*
>
> (Headteacher)

> *There is a culture of observing now. Teachers don't think anything about people coming in to observe. The staff are more open. They talk about things. They're prepared to say what works and what doesn't work.*
>
> (Literacy co-ordinator)

The following descriptors summarise the dimensions of teacher capacity that emerged from our interviews and observations in the ten school sites we visited, and from interviews with regional directors and LEA literacy and numeracy leaders. These dimensions are not discrete categories but represent examples along a continuum of teaching effectiveness.

Highly effective teaching:

- Excellent subject knowledge
- Effective pedagogical practice
- Constant ongoing assessment of whether learning objectives are being met
- Lesson planning that is based on pupils' previous knowledge

- Ongoing adjustments to teaching based on pupil uptake of objectives
- Appropriate adaptations to improve teaching and learning for all pupils

Moderately effective teaching:

- Some gaps in subject knowledge, often more so in either literacy or mathematics
- Tendency to stay with structured formats more closely where teachers feel less comfortable with their teaching
- Less continuous assessment of pupil outcomes throughout lessons
- Less adaptation of Strategies to make learning objectives accessible to all pupils

Less effective teaching:

- Significant gaps in subject knowledge
- Little or no ongoing assessment of pupils
- Planning that does not take into account what pupils already know
- Inappropriate adaptations based on pupil needs
- Inability to adjust teaching during lessons to take account of pupil uptake of objectives

Headteacher Capacity

The headteacher surveys also included a set of questions related to their own professional learning and individual capacity in connection with the Strategies and about capacity to implement the Strategies in schools. Like the teachers, almost all headteachers had participated in some kind of professional development. The most frequent activities were using training materials in discussion with colleagues (85% literacy; 88% numeracy), attendance at headteacher conferences (73% literacy; 76% numeracy) and assistance from an LEA consultant through training sessions (56% literacy; 62% numeracy) or support in the school (71% literacy; 53% numeracy). Like the teachers, headteachers indicated that the various activities in which they had participated were useful, but again relatively few headteachers had participated in many of them.

Table 5-8 indicates percentages of headteacher responses who agreed, were undecided or disagreed with survey items about their own capacity to implement the Strategies.

Headteachers, like teachers, felt that they had the capacity for implementing and supporting NLS and NNS and that they had adequate opportunities to clarify their roles in implementing each of the Strategies. About one-half of headteachers felt that the Numeracy Strategy required new leadership practices while more than one-third felt it did not. A higher proportion of headteachers felt that the Literacy Strategy required new leadership practices while a little more than one-quarter did not. About one-half of headteachers felt that they had chances to practise and refine new management skills for both Literacy and Numeracy.

We also asked consultants about headteachers' knowledge of the principles underlying the Strategies. The results are summarised in Table 5-9. As they had with the teachers, the consultants offered a different perspective on headteachers' capacity. Only about one-quarter of them felt that headteachers had a thorough understanding of the principles of the Strategies and about one-third actually disagreed with this statement for both Literacy and Numeracy.

Table 5-8: Headteachers' Capacity to Implement the Strategies

Statement	Strategy	% Agree	% Undecided	% Disagree
I have the knowledge and skills I need to support staff in implementing the Strategy.	Literacy	80	14	6
	Numeracy	89	10	1
I have had adequate opportunities to clarify my role in implementing the Strategy.	Literacy	72	22	7
	Numeracy	71	23	7
The Strategy has required significant new leadership or management practices on my part.	Literacy	60	14	27
	Numeracy	48	14	37
I have had opportunities to practise and refine any new management skills required for managing the Strategy.	Literacy	49	33	18
	Numeracy	49	32	19

Table 5-9: Consultants' Perceptions of Headteachers' Understanding of Strategy Principles

Statement	Strategy	% Agree	% Undecided	% Disagree
Headteachers in my LEA display a thorough understanding of the principles of the Strategy.	Literacy	27	37	36
	Numeracy	27	41	32

If consultants' views represent a well-informed assessment of the current status of NLS and NNS implementation in schools, there is a great deal of additional work to be done. From the consultant perspective, teachers and headteachers are just touching the surface of what the Strategies intended and are ill equipped for the more complex challenges faced in the next stages of this national initiative. On the other hand, given that consultants spend much of their time working with teachers and headteachers in less successful schools, they may underestimate the level of expertise in these groups.

Situation or Organisational Capacity in Schools

Our framework indicates that in addition to motivation and individual capacity, the extent to which teachers change their practices with the implementation of the Strategies will depend on the situation in which they work. As we pointed out in our second report, it is useful to think of situation in terms of organisational capacity. To acknowledge the school as a unit of change implies that its capacity is more than the sum of its individual members' capacities (for instance, Newmann, King & Youngs, 2000; Stoll & Earl, in press). This means that teachers and school leaders must learn to exercise their individual knowledge, skills and dispositions to advance the collective work of the school (King & Newmann, 2000).

We suggested in our earlier reports that sustainable school improvement based on NLS and NNS is much more likely if schools are able to operate as learning communities with the capacity for continuous change and improvement. During the final year of the evaluation we were looking for evidence, in both surveys and school visits, of indicators of organisational capacity. Such indicators include collaboration or working together, leadership, use of data for decision-making, school organisation and resources.

Working Together in Schools

The surveys of teachers and headteachers included items about the working relationships within the school, particularly in relation to planning and collaboration for NLS and NNS. Table 5-10 indicates the percentage of teachers and headteachers who felt that positive working relationships among staff and positive expectations for pupils' success were present within their school.

Headteachers in particular agreed that, within schools, teachers worked together, built on one another's strengths and felt a responsibility for work in the school as a whole. Teachers generally agreed with these items, although a higher percentage was undecided than was true for headteachers. Most teachers and headteachers indicated that teachers in their school believe all pupils can succeed. Headteachers were asked about staff involvement in decision-making around the Strategies. A clear majority of headteachers (over 85%) reported, for both NLS and NNS, that staff were fully involved in the setting of Key Stage 2 targets and that there was wide participation among staff in decision-making around the Strategies.

Teachers were asked about their involvement with teachers from other schools to work on plans or programmes for literacy and numeracy. Very few teachers report working on literacy (16%) or numeracy (13%) activities with colleagues from other schools. Consultants were also asked about the working relationships among teachers in NLS and NNS. Their responses are summarised in Table 5-11.

A comparison of the responses of teachers, headteachers and consultants to the question about colleagues working together in schools shows some differences of opinion. Consultants saw less collaboration in schools than did teachers and headteachers. Consultants agree with teachers that there

Table 5-10: Organisational Capacity of Schools

Statement	Strategy	% Agree	
		Teachers	Headteachers
Colleagues build on one another's strengths in implementing the Strategy.	Literacy	72	86
	Numeracy	72	85
Colleagues work together to implement the new classroom practices recommended by the Strategy.	Literacy	81	92
	Numeracy	82	98
Teachers feel a sense of responsibility for work in the school as a whole, not just in their own classrooms.	Literacy	68	91
	Numeracy	67	90
Teachers in this school believe that all pupils can succeed.	Literacy	88	85
	Numeracy	86	86

Table 5.11: Consultants' Perceptions of Working Relationships of Teachers

Statement	Strategy	% Agree	% Undecided	% Disagree
Teachers work together to build on one another's strengths in implementing the Strategy.	Literacy	41	40	19
	Numeracy	38	41	21
Teachers work with teachers from other schools on literacy/mathematics plans or programmes.	Literacy	23	24	53
	Numeracy	6	18	76

was not much collaboration across schools, although such cross-school work was more commonly reported for literacy than for mathematics.

Information from the 10 schools we visited provides some insights into questions relating to teacher collaboration. Teachers usually report that they work together on literacy and mathematics, but what such "working together" actually involves may vary considerably across schools. From our observations and interviews, it seems that most teachers share resources for literacy and mathematics teaching and work together on weekly and medium term planning. Often this involves a division of labour rather than collective effort – for instance, two teachers with the same Year group sharing responsibility for weekly planning, with one doing literacy and the other numeracy. Much rarer is the kind of joint work that has the most potential for positively influencing teaching and learning. This more powerful collaboration requires teachers to jointly solve problems, make plans and gather feedback about outcomes. Such different interpretations of "working together" may explain some of the discrepancy between teacher and consultant views.

In smaller, rural settings especially, teachers sometimes expressed frustration at not having the ongoing opportunities they would like to have for discussion of issues that arise in the day-to-day use of the Strategies.

> *I'll often pull the numeracy consultant aside after she's done the input and say, "Right, this is an issue. Tell me about other schools, what are they doing?" And I sat down with her after one session and it was half past seven before we left. We just talked through issues because for such a long time I've not had a chance to bounce ideas off people.*
>
> (Numeracy co-ordinator)

In many schools, the issue was time.

> *I think it's just time constraints. It's not that people don't want to get together. It's just the pressures of what we're expected to do and when we're expected to do it.*
>
> (Year 6 teacher)

Leadership

Leadership is a critical factor in the implementation of NLS and NNS and, perhaps more importantly, in the long-term sustainability of a focused, evolving and effective approach to achieving high standards in literacy and numeracy. A transformational model of school leadership guided the development of survey questions about the contribution headteachers make to the implementation of the Strategies (Leithwood,

Jantzi & Steinbach, 1999). Transformational leadership emphasises the capacity of the headteacher to engage others as leaders rather than merely directing the efforts of staff (Hallinger & Hausman, 1993).

Table 5-12 shows the percentage of teachers and headteachers who indicated that school leaders were fostering improvements in literacy and mathematics in a variety of ways.

The majority of teachers and headteachers clearly felt that their school leaders were giving useful feedback, encouraging collaboration and new ideas for teaching, demonstrating high expectations for pupils, and modelling good professional practice in relation to the Strategies. Fewer teachers and headteachers felt that school leaders provided time for teachers to work together on literacy or mathematics activities.

Teachers were asked also for their views on leadership practices in their school in setting curriculum targets, in decision-making and in developing relationships with parents in regard to literacy and mathematics. Table 5-13 indicates the percentage of teachers who felt their school leaders were providing positive leadership in these areas.

The majority of teachers felt that their school leaders were providing assistance to teachers in setting literacy and mathematics curriculum targets. However, only a little more than half of the teachers felt their school leaders had created conditions that allowed for wide participation in decisions about literacy and mathematics, or helped develop good relationships with parents in regard to the Strategies.

Table 5-12: Teachers' and Headteachers' Perceptions of School Leadership Practices in Regard to Literacy and Numeracy

Statement	Strategy	% Agree	
		Teachers	Headteachers
Leaders in this school give useful feedback about literacy/mathematics teaching.	Literacy	73	85
	Numeracy	73	86
Leaders in this school encourage teachers to consider new ideas for teaching literacy/mathematics.	Literacy	76	92
	Numeracy	76	88
Leaders in this school demonstrate high expectations for work with pupils in literacy/mathematics.	Literacy	88	88
	Numeracy	87	88
Leaders in this school model a high level of professional practice in relation to the Strategy.	Literacy	77	61
	Numeracy	79	65
Leaders in this school encourage collaborative work in literacy/ mathematics teaching among staff.	Literacy	70	91
	Numeracy	64	96
Leaders in this school provide time for teachers to work together on literacy/ mathematics.	Literacy	40	52
	Numeracy	35	62

Table 5.13: Teachers' Perceptions of Strategy-Related Leadership Practices in Schools

Statement	Strategy	% Agree
Leaders in this school provide assistance in setting curriculum targets for literacy/mathematics teaching and learning.	Literacy	77
	Numeracy	74
Leaders in this school create conditions in the school that allow for wide participation in decisions about literacy/ mathematics.	Literacy	59
	Numeracy	55
Leaders in this school help develop good relationships with parents as part of the school's response to the Strategy.	Literacy	52
	Numeracy	56

These data suggest that most headteachers are doing some things right but are not setting the stage for future improvement as well as they might. Such improvement is likely to require time for staff to work together as well as close collaboration with parents. Relatively few teachers reported seeing these aspects of leadership in their schools. We found, however, in our site visits to schools, that many headteachers recognise the significance for pupils' learning of improving teachers' working conditions, and many were developing organisational structures to allow teachers time for planning, reflection and collaboration.

> *I can say, hand on heart, that this school is going forward, and we're trying to improve things for the teachers, because if you improve the conditions for the teachers, then you're bound to improve it for the children. That's one of the reasons why I do non-contact time because I think it's a gesture to the staff to say, "Look, I'll give you something back." And these teachers here work their socks off.*
>
> (Headteacher)

We observed in our second report that NLS and NNS have had a significant impact on the headteacher role. Many headteachers found they could use the Strategies as a catalyst for change, not only in the teaching of literacy and mathematics, but more generally in giving focus and direction to broader school improvement efforts.

In the schools we visited, we became aware of the vital contribution made by the headteacher to the school's progress. No school seemed able to make effective use of the Strategies without support and leadership from the headteacher. Where these were lacking, even though individual teachers might be using the literacy hour and the three-part mathematics lesson, there would be no shift in school-wide approaches to planning or assessment, for instance, and little encouragement for teachers to continue to build their skills and knowledge. In one such school, where little progress had been evident even after two or three years, a new headteacher re-introduced the Strategies, correcting misconceptions and moving people forward. The renewed focus on literacy and mathematics was one of the first steps in improving teaching and changing the culture of the school.

> *It was clear that staff were not on board yet. The Strategies weren't being delivered. The consultant came, we did an audit and developed a programme of support. We went*

back to the beginning – this is the literacy hour. We used videos and staff meetings. Teachers observed other teachers in the school and began to go to other schools too.

(Literacy co-ordinator)

Headteachers can be effective in a variety of ways. Many headteachers who are confident about what they are doing have shown great skill at using the Strategies flexibly, adapting as appropriate for their pupils. Others, who may have less expertise in literacy and mathematics practice, are equally effective because they recognise, support and give responsibility to teachers with outstanding levels of knowledge and skill. Effective headteachers know their teachers' capabilities and when a teacher has the expertise to make appropriate adaptations.

Vital as their role is, headteachers cannot provide all the leadership necessary for literacy and mathematics. With the focus on subject co-ordinators, the Strategies have provided support for the development of more broadly based shared leadership in schools. At the launch of the Strategies, literacy and numeracy co-ordinators, following initial training, had responsibility for dissemination within their schools. Many have been highly influential in supporting their colleagues – monitoring teaching, analysing assessment data, assisting with planning and so on. It is difficult, however, for co-ordinators to play a leading role without ongoing support from the headteacher, who can demonstrate such support in a variety of ways. In our schools, we heard, for instance, that regular release time is essential if co-ordinators are to contribute effectively to moving the Strategies forward. In one school that had experienced some difficulty moving forward, we heard about the kind of support co-ordinators were beginning to receive.

The co-ordinators haven't been able to do much monitoring and actually they haven't yet got the necessary skills. They've got a lot of skills but if they're going to go in and do observations of other members of staff they need to get more support in that. So a senior link inspector has been in doing some work on what a good lesson looks like. He's done some training on the role of the co-ordinator, and then he's been doing lesson observations and videos, and then we've all sat down and assessed. So we're getting there.

(Headteacher)

The NLS and NNS leadership recognised the importance of these school leadership roles by providing resources and professional development to specifically address management issues. Such sessions were intended to help headteachers and co-ordinators not only to think more broadly about how they could support literacy and mathematics, but also to develop the skills to do this successfully.

Using Data

In our prior reports, we talked about the importance of assessment literacy. Traditionally, few teachers have been trained to understand or use assessment data to improve teaching and learning. In Chapters 3 and 4 we briefly described the kind of support that has been provided by the Strategy leaders and by other agencies (e.g., Swaffield & Dudley, 2002).

During our last year of school visits, many teachers and headteachers talked about how they were using data to inform their decisions. This was an area in which we saw significant growth over the years of our study. In our early visits, people often felt inundated with reports and information from many sources and agencies outside the school.

Because of the association with the strong external accountability system, data about pupil learning and other aspects of school performance were often seen as threatening rather than useful.

Although the intent of much of the communication of data to schools was to assist them with planning and programming, schools rarely had the capacity or the time to make effective use of all this information. With support from various sources, however, schools have made considerable progress in understanding and using data. Support from LEA staff has been particularly helpful – advisers in LEAs often arrange for more user-friendly reports that do not require readers to have a high level of statistical sophistication and work with school staff in developing whole school assessment policies. Other sources of assistance in understanding data have included the NLS and NNS headteacher conferences and training for literacy and numeracy co-ordinators. We increasingly heard how schools were using data and reports from DfES to focus their discussions and planning.

> *We analysed our baseline data and broke it down into groups. We decided that there were a few of them we had to watch carefully, and some in the middle, and some high flyers. We look at that when we group children.*
>
> (Headteacher)

Within the Strategies, the framework or curriculum is organised around a set of learning objectives. Both in the surveys and in our school visits, teachers and headteachers talked about the value of the structure and the objectives. The organisation of content and the focus on a clear set of objectives may be the Strategies' most important contributions to school improvement in England; we heard many times how this shift had allowed a smoother progression for children moving through the Year groups.

In the last report, we identified the use of curriculum targets as a powerful organiser for planning and focusing teaching. Within NLS and NNS teachers have been encouraged to set curriculum targets as a way of differentiating teaching and learning for pupils. More recently, we have seen groups of colleagues working collaboratively to use pupil work and curriculum targets in their planning for individual children. Many headteachers and co-ordinators now collect pupil notebooks and use the curriculum targets to monitor learning, offering suggestions to teachers about approaches that they might consider using. Many teachers are now more aware of how curriculum and assessment match in their teaching.

> *When we analysed the pupils' work, we found that the children who haven't made progress were the ones who didn't bring their reading folders in. So they've become my main focus when we work on the carpet.*
>
> (Year 1 teacher)

> *There is constant day-by-day assessment. What we haven't done yet but are beginning to work on is recording that assessment in a quick and easy way so that it informs the next bit of planning.*
>
> (Headteacher)

> *Teachers think more carefully about the objectives and whether the learning has matched the objectives – as a result of the Strategies and the assessment procedures that have come about because of them.*
>
> (Deputy headteacher)

The focus on using data for planning is a recent phenomenon, proving to be a powerful tool in professional development and school improvement initiatives. Through the study and discussion of pupil work, teachers deepen their own understanding of the subject and of pupils' learning needs. Schools have made considerable progress and the potential for further learning for teachers is even greater.

We have already reported on the concern expressed by many teachers and headteachers around the high-stakes nature of the Key Stage 2 national assessments. It is undoubtedly the case that the pressure of numerical targets for pupil achievement drove the implementation in the early stages. However, the focus by central government on the external target setting process may well be distorting school efforts and leading to discouragement in many schools. We heard from many regional directors, LEA staff and headteachers that the emphasis on targets and tests is now counter-productive.

The target setting instrument is a blunt instrument and has been used in a few instances to hit people over the head.

(Regional director)

There is a distorting effect of Key Stage tests on the development of real mathematical understanding.

(Numeracy consultant)

Because of the concentration on league tables, some schools and teachers teach to the test instead of teaching the subject.

(Literacy consultant)

While many teachers and headteachers in the schools we visited expressed concern about the pressure on pupils and teachers to maximise performance on the Key Stage 2 tests, we heard less concern about Key Stage 1 testing. In some schools we were told that Year 2 pupils receive little or no preparation for the national tests and many Year 2 teachers told us they deliberately downplayed the importance of the test so as not to increase pupil anxiety during test sessions. Some schools had their Year 2 pupils revise old test papers but briefly and to a lesser extent than their Year 6 pupils did. If it is generally the case that there is less test preparation or "teaching to the test" in Key Stage 1, then those tests may be less subject to the distorting effects of high-stakes and highly publicised test results, as may be the case with

Table 5-14: Headteacher Views on Support for Implementation and Sustainability

Statement	Strategy	% Agree
We have the staff needed to implement the Strategy successfully in my school.	Literacy	84
	Numeracy	87
We have the resources (e.g., materials) needed to implement the Strategy successfully in my school.	Literacy	85
	Numeracy	87
The LEA provides adequate resources and assistance for Strategy implementation.	Literacy	63
	Numeracy	74
There is a sense of community in the LEA in relation to the Strategy and raising literacy/mathematics attainment.	Literacy	62
	Numeracy	68
This LEA has a plan for sustaining literacy/mathematics attainment over time.	Literacy	70
	Numeracy	76

the Key Stage 2 tests. The increase in Key Stage 1 results (Level 2b and above; see DfES, 2002a) is an encouraging sign that the Strategies are having a positive impact on pupil learning, even though the increase in scores is less dramatic than for Key Stage 2.

School Organisation and Resources

The headteachers' surveys contained items about the amount and nature of the support that was available for NLS and NNS. Table 5-14 shows the percentage of headteachers who believed that these supports were available in their school and LEA.

The majority of headteachers felt that there were adequate resources and staff to implement the Strategies and that the LEA had a plan for sustaining them, although a substantial minority were uncertain about support from the LEA. This raises a question about the number of LEAs that are ready to support and maintain the capacity of schools to implement and refine the Strategies over time. Regional directors, as reported in Chapter 4, raised similar concerns.

In addition to staffing, resources and LEA support, other factors influence the capacity of schools to engage in continuous improvement. In the survey, we asked teachers and headteachers about structures in the school and about relationships with parents as they related to the teaching of literacy and mathematics. Table 5-15 shows the percentage of teachers and headteachers who believed that these supportive structures and good relationships with parents were present in their school communities.

More headteachers than teachers thought that organisational structures and physical layout were conducive to implementation and to teachers working together, with only about one-half of the teachers and around two-thirds of the headteachers indicating that the school organisation was conducive. Even fewer agreed that the physical layout made it easy to talk with each other about literacy and numeracy.

Headteachers and teachers were also asked about parents' support for the Strategies. Around three-quarters of headteachers indicated good relationships with parents and support from them for the school's efforts in literacy and numeracy, while about one-half of teachers agreed. Headteachers were also

Table 5-15: Teachers' and Headteachers' Perceptions of the Local Situation

Statement	Strategy	% Agree	
		Teachers	Headteachers
Structures (e.g., timetables, meeting times) in this school give teachers opportunities to work with colleagues on literacy/ mathematics teaching and learning.	Literacy	49	76
	Numeracy	46	76
The physical layout of the school makes it easy for teachers to talk with each other about literacy/mathematics teaching and learning.	Literacy	43	62
	Numeracy	39	55
Parents are supportive of the school's efforts in literacy/mathematics.	Literacy	53	71
	Numeracy	53	68

asked whether they believed parents were spending more time helping their children with literacy/mathematics than they had before the Strategies were implemented: Nearly one-half of headteachers were undecided; over one-third felt parents were not; and only about one-fifth felt they were. This suggests that while many school staff feel that parents are generally supportive of the Strategies, many do not feel that parents are more engaged in their children's learning. In the schools that we visited, efforts to engage and inform parents were ongoing, with varying levels of success.

> *Parents come to assemblies and I think they're quite surprised at the sorts of things that their children are learning and the quality of work they're doing and the high expectations. They come to parents' evenings and things, so they've learned more about what their children are doing, but I don't see parents being very involved beyond that.*
>
> (Year 1 teacher)

Organisational Capacity to Support the Strategies

In our repeated visits to our ten schools, we found them at varying points in their development of organisational capacity. In a few schools, serving quite different pupil populations, most of the indicators of a professional learning community were present – teachers were fully engaged in ongoing collaborative work to foster teaching, learning and overall school improvement. On the other hand, a few schools were still in the beginning stages of this development and were more in need of external support.

> *There's a little bit of teachers observing other teachers. It's something the headteacher and I would like to develop more. If it's not in place, people are a little bit scared of it sometimes, but it's started now with our NQT seeing other lessons, so it's something we have talked about for the others.*
>
> (Deputy headteacher)

The following descriptions, based on the analysis of data from our school site visits, summarise what we believe are the key factors that distinguish schools with well developed organisational capacity from those that are still highly reliant on strong external support.

High organisational capacity is characterised by the following:

- Effective leadership and/or an effective school management team is present.
- Effective teachers actively support newer or less effective teachers (mentoring).
- Subject co-ordinators are expert teachers in their subject.
- Teachers are encouraged to adapt Strategies to improve teaching and learning.
- They are encouraged to use professional judgements.
- They are expected to monitor the effects of adaptations.
- There is a culture of self-reflection: monitoring and assessment are used for improving teaching and learning.
- Teaching staff are relatively stable and committed to improvement.

Low organisational capacity may be characterised by any of the following:

- Ineffective leadership or no school management team with little support given to subject co-ordinators. Whole school policies do not exist or are not acted upon consistently.
- Key posts (literacy or numeracy co-ordinators) are vacant or filled by non-experts.
- Recruitment issues mitigate against school improvement. High staff turnover prevents continuity in school improvement initiatives.
- Key Stage or yearly assessment data are used primarily to describe or categorise pupil achievement.
- School leaders may be ambivalent, believing, for instance, that the Strategies work well for less skilled teachers but are too prescriptive or stifle creativity in good teachers.
- School leaders may be sceptical, believing, for instance, that the Strategies have de-skilled good teachers or taken away teachers' professional judgement.

These descriptors have been framed in terms of the implementation of the Strategies as that was the focus in our school visits, although we believe similar factors would apply in other school improvement initiatives. These are not the only factors contributing to the organisational capacity of schools, but rather were the key factors emerging from our site visits. While a few schools that we visited could be categorised generally as having either high or low organisational capacity, most were at various stages of development in terms of these descriptors. Recruitment issues, for instance, could be the largest major challenge in the organisational capacity of a school that had high levels in terms of the other factors.

> *The recruitment and retention for the last two years has been so bad that if it hadn't improved I was leaving. Because, although we agree with the government's initiatives, to put them in place without teachers is a nightmare.*
> (Headteacher)

Looking Ahead

Portraying Complexity: The Strategies in Schools

The "view from the schools" as reported in this chapter is, in general, a positive one for the early stages of a major reform. The data from surveys and site visits show the complexity of implementing such a wide-reaching reform, one intended to directly affect what goes on in classrooms across the country. Our respondents present divergent views about how NLS and NNS have affected schools, teaching practice and pupil achievement.

Differential impact across schools

For most schools, the increased focus and time on literacy and mathematics have been beneficial. The common structure, with common language and a set of clear learning objectives has improved teaching to some extent. But, beyond this, the Strategies were implemented differently in different schools; the impact varied dramatically, partly because of the calibre of leadership provided, not only by the headteacher, but also by others on the leadership team.

For some schools in difficulty, NLS and NNS were used as powerful levers for change. This might be in tandem with the appointment of a new headteacher, who used the Strategies to

drive change, or even with a long-serving headteacher, who, with LEA support, used NLS and NNS and the strong external accountability to push teachers to take notice and begin to shift their practice. NLS and NNS have had less impact on other struggling schools. Some schools have been caught up with issues of pupil behaviour or teacher turnover and have been unable to focus sufficiently on the whole school planning that is required. Some find it difficult to sustain the whole school initiatives that have been established because they are constantly inducting newly qualified teachers or teachers from abroad who lack training in the Strategies. Others have left decisions about implementation to individual teachers.

For teachers and headteachers in schools that "got it," NLS and NNS made a big difference. Once teachers became familiar with the planning and grasped the general principles of the Strategies, they were able to take advantage of the opportunities the Strategies have provided. These schools also show a good understanding of how to use data generated internally or coming from outside agencies and tests, to monitor and improve. But, in other schools, to lesser or greater degrees, the power of NLS and NNS remains largely untapped.

Variation in teacher response

One of the striking findings emerging from our data is the variation across teachers in terms of their motivation and capacity in implementing the Strategies. In this section we offer a possible explanation for these differences. We base this argument on the analysis of data from our site visits to schools and their LEAs; it reflects our observations and information from interviews with teachers, headteachers, deputy headteachers, literacy and numeracy co-ordinators, and other school team leaders. Since all ten of our site schools were using the Strategies to deliver literacy and mathematics throughout the school, our explanations of teacher effectiveness and motivation are in terms of NLS and NNS as programme initiatives.

Teachers and the Strategies: Capacity and Motivation

In the Motivation and Capacity sections of this chapter, we summarised the characteristics of teacher effectiveness and sources of teacher motivation around the use of the Strategies as they have emerged from our school visits. In our observations and interviews, we saw a pattern emerging that highlighted the potential relationship between teachers' capacity to teach with the Strategies and their motivation to use them. We observed some highly effective teachers, expert in their subject area and understanding of the underlying principles of the Strategies, who demonstrated a finely tuned ability to adjust their teaching based on their continuous assessment of pupil needs. These teachers were enthusiastic in their support of the Strategies, viewing NLS and NNS as flexible frameworks to be shaped appropriately to suit their classroom context. These teachers also tended to have leadership roles in their schools in relation to the Strategies. Not all Strategy supporters displayed such an understanding of underlying principles or excellent teaching practice; enthusiasm and support do not necessarily mean that teachers have got the knowledge and skill they will need to fully implement each Strategy. It is also the case that many effective teachers have legitimate concerns around the use of the Strategies and their impact on pupils. As we pointed out in our first report, there is value in listening to dissenting voices. It is important that Strategy leaders look beneath the enthusiasm or lack

of it and continue to be open to feedback from the field.

Individual capacity interacts strongly with organisational capacity. A school with one or two individuals who are effective teachers and enthusiastic supporters of the Strategies is at an advantage. These teachers can, through discussion and modelling, expand the awareness and expertise of colleagues. If the school culture supports collaborative work on literacy and mathematics issues, there is an increased probability that the capacity and motivation of other teachers will rise. Such conditions generate a positive spiral of school improvement. Without such a catalyst, such improvement is more difficult.

Emerging Issues

Although it is clear that NLS and NNS have had an enormous impact on schools, a number of unintended consequences and challenges have emerged as well. We have been particularly struck by a seeming paradox. LEA consultants are convinced that the Strategies are having a positive impact on pupils, while expressing concern about teachers not having the capacity to implement them effectively. Teachers and headteachers, on the other hand, believe that they have the necessary capacity but many are not convinced that the Strategies are having a major impact on pupil learning. We have identified some potential reasons for this disparity but the paradox remains as a challenge for future professional development and communication efforts.

Questions for the Future

Although some of these issues will reappear in Chapter 7, we have highlighted several questions that have emerged from consideration of the data from schools.

- *What explains the disparity between teachers, headteachers and consultants in their perceptions of the level of teachers' knowledge and skills in teaching literacy and mathematics?* In this chapter we have briefly explored some of the possible reasons for this disparity but this is a question that needs further investigation. To what extent is this a function of teachers "not knowing what they don't know"? Do consultants have expectations that are not appropriate? Might consultants, sharply focused on NLS and NNS, not necessarily acknowledge good teaching that fits uneasily with Strategy-fostered practices?
- *What counts as "the Strategies"?* For some, NLS and NNS include the 2002 national targets and the associated target-setting process in LEAs and in schools. For others, the targets are an important feature of the context but not a component of the Strategies themselves. Some see intervention programmes as part of the Strategies; others think they are additional initiatives. Some think the Strategies mean just the structure of the literacy hour or the mathematics lesson and not the associated school-level management that promotes effective implementation. At one level, such different perceptions are not important – what matters is whether sound practices are adopted and teaching improves. However, such variations in understanding about what is actually part of the Strategies cause confusion and can perpetuate shallow interpretations of the changes that are required.
- *What level of skill and understanding do teachers and headteachers actually need if literacy and mathematics are to be taught effectively in primary schools?* Perhaps just as important is the question of how best to ensure that teachers continue to learn

as they practise – how to foster the conditions in schools that encourage self-monitoring and adaptation.

- *What about schools in especially challenging circumstances, particularly those schools that have had little success to date in improving pupils' literacy and mathematics skills?* In many cases, factors such as poor management, ineffective teaching practice, a difficult pupil population or a lack of community support contribute to low achievement levels. Improvements in teaching alone cannot be expected to compensate for a combination of obstacles to success. In the face of such challenges it will be hard for schools and teachers to develop the capacity needed for what may appear to be an overwhelming task. A pilot programme in a number of LEAs is currently focused on such struggling schools.

Our data and analysis highlight a dilemma concerning the priorities for future training and professional development. If teachers are not knowledgeable about the subjects they teach or the pedagogy that enhances and accelerates learning, they are likely to adapt the Strategies in inappropriate and ineffective ways. On the other hand, when teachers feel, for whatever reason, that they must focus on rigid compliance with the format of the Strategies, there is the possibility that they will lose confidence in their professional judgement and become less effective in their teaching. They may also, as noted by several regional directors and LEA leaders, develop undue dependence on guidance and resources from outside, losing not only the confidence but also the capacity to develop their own professional competence.

In summary, the view from the schools reveals both successes and challenges. The Strategies have made an enormous difference in many schools, providing the direction and coherence that has led to substantial improvements in teaching and learning. A continued focus on capacity building for individuals and for school organisations will extend such benefits to an even larger number of schools.

Chapter 6: Costing and Value for Money

Highlights

An analysis of value for money was undertaken as an attempt to assess the relationship between the resources used and outcomes produced from the Strategies. This analysis does not meet the technical definition of a cost-effectiveness or cost-benefit analysis for several reasons, including the absence of an alternative programme to which the Strategies can be compared. The Strategies, however, have clear and limited goals, a relatively well-defined way of reaching those goals and a clear way of measuring success, thus making it possible to consider the value for money of the initiatives.

Assessing value for NLS and NNS

- **Value for money in relation to the Strategies was determined by considering the increase in the proportion of students reaching level 4 on Key Stage 2 national test results since 1998 as a ratio of the increase in expenditure on literacy and mathematics in primary schools.**

- **The increases in achievement since 1998 (the increased percentages of pupils reaching Level 4 and above on Key Stage 2 national tests) are determined to be 15% for literacy and 23% for mathematics.**

- **Resources being used to achieve improvements in literacy and mathematics fall into three categories: new resources allocated to the Strategies; existing resources reallocated to literacy and mathematics from other activities; and existing ongoing resources to support literacy and mathematics. Resources may be allocated by central government, local authorities, schools, students and families.**

- **The new resources allocated to the Strategies by central government were approximately £140 million per year or 4.4% of the total estimated expenditure for primary literacy and mathematics. We estimate that LEAs and schools provided a small amount of new money (perhaps £10 million) and a larger amount in existing resources reallocated to the Strategies from other activities**

(perhaps £20 million). We estimate that the cost of all staff time and other activities supporting Literacy and Numeracy amounts to another £330 million. We have no basis for estimating the value of time contributed by pupils and parents, though it was clearly substantial.

- **The expenditure by central government of an additional 4.4% per year has so far produced gains in the percentage of pupils reaching the required standard at the end of Key Stage 2 of 15-23%, an increase in the target outcome that is substantially greater than the additional investment. This analysis suggests good value for money.**

- **This conclusion must be tempered by the lack of any standard of comparison for value and the apparent declining impact of the resources over the four years.**

Broadening the analysis of benefits

- **A review of international evidence on longer-term returns to improved literacy and numeracy suggests that gains in literacy and mathematics skills among children, as well as reductions in the gap in achievement levels will yield long-term economic benefits considerably greater than the cost of the Strategies. Our review of the impact of the Strategies on pupil learning suggests that in both these regards NLS and NNS have been successful interventions.**

Background

In its 1998 invitation to tender for this evaluation of the Strategies, the then-DfEE specifically asked for an assessment of the cost-effectiveness or cost-benefit of the Strategies. The rationale for this request is laid out in several documents (most notably *Appraisal and Evaluation in Central Government*, Treasury Department, 1997), as part of an effort in all programme areas of the British government to use evidence on costs and benefits of public policy in making budget allocations to programmes and departments.

From the outset of our project, for reasons described below, we knew that we would not be able to do work on NLS and NNS that would meet a technical definition of cost-effectiveness or cost-benefit. We therefore describe our study as an analysis of value for money, which is not a term that has a particular definition associated with it in the literature but refers here to an attempt to assess the relationship between the resources used and outcomes produced from the Strategies. (See Appendix C, Part 1 for this material.)

A supplement to our first report (Levin, 1999) outlined in detail the conceptual basis for this work. Our second report (Earl et al., 2001) provided an initial analysis of costs and gains in outcomes in the Strategies. In this final report we review briefly our approach to the issue, outline the evidence we have gathered, and present our conclusions.

Issues in Analysing Costs and Outcomes

In the economics literature the terms *cost-benefit* and *cost-effectiveness* refer to specific kinds of analyses. Cost-benefit is "the evaluation of alternatives according to their costs and benefits when each is measured in monetary terms," while cost-effectiveness is

"the evaluation of alternatives according to both their costs and their effects with regard to producing some outcome" (H. Levin & McEwan, 2001, pp. 10-11). These definitions raise important issues. It is one thing to attempt to assess whether a particular policy initiative produced satisfactory outcomes in relation to its costs. It is quite another thing to determine if that initiative was the best way to use resources to improve a given outcome. The latter is considerably more difficult, since it involves comparing a given use of resources with other plausible alternatives.

Behind the seemingly straightforward request to determine the costs and benefits of an educational programme lie a host of issues that are not easy to resolve. Although education is a very large enterprise, work on cost-effectiveness or cost-benefit remains scarce. In 1983 Henry Levin published what is usually regarded as the classic work on cost-effectiveness in education (H. Levin, 1983). A second edition was recently published (Levin & McEwan, 2001) noting that in the nearly 20 years between the two books there has been little empirical work or conceptual development in this field (H. Levin, personal communication, August, 1999; see also Hummel-Rossi & Ashdown, 2001). In their new volume Levin and McEwan made determined efforts to list as many empirical studies as they could, but found very few studies from the last decade, and many of those listed are in a few specific areas such as early childhood development and computer-assisted learning. The Treasury Green Paper on cost-benefit analysis provides no citations of studies from the field of education.

The intractable nature of the problems is evident in the heated debate over a number of resource issues in education. For example, analysts do not agree on whether increasing spending for schooling is related to educational outcomes (Burtless, 1996; Greenwald, Hedges & Laine, 1996; Hanushek, 1996; Vignoles et al., 2000). A similar debate has occurred in regard to class size, with differences in opinion about the impact of such reductions and about whether class size reductions are the best way to improve outcomes for a given increment of resources. (For an overview of this debate, see *Educational Evaluation and Policy Analysis*, 21(2), Summer, 1999)

These examples show how difficult it is to arrive at any consensus on the impact of resources on educational outcomes. The problems arise because there is disagreement about what the costs of a programme are, what the outcomes are, and about how resources might actually work to bring about these outcomes. As Kelley (1999) puts it,

> *Research evidence to date suggests that the valued outcomes are contested, technologies are often inadequate, the system lacks capacity, and the design of incentive structures is tricky. ... The desired outcome – significant improvement in student achievement – may be unattainable using available tools, resources, and system capacity.*
>
> (p. 643)

Because the debate over costs and benefits is so difficult, discussion in education often focuses on quantities of inputs as indicators of quality. For example, spending more time on a subject is considered to be a good thing regardless of evidence on outcomes.

We have discussed earlier in this report the problems involved in trying to link outcomes to particular educational programmes or interventions. Such work should involve a careful specification of proposed relationships

and requires high-quality data on programmes and outcomes, all of which are often either unavailable or a matter of controversy.
In addition to these generic problems of programme evaluation, a value-for-money analysis raises some difficult issues around determining costs.

The official costs of a programme may not reflect the real total resources. Sometimes those involved allocate other resources to a programme. Often there are other sources of support for the goals of a programme, such as the efforts of families. In addition to funds spent by schools, other public bodies allocate funds to support children with, presumably, positive impacts on school outcomes (Picus, McCroskey & Robillard, 2001).

In many cases the resources devoted to a programme or outcome – for example additional time allocated by teachers or parents – are difficult to measure in monetary terms. Although it is generally thought that an analysis must take into account all resources used, whether paid for or not, in practice this is rarely feasible (Hummel-Rossi & Ashdown, 2001). In other cases price does not provide a good measure of value. The costs of two staff people may be equivalent but one may be much more effective than the other. Costing models seldom capture differences in effectiveness or quality of people or services.

Even when agreement can be reached on what should count as costs, the necessary data may not be available. Very few schools or school systems track the allocation of resources at any level beyond the aggregate. A main problem is that so little is known about the most important resource in schools, teacher time. Because pupils are educated in groups, by a number of adults, it is very difficult to determine which resources in schools actually flow to which pupils.

From the standpoint of a funder of an initiative, internal reallocation of resources or better use of existing resources is a positive outcome, not a cost. From the standpoint of the system as a whole, however, the full cost of an outcome can only be known if the costing includes all the elements, whether or not designated in the plan, and whether or not it is easy to attach a monetary value to them.

Both costs and benefits can accrue to different actors. Typically analyses focus on costs and benefits to clients, but there can also be costs and benefits to service providers (staff), funders (government) and the wider society. Indeed, one party's costs can be another's benefit. For example, if staff work harder for the same pay, they carry part of the cost (usually unacknowledged) of whatever benefits accrue to programme participants or funders. In practice these issues are very difficult to sort out clearly.

What Constitutes Good Value for Money?

An additional problem in doing value for money analysis is that we do not have a good basis for determining what would be a satisfying result. What level of return should be expected from additional funding for a programme such as NLS and NNS? Should we expect 10% more money to produce 10% better outcomes, or more than that, or less than that? The lack of empirical work in this field makes it hard to interpret the results of any particular analysis.

As noted earlier, the decision about where to invest resources should depend not only on the results of a given policy, but on a comparison of that policy to other

alternatives. If, for example, investment in early childhood development is more effective in improving literacy than changes in school programmes, it may not be particularly useful to try to assess the relative merits of various changes in schooling. To put this issue in the context of the Strategies, one might want to ask whether the best way to produce gains in literacy and numeracy is to invest in changes in schooling, as opposed to, for instance, using the funds to improve early childhood development or nutrition or family income (Rothstein, 2000).

There is not currently an adequate base of empirical evidence to answer the question of what would be "good value" in either of the above senses. As noted earlier, the literature on cost-benefit analysis in education is very limited and the work that has been done tends to be hedged with qualifications for the reasons already outlined. Even when some estimates of impact are made, given all the uncertainties already described in relation to determining costs and outcomes, one would want to be very cautious about comparing estimates from quite different initiatives made under quite different assumptions.

We do know that the link between additional resources and improved outcomes is an uncertain one. Many large-scale innovations, even with substantial resourcing, appear to have had little or no lasting impact on pupil outcomes (Leithwood, Jantzi & Mascall, in press). The history of education policy is littered with programmes announced with great fanfare and abandoned a few years later.

However an alternative view, which also has research support (e.g., Odden & Busch, 1998; Kelley, 1999; Earl & Lee, 1998) is that small investments can have disproportionate effects if used wisely in that they can spark changes in the larger system and thus improve efficiency. Some school improvement programmes do claim significant benefits from a relatively modest investment of additional resources – for example Reading Recovery or Success For All.

It is worth noting here that there is relatively little variation in the way that schools use resources. Almost all schools assign the bulk of their resources to hiring teachers, and assign teachers to groups of pupils according to very similar principles. The lack of variation in resource allocation makes it very hard to show meaningful differences in outcomes resulting from resources. There are, however, some new models emerging of how school resources could be allocated with the goal of improving outcomes with the same level of resources (e.g., Odden & Busch, 1998; Kelley, 1999).

The DfES has commissioned a number of studies in the last few years that include a requirement to assess costs and benefits, or value for money. Such studies should gradually lead to a stronger theoretical and empirical basis for this important work. However, a reading of several of the existing reports, and discussions with a number of the principal researchers indicate that the difficulties already described have made it impossible to take any of these analyses beyond a rather general and speculative level (e.g., West, Noden, Kleinman & Whitehead, 2000).

Our report also draws on a growing literature analysing costs and benefits in other areas of social policy. The most important examples are in health and in early childhood development. A full review of this work is beyond the scope of our study. However a couple of recent examples illustrate some of the possibilities.

Levin (2001b) looked at evidence on the cost-effectiveness of alternative approaches to the education of children with special needs and concluded that existing evidence, while by no means conclusive, suggested that inclusive and preventive approaches were more cost-effective than most forms of segregated special education.

A recent study by the RAND corporation in the United States (Karoly et al., 2001) reviewed evidence on the effectiveness of various interventions for young children. Their work provides helpful methodological guidance as well as reinforcing cautions about this kind of work. They also suggest that some intervention programmes appear to produce benefits for governments and for participants that are substantially greater than their costs.

These studies suggest that it is possible to draw conclusions with a reasonable degree of support from empirical evidence. As in all areas of science and social science, multiple studies are required for greater knowledge and certainty.

Assessing Value for NLS and NNS

In assessing value for money in the Literacy and Numeracy Strategies some of the problems noted are diminished. The Strategies have a clear and limited goal, a relatively well-defined way of reaching that goal, and a clear way of measuring success. These conditions make it much easier to determine the resources that are involved and to provide an analysis that could assist policy-makers to make a judgement about the value of the Strategies.

Our evaluation of value for money has focused primarily on assessing the improvement in the targeted outcome measure in relation to the additional resources provided. Our conclusion is framed as follows: an increase of x% in expenditure has led to a y% change in the target measure of achievement. Put another way, the analysis can be represented as:

$$\text{Value} = \frac{\text{Gains in achievement}}{\text{Previous achievement}} \text{ as a ratio of } \frac{\text{Additional resources for literacy and numeracy}}{\text{Previous resources for literacy and numeracy}}$$

Note that this method produces a correlation between spending and outcomes but does not allow us to conclude that the gains were a result of the programme.

After presenting the results of this analysis, we also provide another approach using a much broader view of outcomes from the Strategies.

Determining the Outcome Side of the Formula

Three of the four terms in the value for money formula are relatively easy to define. The achievement outcomes for literacy and numeracy have been defined by the Government as the proportion of pupils achieving the appropriate standard on the national test at the end of Key Stage 2. These results are in Chapter 3. For purposes of this analysis, the 1998 outcomes are subtracted from the 2002 outcomes, yielding an increase of 10 in literacy and 14 in numeracy. These differences are then divided by the starting score to yield a percentage gain, which is shown in Table 6-1.

Table 6-1: Percentage Gain in Literacy and Numeracy from 1998 to 2002

	1998% Reaching Level 4	2002 % Reaching Level 4	Change	Change as % of starting point
Literacy	65	75	+10	15%
Numeracy	59	73	+14	23%

It should also be noted that the gains in achievement were broadly shared and had the result of reducing disparities among pupils, schools and local authorities. The number of pupils performing at the lower levels has fallen substantially. The gap between the best and poorest achieving schools has also been reduced. Reductions in disparities are a positive outcome of the Strategies and are especially important to track as overall outcomes increase, to ensure that the gains are broadly based. The results of PISA 2001 (OECD, 2001) indicate that some countries are able to achieve not only high levels of achievement, but relatively low variation in achievement levels among regions and sub-populations. This push for equity should in our view continue to be an important and explicit goal of the Strategies.

Determining the Level of Previous Investment

The calculation of previous resources for primary literacy and mathematics is also relatively easy to make with some simple assumptions. The total cost of primary education in Britain in 2000-2001 was £8 billion (DfES, 2001 Department Report, Table 4.3). English and mathematics are typically at least 40% of the school day, and teacher time allocations are an excellent proxy for total resource allocations because teacher salaries are by far the biggest single component of education spending. It is reasonable to assume that costs other than teaching (support staff, administration, supplies) could be allocated on approximately the same basis, so that one could estimate the ongoing cost of providing literacy and mathematics education in primary schools in 2000-2001 at about 40% of total spending, or £3.2 billion. This figure could easily be out by £200 million or more, but even a change of that size would not substantially alter the conclusions.

Note that the value of pupil and parent time and effort is not included in the formula, even though there is good reason to think (Coleman, 1998; National Literacy Trust, 2001) that these are vital factors in shaping achievement. We know that pupil effort and family support are important, yet we rarely include them either in our models of improvement or in our analysis of costs and outcomes.

Determining Additional Investment

A more difficult determination is what to include in the category of additional and reallocated resources for primary literacy and numeracy. We place the resources being used to achieve the Strategies' goals into three categories:

- New resources allocated specifically to the Strategies.
- Existing resources reallocated to primary literacy and numeracy from other functions or activities.
- Existing resources that were previously and continue to be used to support primary literacy and numeracy.

Table 6-2: Defining the Resources for NLS and NNS

Level	New resources	Reallocated resources	Ongoing resources
National	• Standards Fund – Literacy, Numeracy – other programmes • Running costs for DfES for NLS and NNS	• Other programmes whose funding can be used to support the Strategies	• Ongoing work of DfES related to literacy and numeracy
Central agencies (OFSTED, QCA, TTA)	• OFSTED – special inspections • QCA – additional tests and support materials • TTA – additional work to support the Strategies		• Ongoing work of agencies related to literacy and numeracy
LEAs	• Matching funds to Literacy and Numeracy bids • Other additional staff or operating costs	• Staff time and support services reallocated to literacy and mathematics • Resources from other related programmes used to support NLS and NNS	• Ongoing operating costs related to literacy and numeracy • LEA overheads
Schools	• Additional staffing, professional development and materials costs	• Resources from other related programmes used to support NLS and NNS	• Ongoing operating costs related to literacy and mathematics (staff time, materials, etc.)
Family and community	• Purchases of books and materials	• Time diverted from other activities to support literacy and mathematics learning	• Parents' and pupils' ongoing efforts re school learning

These categories are applied to the Strategies at four levels – national (DfES and other central agencies), LEA, school and family (pupils and parents). At each level, resources can be new, reallocated or ongoing.

The question is which of these are to be counted as "additional" resources. Two possible approaches can be taken. From the Government's point of view, a reasonable argument could be made that only the *additional resources provided by central government* ought to be included. If the efforts of DfES are able to lever additional investments from other sources, those additional investments can be seen as part of the success of the project, and should not be treated as an additional cost.

Another possibility is to include all the *additional resources provided for primary literacy and numeracy not only by government but also by*

LEAs and schools. The argument would be that the additional central government resources by themselves did not create the new results, so a true assessment of value for money requires taking into account all the relevant resources.

Neither of these approaches would assess the *total cost* of producing the new outcomes. To do that it would be necessary to include not only the additional spending by DfES, but also reallocated and ongoing spending by LEAs, schools and others.

Table 6-2 outlines the elements in the matrix of resource types and system levels.

Additional Investment by Central Government
Based on 2000-2001 data we estimate the additional cost to central government of the Strategies to be in the area of about £140 million per year, an amount that has been relatively constant over the past 3 years. This amount is made up of:

- The Standards Fund allocations to Literacy and Numeracy (in some cases 50% of the published figures and in other cases 100%), totalling £115 million.
- The running costs of DfES related to the Strategies of about £3 million.
- The costs of infrastructure for NLS and NNS, provided by the Centre for British Teachers (CfBT), at about £8 million.
- Additional funds provided to central agencies (TTA, Ofsted, QCA) in direct support of the Strategies, estimated at less than £2 million.
- The provision of about £100 million in one-time money in the first two years of the Strategies for the purchase of materials, primarily for Literacy. We annualise these amounts by treating them as capital costs amortised over 8 years, which adds another £12 million per year to the total.

The total amount of £140 million is about 4.4 % of the total estimated expenditure for primary literacy (including English) and mathematics of £3.2 billion. Because overall expenditure on primary schooling has risen substantially since 1998, the expenditure on the Strategies is now a smaller share of the total and thus, if outcomes are unchanged, represents better value.

Total Additional Investment in the Strategies
Estimating the additional investment in literacy and numeracy from all sources is difficult for several reasons.

First, it is not clear what central government resources beyond the direct support already described should be considered as supporting Literacy and Numeracy. A number of other programmes under the Standards Fund have clear links to improved literacy and numeracy, and other activities supported by the Department, such as the training of headteachers, could also be seen as linked to improved outcomes in literacy and numeracy. As discussed in Chapter 2, many national initiatives in England – indeed, almost everything connected with primary education – could be argued to contribute to literacy and numeracy outcomes. In many of these areas there have been additional investments over the last few years, such as efforts to reduce class sizes in primary schools. Additional general funding to schools could also be regarded as being at least partly an investment in literacy and numeracy insofar as it might be used to employ more staff, provide more support services, purchase more materials, and so on. The government has

increased its contribution to education costs significantly over the last few years.

Second, it is not clear what "new" resources LEAs and schools have actually invested in the Strategies. As shown in our 2001 report, one cannot disentangle LEA and school resources for the Strategies from resources used for other related initiatives or for general school purposes. LEAs and schools are trying to cope with a wide range of pressures and initiatives, and they do not necessarily distinguish where one starts and another stops. The net effect is that at all levels some considerable expenditure, while not specifically targeted to the Strategies, does in fact support the purposes of the Strategies.

Our estimate is that most of the funds provided for the Strategies by LEAs were available to schools in any case and so are not additional in the same sense as new budget allocations specifically for the Strategies. The same situation would apply in schools. Investments from school budgets would appear to be in the area of a few thousand pounds per year for a typical primary school, most of which is being redirected from other uses.

The question of how to treat staff time is another complication in determining the cost of the Strategies. There are good grounds, described in our 2001 report, for believing that the amount of professional staff time spent on literacy and numeracy has increased. Even a small increase in hours by teachers – say 2 hours per week – would imply that an additional £300 million or so in the form of teacher time had been shifted into literacy and numeracy from other activities. Alternatively, if literacy and numeracy were now accounting for 50% of total primary school effort instead of 40%, the additional cost would be another £800 million.

Based on all of the above, our rough estimate as to the total additional cost of the Strategies is as indicated in Table 6-3.

Using this latter figure gives a very different impression of value for money, in that the achievement gains are now much smaller in relation to the additional cost. The same cautions mentioned earlier also apply here. More important in this regard are the lack of other analyses to use in comparison and the points made earlier about our lack of

Table 6-3: Estimate of Additional Cost of the Strategies

Source	Amount
Central government additional spending as outlined earlier	£140 million
New spending by LEAs – estimated at 20% of their matching contribution requirement	£10 million
Resources (including staff time) reallocated by LEAs from sources not previously used for literacy and numeracy – 40% of LEA contribution	£20 million
Resources (primarily staff time) reallocated by schools from other activities to literacy and numeracy – 5% of total primary school spending	£330 million
Total estimated additional cost	£500 million, or 16% of the total estimated cost of literacy and numeracy

understanding about the kinds of outcomes that might result from additional spending.

Total Cost of the Strategies

Finally, it would be relevant to try to estimate the total cost of the Strategies by all parties, including not only new resources and resources re-allocated to literacy and numeracy, but also ongoing resources which had been, and continue to be, used to support literacy and numeracy by government, central agencies, LEAs, schools and families.

The vast bulk of the monetary resources for literacy and numeracy are in the ongoing work of the school. It would be reasonable to argue, therefore, that the full cost of producing improved literacy and numeracy involves not only the additional expenditures by government, but also all the expenditures of schools and LEAs – that is, the full £3.2 billion.

Our data also suggest, as already described, that teachers are putting more effort into literacy and numeracy, not only in terms of the quantity but also the quality of their work. Since teachers are not paid by the hour, an increase in hours of work would, in standard economic terms, result in an increase in productivity, in that more work is being accomplished without more money being spent. However while there is no cost to government for this additional work, there clearly is a cost to teachers and the question arises as to whether such extra effort is sustainable in the longer term.

In all these analyses, as already noted, the efforts of pupils and parents are not accounted for. There is good reason to believe that the work of pupils and parents is critical to good outcomes. The scope of our research did not allow us to do the very substantial additional work that would have been required to make a reasonable estimate on this point, but it is important for future reference.

Size of the Investment

Regardless of which resource counting option one prefers, it is important to think about the overall size of the investment in NLS and NNS in relation to its goals. The Strategies have been given quite substantial levels of resourcing in comparison to most education reform programmes. Hiring 600 additional consultants is a significant investment. However when considered in light of the task of changing teaching and learning in 20,000 primary schools the allocations seem much more modest. Some schools, especially those whose outcomes were already good, have received relatively modest levels of support.

LEAs and schools also varied in their starting point. Some LEAs needed to improve performance by as much as 25% (e.g., from 50% meeting the standard to a target of 75%) to reach their target while for others the requirement is less than 10% (e.g., from 77% to 85%). Some LEAs already had advisers in language or mathematics who could easily move into supporting the Strategies while others did not. Some LEAs had a stronger history of support for curriculum and teaching than others. Some had related initiatives already in place while others did not.

From the point of view of an individual school, the additional funds from the Standards Fund are small in relation to ongoing operating costs. A typical LEA might receive from DfES between £1,500 and £3,000 per school for each of the Strategies not including extra funding for special booster classes or summer schools. Half of this would come from the LEA from existing or other resources. Even with the very optimistic

assumption that all the additional money directly reached schools, a school might be getting additional resources valued at about £3,000 – £4,000 mostly in the form of consultant time and supply teacher coverage. Yet a typical primary school with 250-300 pupils would already have a total budget of around £700,000 not including consultant time, so the incremental resources available for a school to use would be quite small – well under 1%.

It is instructive to compare the resources for the Strategies with some of the other main DfES initiatives based on 2001 figures. The commitment to reduce class sizes in primary schools is funded at about £155 million in operating and £20 million in capital, and is the largest single initiative in the Standards Fund. The various components of the Excellence in Cities Programme receive more than £160 million. General support for school improvement is about £110 million. The DfES funds for NLS and NNS are significant but within the range of several other initiatives, some of which have more modest goals.

Uses of the Resources

How resources are used is as important as what resources are provided. In the case of NLS and NNS, a substantial portion of the resources has been used for longer-term capacity building. Another substantial portion has been used for short-term support to pupils. We have no basis for judging the relative impact of these two approaches on the outcomes achieved so far, especially since capacity building may take years to show its full benefits.

It is important to note that the greatest share of resources has gone to schools and pupils with the greatest need to improve achievement, something that is often very difficult to achieve in resource allocation processes.

Finally, it remains a question as to whether the right choice was made in focusing the bulk of the resources on trying to change classroom practices. It might have been a better strategy to invest a greater share of resources in non-classroom initiatives such as family literacy and parent involvement, or even in pre-school programmes to improve children's readiness to learn.

Despite these cautions, in our view the Strategies have generally used a more promising approach to allocating resources than other large-scale education reforms of which we are aware.

Broadening the Analysis of Benefits

As noted earlier, literacy and numeracy are important largely because of their presumed longer-term impacts. The government's rationale for investing in literacy and mathematics is that improvements in skills in young children are thought to lead to better long-term outcomes both for individuals and the country as a whole. Accordingly, a value-for-money analysis should look at the evidence on the longer-term outcomes of improved literacy and mathematics.

Most research on the longer-term impact of education uses years of education or the achievement of particular credentials such as secondary school completion as measures. However in the last few years growing interest in literacy and numeracy has generated a body of research looking at whether these skills have an impact on outcomes independent of or additional to years

of education. Large-scale studies such as the International Adult Literacy Survey (IALS) have made important new data available on this question. The IALS data show that the relationship between formal education and literacy skills is quite variable across countries, and is imperfect in every country (OECD/Statistics Canada, 1997). In other words, the impact of literacy and numeracy is not fully captured in an analysis based only on outcomes such as years of education.

Our team reviewed available research on the impact of literacy and numeracy. Studies from Britain, Canada and the United States, as well as the international reports of IALS, were included. The 15 studies we reviewed used a variety of data sources and methods. Main outcomes evaluated included labour market status (employment) and various measures of earnings. The research studies consulted are listed separately in Appendix C, Part 2 of this report. A fuller discussion can be found in Levin (2001c).

We conclude that literacy and numeracy both appear to have a significant independent effect on employment and earnings, *over and above the impact of years of education or educational credentials*. The estimates vary across studies, no doubt in part due to differences in measures. However some examples give the flavour of the research as a whole. In the United Kingdom, Machin, McIntosh, Vignoles and Viitanen (2001) report that individuals with better literacy and numeracy skills at age 16 have higher earnings and higher rates of employment. In Canada, Green and Riddell (2001) found that a 10% increase in literacy raises annual earnings by 5-6%. In the United States, Murnane, Willett and Levy (1995) concluded that basic cognitive skills had a large impact on the wages of high school graduates, and that this impact grew over time. The researchers use a wide variety of outcomes as well as different measures of literacy and numeracy. Studies also vary in the controls and models employed. Hence the body of work is currently not sufficient to be able to draw conclusions about specific skills, sub-populations or outcomes. For example, some studies show better returns to numeracy and others to literacy. A number of studies, but not all, show stronger results for women. More research will be needed to be able to draw any firm conclusions on these matters. As well, very little research has yet examined non-economic outcomes such as family stability, parenting, criminality, health status or citizenship although all of these have been shown to be associated to some degree with improved levels of education.

A caution in drawing inferences from this body of work is that the returns to individuals are not necessarily mirrored by returns at a societal level. Everyone might attain a higher literacy or education level without any aggregate improvement in economic outcomes for the society. For example, in Canada as well as some other countries during the 1980s and 1990s, overall educational attainment rose substantially while average individual and family earnings stagnated. Thus a substantial increase in overall investment in education did not yield an increase in overall incomes, although those with more education have continued to do better than those with less. We have just as much evidence of people whose skills are not used at work as of people who lack the required skills (Livingstone, 1999).

Despite this caution, it is reasonable to conclude that improvements in literacy and numeracy among children are likely to yield long-term economic returns, and there is some evidence that reducing gaps in these

skills between the most and least successful will in itself yield benefits (Green & Preston, in press). The monetary value of these benefits could be considerable, even if the effects for any given individual are small. If improved literacy and numeracy contribute even in a small way to higher educational attainment, to higher levels of employment and to higher earnings, the economic benefits would be very large, easily surpassing the costs of the Strategies. While any estimates on this count must be regarded as speculative, an example will show the scale of potential benefits.

There are approximately 5 million children in primary schools in England. Current labour force participation in the UK is about 75% (UK National Statistics, March to May 2002) and annual income is in the area of £20,000 (derived from National Statistics, 2001). If NLS and NNS improved average education levels and thus earnings on average by 1% over the lives of the children currently in schools this would mean an annual benefit to those persons of £750 million, or more than five times the annual expenditure by government for the Strategies. If 20% of this amount were paid in additional taxes it would totally offset the additional expenditures by central government for NLS and NNS. Moreover, these figures do not include additional benefits such as better health, less use of social programmes, improved parenting skills, and lower levels of criminal behaviour, all of which are associated with better educational outcomes (Vernez, Krop & Rydell, 1999; Osberg, 1998) and all of which could yield savings to governments as well as benefits to individuals.

Higher levels of education are also associated with important benefits whose economic impacts are harder to measure, such as greater levels of civic cohesion, increased volunteerism, greater propensity to vote and higher levels of public trust (Dayton-Johnson, 2001). These findings are consistent across countries (OECD, 1997).

As another example, a recent UK study (Dearden, Reed & Van Reenen, 2000) attempted to estimate the returns to improving literacy and numeracy for people already of working age. This study used a number of assumptions to estimate wage impacts for individuals as well as returns to government from increased tax revenues and reduced programme costs if all workers could move to a particular level of numeracy and literacy. The returns for adults would, of course, be more immediate than returns to improved literacy for children. Their conclusion was as follows:

> *Our model predicts that the combination of increased government tax receipts and reduced benefit spending should lead to a gain from improving basic skills of around £400 per person whose skills are increased in the current tax year. This figure is similar both for literacy and for numeracy skill improvements. Taking the long-run effects of the policy into account, we estimate that the discounted present value of a policy to increase basic skills would be around £4,500 per person for both numeracy and literacy.*
>
> (p. 1)

These results also suggest long-term benefits that are substantially greater than the costs of the Strategies.

Finally, it is worth noting that the benefits of successful educational interventions appear to be strongest for those pupils who are currently least successful (Karoly et al., 1998). As noted, NLS and NNS have generated evidence of significant reductions in

achievement gaps. So, while the numbers cited here are hypothetical, there are good grounds for believing that to the extent that NLS and NNS have improved literacy and numeracy skills they will have generated very significant long-term benefits for the country.

Conclusions

NLS and NNS represent an approach to school change that is still not common among governments (Levin, 2001a). The investment in building school capacity, and especially in changing teaching practice, is an exciting and ambitious undertaking. The results to date suggest that it is possible to improve outcomes with a sustained and focused approach of this kind. More money does seem to be needed, but the amounts may be relatively modest.

The expenditure by central government of an additional 4.4% per year has so far produced gains in the proportion of pupils reaching the required standard at the end of Key Stage 2 of 15-23%, depending on the subject and the period of time. An increase in the target outcome that is significantly greater than the additional investment suggests good value for money. This is especially so since the literature on education change indicates that even large innovations often fail to produce significant and lasting effects.

This optimistic conclusion must be tempered by several important cautions. First, there is no real body of evidence against which to compare this return on investment, and certainly none involving a project with the scale and scope of NLS and NNS. We have no basis for knowing what a good result is in terms of additional outcome for additional spending.

Second, within the four years of implementation the picture has been changing. The well-known Hawthorne Effect would lead one to expect an increase in achievement in the first year or two of almost any new initiative. Linn (2000) has shown that testing programmes generally tend to show increased results over the years as the system gets used to the test, but that such increases do not necessarily represent genuine increases in learning. Moreover, test results in England were increasing prior to the implementation of the Strategies, and a number of other initiatives, such as school inspections, class size reductions or curricular changes might also have had an impact on these results. Finally, spending on education has increased significantly in the last two years, but test results have remained relatively static. This combination has the paradoxical result of improving the overall value for money but also raising questions about whether the Strategies may have encountered a ceiling effect so that resources are no longer having very much additional impact on outcomes.

On the other hand, a broader and longer-term view of the benefits to individuals and society that are likely to arise from improved literacy and numeracy suggest that these could be quite large. Indeed, they might far exceed the short-term considerations that have been the focus of this study and of the Strategies themselves. In the final result it will be these long-term impacts that really matter, not only as to the success of the Strategies, but as to their importance in the first place. On these grounds we believe that the results give good reason for optimism.

Chapter 7: Successes, Challenges and Moving Forward

Introduction

The OISE/UT team has spent more than four years immersed in the NLS and NNS external evaluation – watching and learning. We have been impressed by the many positive features of this ambitious reform effort, one that combines a clear vision and central steering with resource allocation for training and capacity building in schools. We have been particularly impressed with the flexibility of the Strategy leadership – the vision and the underlying principles have remained constant as the Strategies have adapted in response to evidence about their effectiveness and problems that have arisen. In this final chapter, we draw some conclusions about the development and sustainability of the Strategies and highlight what the Strategies have contributed to the knowledge base for large-scale education reform.

Throughout the preceding chapters, we have reviewed evidence from a range of sources, examined primarily through the lens of our framework for viewing such large-scale reform. We have examined the view from the centre, from the "bridge" and from schools, showing how these perspectives reveal some of the issues and dilemmas to be expected in such a complex national initiative. In this last chapter we are shifting more explicitly to the critical friend role. In addition to looking at the implications of the data gathered in our interviews, observations and surveys, we draw on the international literature and our own experience with education reform in many other jurisdictions.

We summarise key NLS and NNS successes and challenges in this concluding chapter. Somewhat paradoxically, the challenges are often embedded in the successes. While the gains to date have been impressive, there is still considerable ground to be covered if significant and lasting improvement is the goal. Finally, we raise questions with respect to the next phase of reform, acknowledging the complexity of the issues and the difficulty of the dilemmas faced by the government.

Successes

NLS and NNS were launched with considerable publicity and fanfare – the Strategies were hard to ignore. Although media attention subsided and the momentum slackened somewhat, NLS and NNS have maintained the priority of literacy and

mathematics in primary schools. The Strategies have had an impressive degree of success, especially given the magnitude of the change envisaged; in many ways they have succeeded in the goal of transforming the nature of the country's primary schools.

Influence on Teaching and Learning

The Strategies have moved literacy and mathematics to top priority in classrooms across the country. Our data indicate that the majority of teachers are in agreement with the directions taken by the Strategies and see themselves as implementing the changes in their schools. Almost all schools have received some training for both NLS and NNS and teachers believe that their own learning has been positively affected. Initial teacher training has also seen an increased emphasis on teaching of literacy and mathematics and the use of the Strategies.

There is little doubt that English primary schools have changed considerably since the introduction and implementation of the Strategies. Up to the early or mid 1990s, schools were characterised by a predominance of individualised planning and teaching, with pace largely determined by pupil readiness as perceived by teachers. In mathematics, many teachers used commercial schemes of work, which children worked through at their own rate, often with little direct teacher intervention. The big shifts as a result of the Strategies[13] have been greater use of whole class teaching, greater attention to the pace of lessons, and planning based on objectives rather than activities. Most teachers are using the format and structure of the literacy hour and the three-part daily mathematics lesson, although most have modified these as they gained confidence. These elements of the Strategies, along with dedicated time for literacy and mathematics, are well established; lessons are becoming increasingly fluid and teachers more confident. Recent HMI reports evaluating NLS and NNS (Ofsted, 2001a; 2001b) state that the quality of teaching has improved over the time the HMI team has been observing their sample schools, although the reports indicate that areas of weakness remain in both literacy and mathematics teaching.

Regional directors, LEA staff and headteachers all report that teaching has improved, and can point to examples of teaching that they see as outstanding. During school visits, we observed many teachers who demonstrated awareness of the different levels of understanding of each of their pupils, establishing curriculum targets for individuals while attending to the whole class and ensuring learning for all. Such teaching is consistent with the implications for teaching of cognitive orientations toward learning, indicating that children's learning can be enhanced when teachers connect new learning to what children already know (Donovan, Bransford, & Pellegrino, 1999). As evidenced earlier in this report, however, such outstanding teaching is not the norm. Three and four years into implementation, in spite of tremendous growth, the scope of the capacity building task is revealed as being much larger than had been anticipated.

Throughout the four years of our evaluation, our data consistently revealed differences in the response of teachers to NLS and NNS,

13 Most observers agree that some of these changes predated the formal launch of the Strategies. The National Literacy and Numeracy Projects developed the core of the Strategy frameworks and approaches, and some schools anticipated the Strategies by beginning to use some elements prior to their official launches.

with NNS being seen as having a more pronounced and positive impact on teaching. Several possible reasons have been suggested for this difference, for instance, that NNS benefited from coming a year later and "learning from Literacy's mistakes." Our data suggest, however, that prior to the Strategies, primary teachers had much greater confidence about teaching literacy than they had about teaching mathematics. Most teachers felt comfortable with their methods of teaching reading and writing – and believed such methods to be effective. For many teachers, methods encouraged by NLS might be quite different from their previous practices. Such teachers expressed reluctance about losing features of their work that they enjoyed and felt were valuable, such as listening to individual children read. When such practices are difficult to sustain, teachers may feel that "something has been lost." Such a feeling of loss did not emerge from teachers commenting on the Numeracy Strategy. NNS has provided a framework and way of thinking about teaching mathematics that has been more warmly welcomed, partly because teachers saw NNS as an improvement over their previous teaching methods and were less reluctant to abandon their previous practice in favour of a new approach.

It is more difficult to draw conclusions about the effect of the Strategies on pupil learning than on teaching practice. Attainment on the government's key measures rose significantly even though the 2002 targets were not achieved. In 1997, 63% of children reached the expected level in English, a figure that increased to 75% in 2002. While still short of the target of 80%, this is a substantial gain. In mathematics, 73% of children reached the expected level, short of the target of 75%, but a considerable increase from the 61% of 1997. Furthermore, and perhaps even more significantly, the gap between low achieving and high achieving LEAs (for both Key Stage 1 and Key Stage 2) has narrowed – something that Strategy leaders quite rightly see as an impressive accomplishment. If this improvement in the results for low-attaining schools continues, it would be a significant indicator of the success of the Strategies.

An emphasis on failure to reach the 2002 targets may obscure the substantial level of success that has been achieved. Regional directors and consultants are convinced, on the basis of test data and classroom observation, that pupil learning has improved significantly with the use of the Strategies. Our data indicate that many headteachers and teachers also find that the Strategies have had a positive impact on aspects of pupil learning; a much smaller percentage believe that the Strategies have not. Many LEA and school staff report, in addition, that the Strategies have helped to motivate some pupils, thereby leading to future improvements in learning. Our overall assessment is that increases in pupil learning have been considerable.

Flexibility Within a Constant Vision

One of the most striking features of the implementation of NLS and NNS is the way in which Strategy leaders have modified elements of the Strategies (or messages about these elements) in response to information about progress and challenges. The overall vision, set out through the frameworks, has remained constant, but specific priorities and emphases have shifted somewhat in response to data about pupil strengths and weaknesses and to feedback from schools and LEAs. For example, when national assessment data showed that pupils had difficulty with problem solving in mathematics, NNS developed materials and training to address the need. Similarly, NLS focused on

improving children's writing in response to disappointing scores in the writing component of Key Stage 2 English tests. When classroom observations indicated that many teachers had difficulty making effective use of plenary sessions at the end of literacy and mathematics lessons, the Strategies produced videos and print resources to give teachers models to follow. The NLS and NNS communication webs now extend widely and deeply into the education system, allowing Strategy leaders to anticipate problems and to design support materials and professional development aimed at emerging needs.

Value for Money

Many unknown factors complicate the task of estimating the value for money of the Strategies (or any other large-scale reform, for that matter). We outlined the complexities of such analyses at the outset of our study. The cautious conclusion to this point, however, is that a relatively small additional central expenditure (in the region of 4.4% of the overall cost of primary schooling) has levered significant shifts in the use of ongoing resources in schools, such as teacher time and attention. Test results, defined as the main public measure of success, have improved considerably although the 2002 targets were not met. On balance, we have concluded that the Strategies represent good value for money.

Establishing a National Infrastructure

When the Strategies began, those leading the initiative had an image of a training and support network that would eventually take NLS and NNS into every classroom in the country. After four years, with the active engagement of LEAs, the objective has been largely achieved, with the creation and continued development of what we have termed the bridge, linking the centre and the schools. The national and regional directors provide leadership throughout the country, supporting and monitoring the work of LEAs and developing new initiatives to meet emerging issues. They also oversee the development of national training and curriculum support materials to address particular needs, with the National Literacy and Numeracy Centre (now the National Centre for School Standards) orchestrating the production and distribution of materials.

The national infrastructure has been flexible enough to accommodate government decisions and to meet changing local needs. At the initial launch of NLS and NNS, the challenge was to get the message out to all LEAs and schools, which necessarily suggested a top-down approach. Once the first phase was over, communication became more interactive, with regional directors facilitating the sharing of good practice from successful LEAs, schools and teacher training institutions, as well as continuing to provide steering and leadership. Increasingly, the expertise is located at the local level, with consultants, co-ordinators, leading mathematics teachers and expert literacy teachers providing the support that teachers need, when they need it. In schools, both headteachers and subject co-ordinators are managing the Strategies (and other school improvement initiatives) with increasing sophistication. In higher education, tutors demonstrate growing support for the approaches advocated by NLS and NNS.

This flexible national infrastructure, with increasingly strong interactive links at regional and local levels, provides a strong foundation for continuing the development of teaching and learning in primary schools, LEAs and teacher training institutions.

High Pressure and High Support

In contrast to policy mantras that stress the advantage of "starting small" it now seems that governments are better advised to "think big, start big," particularly in the early stages of a large-scale reform agenda. Governments need to push accountability (pressure), and provide incentives and foster capacity building (support) to have a good chance of achieving and sustaining improvements.

NLS and NNS, being among the first education initiatives of the current government, heralded the beginning of a renewed focus on raising standards. Pressure (or accountability) was intense, focused through such initiatives as a revised national curriculum, target setting, and monitoring of NLS and NNS implementation through regular Ofsted inspections. Although the Strategies were not statutory, schools that were not improving or maintaining high standards would have to explain why they were not following the Strategies. This phase of reform can be thought of as *informed prescription* (Barber, 2002). Our data suggest that schools were inclined to acquiesce to, and approve of, such direction, especially for teaching mathematics. Headteachers and teachers often expressed relief that they had been given the NLS and NNS frameworks and curriculum materials to better cope with the pressure from national tests, Ofsted inspections, imposed targets and high workloads.

In addition to this continuing pressure, the Strategies provided strong support, with substantial new money for schools and LEAs. High quality resources and training opportunities provided through the national infrastructure have expanded and diversified over time in response to feedback from teachers and LEA personnel. The sheer magnitude and quality of resources and opportunities for capacity building have been impressive, with virtually all teachers and headteachers having had some exposure to these materials and training.

The strong emphasis on support through capacity building distinguishes NLS and NNS from many other reform initiatives and would be expected to lead to greater sustainability. The differentiation of pressure and support to schools and LEAs is an effective tool for managing resources and for supporting schools and LEAs with the greatest needs. The Strategies provide the best example we know of a high pressure/high support approach to large-scale education reform.

Attention to Evidence

Availability and use of data was characterised as one of the challenges facing the Strategies in our second report. Now, however, such attention to relevant evidence can be categorised as one of the successes (Ashby & Sainsbury, 2001). We have been impressed at the change over the last two years in the confidence and competence displayed in LEAs and schools. Given the importance of data and evidence in educational decision-making, people need to be sufficiently *data literate* to interpret and use such information appropriately (Earl, 1995). Achieving such data literacy, especially on a broad scale, is not an easy task; LEAs and schools across England have made considerable progress toward the goal, although both groups show considerable variability in their level of expertise. Progress has been stimulated by the DfES provision of data in more accessible forms and by considerable training and coaching. The government has promoted "evidence-informed policy and practices" (Levačić & Glatter, 2001) and has served as a model for others by commissioning ongoing research

and evaluation studies such as this one, with the results made publicly available.

Our data indicate that schools are becoming more comfortable with the use of reports from DfES, Ofsted, QCA and others. Many LEAs have also collected data of various kinds to support their educational development plans, gathering information through surveys and monitoring, then using this to improve programme planning and teaching, as well as to plan for resource allocation. The challenge for LEAs is to disseminate such information more widely, ensuring that such understanding is not restricted to a small group of experts.

During the latter phases of our data collection, in contrast to visits early in our study, we frequently found schools comfortably and competently using test data and other indicators of pupil, school and LEA performance as an important tool in decision-making. Rather than viewing data as threatening ("shaming and blaming"), headteachers and teachers are increasingly seeing such information as helpful in raising questions and problems. The next step is to increase the proportion of classroom teachers who are comfortable with using data in this way, a challenge that can be met only by further training and in-school support.

Assessment Literacy

Throughout our study we have stressed the importance of teachers developing assessment literacy, in particular the capacity to examine pupil work and performance data and use this information to guide pupil learning. We have seen progress since our last report in teachers' use of formative assessment in classrooms. Although they continue to be aware of the numerical targets, curriculum targets – specifying what pupils need to learn next – are now more salient for many teachers. NLS and NNS have emphasised how headteachers and teachers could collect and interpret data that had meaning for them (e.g., curriculum targets, monitoring lessons), while training programmes include explicit attention to formative assessment and feedback. LEA link advisers often work with school staff to assist them in developing school-wide assessment policies. Considerable evidence suggests that standards will be raised when teachers use formative assessment to collect data about pupils' progress as part of their routine classroom practice (Black & Wiliam, 1998), a practice we increasingly observed in our school visits. Beyond its short-term value in improving pupil learning, engaging in such careful consideration of pupil work is a powerful professional development and school improvement tool in itself, as recognised by NLS and NNS in resources and training they have provided.

The increased use of curriculum targets is linked to the rise in assessment literacy. Over the past four years, the Strategies have moved the conversation at the school level from numerical to curricular targets, shifting the emphasis to teaching and learning. Teachers are focusing on what their pupils need to learn next and how best to help them reach the appropriate curriculum target. These increasing levels of assessment literacy will also boost local capacity at both school and LEA levels, strengthening sustainability in the years ahead.

Leadership

The leadership at all levels of the Strategies has proven to be a notable strength, as demonstrated throughout our data gathering. Although new people have moved into virtually all of the key leadership positions at the centre, and each has a distinctive

approach, the quality of the leadership has continued. In fact, as the Strategies have evolved, the leadership focus has evolved with them. In the early days, the emphasis was on establishing a vision and gaining commitment from a wide range of stakeholders. Leaders moved quickly into launching the Strategies, establishing targets and creating a central team of regional directors who developed resources and mounted a massive professional development programme. Over time, as the emphasis has shifted to sustainability, national and regional directors have moved into a more interactive relationship with the LEAs and the initial teacher training institutions they serve. A striking feature of the central leadership in NLS and NNS has been its flexibility and responsiveness to feedback from many quarters, without defensiveness or rancour.

Leadership in LEAs and schools, as would be expected, is variable and cannot be characterised with a single description. Regional directors, aware of the range of LEAs, support our observations in claiming "we now have a lot of very strong LEA teams – strategy managers and consultants" and see "a remarkable change in how proactive LEAs have become in a support and challenge role." Shortages of knowledgeable staff can limit LEA effectiveness – line managers may not always have the high level of managerial skill or subject expertise that is desirable. As well, as noted by regional directors, in some LEAs senior leaders are not providing the support and vision that will be needed to sustain improvement over time.

Leadership development at the school level has also been a focus, with considerable attention to building the leadership and management capacity of headteachers and literacy and numeracy co-ordinators, as both managers and models of good practice. Connections with the work of the National College for School Leadership have brought greater coherence to these efforts. Although there is concern about attracting sufficient candidates for headteaching positions, some of our informants suggest that from their experience, the pool may be smaller but it is of high quality.

> *People who are becoming heads now are better prepared and better supported than heads ever have been. There is a much better sense of what leadership is. ... I know it is a cliché but there is a better culture of shared leadership in schools. The role of subject leader particularly has developed.*
>
> (Strategy leader)

Challenges

A number of issues have emerged from our consideration of the evidence available to the end of 2002. Although we are drawing attention to these issues in relation to NLS and NNS, it is important to note they also contribute to the body of evidence about large-scale reform. Because the literature about reform is largely based on instances of more limited scope and smaller scale, the examples of NLS and NNS are particularly valuable as sources of new knowledge. We hope these insights can spark discussion about how to secure the long-term effectiveness of NLS and NNS.

Teacher Capacity

There is no doubt that teacher capacity has increased through use of the structure and resources provided by NLS and NNS. The literacy hour and the three-part daily mathematics lesson are ubiquitous (although not all components are always present). HMI reports that the quality of teaching is going

up. However, evidence is mixed about the extent to which teaching has actually changed beyond the adoption of the structure and format of the literacy hour and daily mathematics lesson. If NLS and NNS are going to reap the kinds of returns that Strategy leaders believe are possible, the great majority of teachers will need to be highly skilled and knowledgeable about teaching literacy and mathematics to their pupils. Studies of effective teachers of numeracy (Askew et al., 1997) and literacy (Medwell, Wray, Poulson & Fox, 1998; Wray & Medwell, 2002) found that the most effective teachers had a "connectionist" orientation to teaching, getting children to think and talk about what they were doing and to make connections between different areas and aspects of the subjects. For teachers to work effectively with children's pre-existing understandings and teach subjects in some depth requires sound knowledge of the content to be taught (Cohen & Hill, 2001). Achieving such mastery on a wide scale is a tall order indeed.

Several UK research studies examined changes in teaching over the last few years. Research during the early phases of NLS implementation suggested that even after two years, some teachers had considerable difficulty with teaching to objectives (Fisher, 2002; Fisher & Lewis, 2002), a fundamental component of both Strategies and one seen by our interviewees as having great potential for increasing pupil learning. Similarly, another study (Mroz, Smith, & Hardman, 2000) found "a notable absence of the higher order questioning and teacher-led discussion which is said [for instance, by Reynolds, (1998)] to characterise interactive whole class teaching." Many teachers appear to be better at the technical aspects of implementing both Strategies than they are at accurately diagnosing and responding to individual differences in pupil understanding. Research by the Kings College team funded by the Leverhulme Foundation has also identified questions related to levels of teacher understanding in mathematics (e.g., Askew, 2001). Other research has pointed to some of the dilemmas faced by teachers in implementing elements of NLS (English, Hargreaves, & Hislam, 2002).

The Strategies have done an impressive job of providing teaching resources and good quality training to a large number of teachers – thousands of them across the country. Given the sheer scope of the challenge, however, many of these teachers have not yet had the kind of extended learning experiences they would need to develop a thorough understanding of the Strategies or of the best ways to teach literacy and mathematics to their pupils.

> *Training teachers to implement instructional methods when they don't truly understand the underlying rationale is futile. Without understanding, teachers do not have the knowledge to adapt an instructional strategy to address various student needs. Without understanding, teachers become cogs in a machine, with neither the responsibility nor the rewards of being in control. Without understanding, teachers can become inflexible and dogmatic, unable to integrate new research-supported practices into existing approaches.*
>
> (Willows, 2002, p. 1)

A significant finding in our data is the difference between the views of teachers and those of consultants. Consultants (along with regional directors and other observers) believe that many teachers do not yet have the knowledge, skill and understanding they need to make and sustain improvement in teaching literacy and mathematics. Teachers, however,

do not share that view – the great majority believe they do have the necessary skill and knowledge. The discrepancy presents a challenge for policy makers and LEAs.

In Chapter 5, we explored some of the reasons for the discrepancy and suggested how teachers varied in capacity and motivation. Our findings suggest not only that specific skills or knowledge are required for expertise in teaching literacy and mathematics, but also that many teachers "don't know what they don't know." For some teachers, change is limited by their own lack of awareness of inadequacies in subject knowledge or in pedagogical understanding. Regional directors and LEA consultants, reinforcing our own findings, reported that gaps in teacher and headteacher understanding and knowledge were limiting the potential impact of NLS and NNS but that many of those in schools were unaware of such gaps.

This paradox creates a complicated dilemma for policy makers and central administrators. As we suggested in our second report, the initial gains in achievement scores were probably a function of relatively straightforward (albeit effective) changes in teaching practice. The subsequent stall in Key Stage 2 results would seem to support such a conclusion. It will not be easy to increase the proportion of teachers who are expert – teachers who are able to use the Strategies as a foundation for making powerful connections for all their pupils. Making the task more challenging is the belief on the part of so many teachers that the job is done – that they have the knowledge they need and have fully implemented the Strategies. If teacher learning does not become a routine feature of ongoing practice, the principles behind the Strategies may be diluted or distorted by well-intentioned people who are unaware of the gaps in their understanding. Scepticism, whether or not it is justified, felt by some teachers about the impact of the Strategies, particularly NLS, on pupil learning adds an even greater degree of difficulty to the capacity building task.

Embedding Accountability and Capacity Building

In the early implementation of the Strategies, pressure for compliance with central directives served to engage schools, getting them started with literacy and mathematics changes. However, continuing this kind of accountability for too long may result in a culture of dependence, reducing professional autonomy. When the focus of the government has moved on (as it inevitably will), the responsibility for maintaining a focus on literacy and mathematics, together with a determination to strive for high standards and quality teaching, will need to be embedded in the culture of schools and LEAs.

> *Teachers don't come out of training and know all that they need to know about teaching. Teaching is continuously about learning. And ultimately, the best place to learn is in your own school.*
>
> (Regional director)

Sustainability will ultimately depend on everyone in the education system having:

> *the recognition that we never know it all and can always learn, develop and improve.*
>
> (Regional director)

Developing this kind of organisational capacity requires more than professional development that concentrates on teaching and pupil assessment, critical as that is.

> *Professional development should ... connect teachers to external expertise while also respecting teachers' discretion and creativity. These experiences should be sustained and continuous, rather than short-term and episodic.*
>
> (Newmann, King and Youngs, 2000)

Even with the Strategies' strong focus on building capacity, the magnitude of the task has meant that many teachers have had relatively little opportunity for this sustained professional development and consolidation. The challenge now is finding ways to embed accountability and capacity building in the educational culture. Without such a shift, there is a risk that the momentum that the Strategies have created will be lost. A number of the regional directors spoke of such concerns:

> *There will always be a role for us in terms of supporting the ongoing development, whilst obviously we want self-developing, self-sustaining schools. Schools can become very insular places and LEAs have a key role in being able to have a broad picture of all their schools and enabling them to share.*
>
> (Numeracy regional director)

Central Direction and Local Initiative

Researchers (e.g., Berman & McLaughlin, 1977; Huberman & Miles, 1984) have long understood the problems associated with sustaining any initiative after the initial push from policy makers. More recently, Datnow and Stringfield (2000) drew attention to the importance of the local infrastructure in maintaining reforms, while Fullan (2000) concluded that negative school cultures, unstable districts and fluctuating policies all take their toll on the fragile foothold of reforms once the central driving force recedes.

The Literacy and Numeracy Strategies were centrally conceived and directed. Given the ambitious scope of the intended changes, such an approach made sense. The central direction and support appropriate to the early stages of large-scale reform need to be modified at later stages, where the challenge is to maintain, deepen and broaden the early gains. The Strategies have captured the interest and energy of the majority of headteachers and teachers, although initially many were just grateful at having been given effective tools for dealing with the target setting and the national assessments.

The Strategies were often viewed initially as a one-size-fits-all approach to teaching imposed on a widely diverse range of schools, communities and pupil populations. The Strategy leadership responded to such concerns by emphasising greater flexibility – LEAs and schools have been encouraged to focus on the goal of increasing pupil attainment, with the Strategies providing the means to that goal. LEAs and schools now have more autonomy in how they utilise Standards Fund money. The challenge is to continue to push toward conditions where LEAs, schools and teachers have the capacity to adapt, solve problems and continue to refine their practice, while remaining true to the sound pedagogical principles that underlie the Strategies. Efforts at building professional communities within and across schools, encouraged by SEU and the Strategies, need to be pushed further. All pedagogical stakeholders need to participate in shaping pedagogical knowledge (Dadds, 2001). For long-term sustainability, LEAs, schools and various professional organisations will need to have a stronger leadership role. Headteachers and teachers need to be deeply engaged in innovation, but the process should be integral

to the culture of the school, rather than imposed from outside.

We have referred in earlier reports to the metaphor of organisations having "brains" (Morgan, 1986). In inflexible and hierarchical organisations, the brains are located at the top, thinking on behalf of those in the trenches. But the brain of an agile and responsive organisation is distributed broadly amongst its members, all of whom have a commitment to achieving the organisation's goals the best way they know how. The distributed brains (in LEAs and schools) need scope and autonomy but also the capacity to carry out their responsibilities well. They need to be clear about objectives and have the skill and knowledge to achieve them. As articulated by a regional director:

> *We need to maintain the fidelity to the key principles about teaching and learning but at the same time allow and encourage the ownership that says, "I'm going to move in this way because it suits my children in my cohort." The professional development now needs to take teachers to where they have the knowledge and can use their knowledge to work with their children.*
>
> (Regional director)

Manageability for LEAs and Schools

Although we are in favour of shifting more responsibility to LEAs and schools, increasing pressure and initiative overload for teachers and headteachers remains an issue. Such concerns, not unique to England, are gaining attention in many other countries, as ambitious large-scale reform inevitably has an impact, both positive and negative, on teachers and their work lives. Although there is considerable support for the focus of the Literacy and Numeracy Strategies, our data confirm that they have added to teacher workload, and evidence from a range of sources suggests that teachers often feel overwhelmed. Recent resource materials from the Strategies – unit plans and planning exemplification materials – are intended to ease the planning load while giving teachers concrete examples of a series of lessons that address a group of objectives. Although some individuals raised the possibility of such materials from the centre fostering undue dependency, early indications are that the plans are having a positive effect on teaching.

The pace of reform as experienced in schools is still intense. Virtually all consultants agreed that schools need time to reflect and consolidate before any further central initiatives are introduced. Headteachers reported an almost ceaseless series of new or reworked initiatives raining down from above, making it difficult for schools to maintain their focus on a few key priorities, while the promised reduction in bureaucracy is not yet noticeable. The Strategy directorates, through work with headteachers and literacy and mathematics co-ordinators, have tried to strengthen the capacity for managing NLS and NNS at the school level, although the extent of the impact is not yet clear.

Current government efforts (introduced in autumn 2002) to address workload issues may ease the burden over the next few years through the introduction of new staffing models and different ways of using resources. For instance, the government proposes guaranteed time for planning lessons and for assessing pupils' work, as well as the provision of adequate leadership time for headteachers and other members of the school leadership group. Our data confirm that manageability needs to be tackled both from the top, through policy means, and from the bottom, through helping schools deal effectively with

external pressures and initiatives. Serious efforts to help schools deal with overload and stress must continue to be a high priority. Failure to improve the situation could have serious consequences, not only for current teachers in terms of daily performance and their willingness to remain in the profession, but also for the attractiveness of teaching as a profession.

Targets and Test Results

Targets or standards and high-stakes testing are among the most contentious elements of large-scale reform. Most would agree that a move toward higher standards is necessary and important. There is less agreement, however, about the way that tests and targets are used in the process. Olson (2001), in the annual report of Education Week in the United States, points out that although testing can be a powerful tool to change what happens in classrooms and schools, such changes are not always positive. Of concern are two practices – diverting time from teaching the curriculum to teaching pupils how to take the tests, especially in the months directly before the tests are given, and shifting time away from non-tested subjects towards tested subjects.

In the early implementation of NLS and NNS, the emphasis on Key Stage 2 tests and setting targets was beneficial in mobilising and focusing the system. However, while targets represent a useful starting point for large-scale reform, they may not be the best strategy for continuing. The high visibility of the 2002 Key Stage 2 targets – the percentage of children who should reach Level 4 – has meant that, in effect, the Strategies were judged, at least publicly, on their success in meeting this one criterion. In the opinion of many of our informants, the Key Stage 2 Level 4 targets of 80% and 75% were set without much regard to what would actually be possible, while most see the 2004 targets of 85% as unrealistic, at least within that short time frame. The improvement in Key Stage 2 results, rapid until 2000, stalled at that point. One reason for this may be that, as attainment levels rise, further gains will be smaller and therefore harder to detect. Thus, as levels of attainment increase, further improvement is more difficult to measure (Loveless, 2002).

Beyond Key Stage assessments, however, NLS and NNS aim at transforming teaching in the primary school in a variety of ways; their success and impact cannot be fully assessed by a single measure. Strategy leaders, well aware of such limitations, have drawn on a range of indicators in assessing progress and identifying problems, looking at Key Stage 1 results, changes in Levels 3 and 5, as well as findings from HMI reviews and reports from LEAs and regional directors.

In spite of efforts to broaden the indicators considered, Level 4 in Key Stage 2 tests remains the most visible public measure of success. As we have observed, a preoccupation with single achievement scores can have negative side effects, such as narrowing the curriculum that is taught. From the data available to us, we see some evidence that the high political profile of the 2002 national targets skewed efforts in the direction of activities that would lead to increases in the one highly publicised score. Many teachers acknowledged that they "teach to the test" in Key Stage 2 and questions have been raised about whether increases in Key Stage 2 results are specific to the tests used (Tymms, as quoted by Gold, 2002). However, we found little evidence of this happening in Key Stage 1, suggesting that Key Stage 1 data may provide better evidence of increased pupil learning.

We recognise that DfES and the Strategies have been constantly balancing short-term and long-term objectives. The government has been caught in a dilemma – increasing test scores (short-term results) does much to ensure support and funding for the essential capacity building work over the longer term. At the same time, DfES and the Strategy leaders are aware that, with a high political profile and a sense of urgency to show results, they must resist focusing on short-term gains at the expense of more sustainable reform, where gains are steady but not necessarily dramatic (Fullan, 2001). Continuing to set ever higher Key Stage 2 national targets may create difficulties; imposing what schools and LEAs see as unrealistically high targets may undermine the credibility of the target setting exercise and lead to cynicism among educators, decreasing rather than increasing their efforts to improve. We suggest that a shift in emphasis to what might be termed "consolidation targets" could stimulate headteachers and teachers to maintain improvements to date and to address issues identified as challenges in their schools. Such a shift would assume slower rates of overall increases in pupil achievement but stress the need for consolidation and maintenance of gains already made.

The process of national target setting for primary school literacy and mathematics attainment was useful in focusing efforts during the launch and early implementation of the Strategies but further efforts in this direction may require a shift in emphasis if they are to be of value in the long term.

The Teaching Profession

Ultimately, changes in schools happen because of the motivation and capacity of individual teachers teaching children in classrooms. It is important for educational systems to attract, grow and nurture eager, energetic, knowledgeable and skilful teachers. We have already mentioned growing concerns about current and future difficulties in attracting and retaining teachers, particularly in and around London. The modernisation of the teaching profession continues to be a major focus of the government. Recent government proposals recommend introducing contractual changes to ensure headteachers and other members of the school leadership team get adequate time to carry out their leadership and management roles. All of these initiatives, with considerable potential for influencing the conditions under which teachers carry out their professional responsibilities, have some relevance for efforts to improve the teaching of literacy and mathematics.

As noted above, addressing issues related to workload is a component of the modernisation initiative. The government response to the PricewaterhouseCoopers study and to the report from the School Teachers' Review Body proposes, among other measures, greater use of teaching assistants and other support staff, stressing that it is vital that teachers spend their time teaching, not doing tasks that can be done by others.

We believe it is crucial to continue to develop and strengthen the profession though such policies dealing with workload, recruitment, initial teacher training, support for newly qualified teachers, teacher compensation and performance appraisal, as well as continuing to develop teacher and leadership capacity.

Beyond the School

The mandate of NLS and NNS has been to improve teaching and learning by changing what happens in primary schools. Although our mandate in carrying out this evaluation

was to study the implementation of the Strategies, it is impossible to do that without some consideration of the context in which these policies have been enacted. In that spirit, we go briefly beyond policies that relate specifically to education and to schools, to address non-school factors that have a significant impact, both directly and indirectly, on children's learning. We look at two areas – support for families and policy-making beyond education.

Parents and Families

The government is well aware of the importance of involving parents in efforts to improve pupil learning. At the beginning of the Strategies, parallel public engagement programmes were launched – the National Year of Reading and Maths Year 2000 – both of which encouraged parents to capitalise on everyday opportunities to strengthen children's literacy and mathematics skills. DfES and the Basic Skills Agency fund family literacy and numeracy programmes in many schools, to help parents whose own levels of expertise are not high. In spite of these efforts, however, the potential contribution that parents can make to children's learning has not yet been realised.

During 2002, government efforts to increase parental involvement took a new turn; the focus expanded to include parental responsibility for children's attendance at school. Although controversial, central efforts to put more pressure on non-compliant parents have increased and seem likely to continue, based on the premise that no matter how good schools are, they cannot do their job if pupils are not present.

At the school level, our site visits revealed that headteachers and teachers are trying to engage parents and meeting with varied levels of success. Schools in highly disadvantaged communities report particular difficulties, perhaps related to parents' own ambivalence about school, their lack of conviction that education will necessarily improve children's lives or the overwhelming pressures faced by many families in such communities. Nonetheless, most of our sample schools reported progress, either in increasing attendance at sessions to let parents know about the Strategies and how to help their children, or in daily routines such as having parents listen to children read or write comments on children's work. According to headteachers, the materials that DfES has already produced would not, on their own, be useful with parents whose own levels of confidence and competence are problematic. Such materials seem to assume a level of comfort with text and with schooling that parents in struggling communities may not have.

As a caution, research shows that the kind of parent involvement that can make a difference to pupil attainment is parents' engagement with their own children's learning. In other words, parent involvement in school governance, on its own, will not have this effect.

Policy Making Beyond the School

DfES has been appropriately focusing on the "long tail of under-achievement" and on narrowing the range by bringing up the performance of children with low attainment. The main focus through NLS and NNS has been on the school – what schools can do to improve pupil learning, particularly through changed teaching practice. This makes sense since the government has more direct control over schools than it does over influences outside schools. Improvements in pupil attainment, however, seem to have stalled.

There are still around 25 percent of children who do not reach Level 4, the expected level. Right now the approach seems to be "try harder" or "do similar things somewhat differently," for instance, delivering catch-up programmes and ensuring quality teaching for all. But, no matter what schools do, it may not be enough.

Pupil outcomes are, we know, shaped by many factors outside the school. The relationship between socio-economic status and educational achievement remains high and is the most stable relationship in educational research. A recent study in the *British Medical Journal* (Jefferis, Power, & Hertzman, 2002), for instance, noting that "social background is a simplification of a lot of complex processes," found that social deprivation and poverty were strongly related to educational attainment. "The real challenge for educators and policymakers today is to avoid the defeatist myth that schools make no difference without bouncing to the other extreme, that they make all the difference" (Rothstein, 2002, p 12). Perhaps "out of school" influences on pupil attainment deserve further attention. For example, good prenatal and post-natal nutrition means healthier children who may be in a better position to be successful at school, while adequate housing supports stable home lives and reduces interruptions to children's schooling.

We are aware that the government is already active on these fronts, consistent with a broad view of what is required to support better outcomes for children. Although our mandate was to evaluate the Literacy and Numeracy Strategies, we note that such "beyond the school" policies may have a significant impact on children's literacy and mathematics attainment and is thus at least indirectly relevant to the standards agenda.

Conclusion

We believe that much can be learned from this educational reform. The National Literacy and Numeracy Strategies are ambitious large-scale change initiatives well grounded in research (at least compared with most other change efforts). They have been generally well implemented and well supported by schools (with some caveats concerning perceived rigidity). Although the 2002 targets were not reached, there has been an increase in the Key Stage 2 test scores that DfES defined as the measure of success, plus a substantial narrowing of the gap between the results in the most and least successful schools and LEAs. Although the most obvious features of the reforms appear in virtually all classrooms, our data show considerable disparity across teachers and schools in understanding of the Strategies and in subject and pedagogical knowledge and skill. In many cases the Strategies have not yet produced the needed depth of change in teaching and learning. Such a lag is not surprising given the length of time, but will need continued attention through provision of sustained professional learning opportunities, which should be increasingly embedded in the life and routine of the school. LEAs and schools need to have increased scope and responsibility for such professional learning.

As with all large-scale change efforts, there are inevitable tensions. Questions linger about the appropriate balance between "top-down" and "bottom-up" reform, directed versus flexible implementation, literacy and mathematics versus other curriculum areas, and long-term capacity versus short-term results. Our study also reaffirmed the importance of looking at

a variety of outcomes and measures given the distorting effect that is an unintended consequence of a focus on one indicator of success.

The Strategies have led to significant changes in primary education throughout England in a remarkably short period of time. The shift is pervasive, has moved literacy and numeracy to the top of the agenda and led to significant changes in teaching. But moving to the next phase will not be easy.

The issues we have raised should not be construed as criticisms of the NLS and NNS initiative – the initiative is successful, and that is why these challenges have emerged. Unlike many large-scale reform initiatives, the Strategies have had substantial early success; the crucial next phase of NLS and NNS reform involves:

- deepening and broadening teacher subject knowledge and pedagogical understanding in literacy and mathematics;
- addressing the management of the primary curriculum as a whole, not just literacy and mathematics; and
- continuing to address the structure of the teaching profession and the factors that affect teachers' working lives and, more broadly, recruitment and retention.

Much has been accomplished and this should be celebrated. At the same time, a careful look at the progress of the Strategies reveals no shortage of challenges for future policy and practice.

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Appendix A: Sample Interview Protocols

1998-1999: Initial interviews with policy makers, DfEE staff, other key players

Date _____

Location _____ Interviewer _____

Name _____ Position _____

Preamble: review purposes of study, plans etc. and give information sheet. Have interviewee read and sign release form.

Education reform context

Review briefly what we understand to be the current education reform context in Britain re NLS and NNS, with opportunity for interviewee to confirm or modify.

NLS and NNS

What has been your involvement and responsibility with regard to NLS and NNS?

How would you define or describe NLS and NNS, in a few sentences? What are the most important elements of NLS? Of NNS? What do you hope these strategies will achieve?

Possible probes: What is DfEE trying to do that the NLS/NNS will assist with? Has your understanding of the NLS or NNS changed over the past year? If so, how?

Who are some of the key people you have worked with during your involvement with NLS and NNS? Are there others you think we should talk to as we develop our understanding of how the two strategies were developed, how they are being implemented, and how they are modified in the light of experience?

What are the key incentives for LEAs, schools and teachers to implement NLS and NNS? What are the main supports available for each group? What pressures are there for each group to work on implementation?

What do you anticipate will be the obstacles to LEAs, schools and teachers fully implementing NLS and NNS?

Ongoing monitoring

As you may know, our evaluation team is carrying out secondary analysis of reports and evaluations of NLS and NNS that are being done by DfEE and Ofsted, as well as QCA data. What is your understanding of how NLS and NNS are being evaluated by these agencies? What data do you expect will be available?

How is DfEE getting information about the priorities and needs of those implementing the NLS and NNS? teachers? parents? school leaders? LEAs? community?

How can these groups get information and make their views heard? Who is responsible for ensuring that communication among stakeholder groups continues?

How are decisions made about allocating funds to support NLS and NNS? How is the use and value of funds being monitored?

Probes: Who is consulted? Who decides? What mechanism in place for consultation across stakeholder groups?

Any administrative structures in place to sustain this?

Successes/problems/surprises

What has gone well so far with the NLS and NNS initiatives? What successes are you aware of?

Educational reform is difficult and complicated. What problems are being encountered with NLS and NNS? How are these problems being dealt with? With what success?

Problems Coping

Looking back over the last few months with the NLS and NNS, has anything surprised you? What?

Vision of the future

What is your image of what **should** be happening in British primary schools and classrooms with regard to literacy and numeracy?

Probes as necessary/appropriate. eg. What would teachers be doing? What about pupils? What are the priorities for the schools?

If the early stages of implementing NLS and NNS are successful, what would you expect to be in place for each strategy by October of 1999?

If the NLS and NNS are successful, what will be different about primary classrooms in the year 2005?

In your view, what is the likelihood of achieving this level of success? What would limit or constrain success? What could increase the level of success?

Conclusion

Anything else we haven't talked about that you think is important?

Thanks etc. etc.

2001 and 2002 Interviews with DfES Personnel, Senior NLS and NNS Leaders

Interviews were loosely structured around three key areas:

1. How embedded is the Strategy (or Strategies)?
2. How likely is it that the changes will be sustained?
3. In your view, what has to happen to increase/ensure sustainability?

1999: NLS and NNS Regional Director Interview

5 general areas: regional director role; nature of Strategy; communication and relationships; impact; and accountability.

1. Regional director role

What attracted you to the job?

- Briefly, how would you describe your role? Is it what you expected?
- What are the most important aspects of your role? (Probe: Regional? Central/additional responsibility?) Has this changed since you started?
- Do you have any sense of the extent to which the regional director role is similar in all regions?
- Has there been any discussion among the regional directors about what regional directors should or should not do or be responsible for?
- Think about your work over the past few months. Does anything stand out as making it easier for you to be effective? How about things that have made it harder? (probes – new policy initiatives, communication flows or blocks, operational structure) How do you assess your own effectiveness? Is the job manageable?

2. The Strategy

- How would you describe the key changes embedded in the strategy?
- In your view, what components of the strategies are the most important? Is there anything in the strategy that you don't agree with?

- What components do LEAs and teachers seem to value most? What parts, if any, do they have problems with?
- Has this changed over the past year (relevant for Literacy only)?
  If you could give Michael Barber one suggestion in relation to the Strategy, what would it be?

3. Impact

- From your experience, can you give me a concrete example of how the Strategy has had a positive impact on practice?
- Have you seen any unintended negative effects of the Strategy? (possible probes: for instance, less attention to needs of some categories of pupils; inadequate time or attention to other aspects of curriculum)

4. Communication and Relationships

- Communications are inevitably a huge part of any initiative this size. People need to get information and pass it on. Tell me about your communication and working relationships with:
  - DfEE
  - LEA
  - Teachers
  - Other RDs
  - HMI/Ofsted
  - the media
- How good are communications? Can you give me a concrete example of something that you have experienced or witnessed that illustrates good communication? ...Communication problems?
- What do you see as your role in communication?
- What are the key messages in the Strategy?
- Are there any particularly significant relationships among or between different groups that you think are affecting implementation? (Either positive or problematic).

5. Accountability

- NLS/NNS include a number of avenues for accountability and monitoring. How would you describe your role in the accountability process?
- What about Ofsted inspections? How do they influence implementation of the strategy in your region – (1) HMI in the special sample schools; and (2) Ofsted Section 10 in schools generally?

- What are your predictions for the test results in 2002?
- Are there other accountability mechanisms, maybe less formal? How are they working?

Is there anything else we haven't talked about that you think is important for us to pay attention to?

Thanks etc.

Autumn 2001/Spring 2002: Interview Protocol for NLS and NNS Regional Directors

Preamble: We're getting near the end of our evaluation of the implementation of NLS or NNS. We'd like to get your perspective on some of the issues that we're trying to describe in our final report. Before we begin our discussion I would like to clarify your current position: when did you first become a regional director (if not known)? I understand that you have [or don't have] regional responsibilities for a group of LEAs – is that right? Beyond your role in relation to LEAs, do you have other areas of responsibility e.g. initiatives or topics on which you take a leading role?

1. How would you define or describe NLS/NNS, perhaps to someone not closely connected to it?

- Is it the same as in 1998 or 1999? (unless a very recent appointee)
- Can you elaborate?

2. There have been changes in personnel and organisation since NLS/NNS began (e.g., additional regional directors, changes in leadership, extension to KS3).

- How well are the new/current structures working?
- Probes: Do you feel you are sufficiently aware of relevant developments e.g. policy changes, implementation plans, etc.?

As regional director your role is a combination of pressure and support.

3. Describe your role in providing support (Probe if needed: resources/training, other support?).

- (If long term regional director, ask: How has your support role changed over time?)

4. As a regional director you are also involved in monitoring.

a) Think about one of your LEAs (or ITT institutions) that you have some concerns about.

- What are the issues that cause concern?
  Think about your most recent visit to the LEA during which you dealt with the issue(s).

- With whom did you meet (roles/not names)?
- What decisions or agreements were made related to the issue?
- What kinds of information did you draw on in making decisions in this situation?

b) How well are current monitoring procedures working? (Probe: what about monitoring forms used?)

- Are any changes needed, in your view?

5. Finally, what about sustainability? How embedded are the changes that have come about through the Strategy? What are the key principles that you hope will endure as a result of the Strategy?

- What will it take to sustain the work that has been accomplished?
- What role do you see for LEAs, consultants, regional directors, DfES, etc.
- What tensions, if any, exist between central direction and local initiative? How does the centre-local relationship facilitate Strategy sustainability?

6. Do you have any additional comments related to the regional director role that you wish to make?

Headteacher Interview Protocol

Managing change

There has been a lot of change in education in the past few years. What changes have you experienced here? How have you personally organised and managed change in the school?

What is your relationship with the LEA? With other schools in the LEA?

What supports have been available to you and your teachers?

What obstacles have you experienced?

NLS

How are you approaching literacy in this school?

- Do teachers do a "literacy hour"?
- Tell me about a typical literacy lesson.
- To what extent have the teachers adopted NLS? Have teachers adapted NLS?
- How close is the NLS philosophy to the philosophy for teaching literacy in the school? How close is it to your personal philosophy?

How have you gone about making changes in how literacy is taught?

- Have you personally received NLS training and/or support? Have your teachers? Describe that support.
- Have you personally been involved in other professional development or in networks related to literacy? Have your teachers?
- Has the school had access to any new resources?
- What literacy support do you have from the LEA? From DfES?
- What obstacles have you faced?

What changes have you noticed as a result of your attention to literacy?

- in school routines
- in classroom practices
- in the relationships among colleagues
- in relationships with parents
- in student learning and/or achievement?

NNS

How are you approaching mathematics in the school?

- Do you do a formal "mathematics lesson"?
- Tell me about a typical mathematics lesson.
- To what extent have the teachers adopted NNS? To what extent have they adapted NNS?
- How close is the NNS philosophy to the philosophy for mathematics teaching in the school? How close is it to your personal philosophy?

How have you gone about making the changes that you have made in mathematics teaching?

- Have you personally received NNS training and/or support? Have your teachers? Describe that support.
- Have you personally been involved in other professional development or in networks related to mathematics teaching? Have your teachers?
- Has the school had access to any new resources?
- What support do you have from the LEA? From DfES?
- What obstacles have you faced?

What changes have you noticed as a result of your attention to mathematics?

- in school routines
- in classroom practices
- in the relationships among colleagues
- in relationships with parents
- in student learning and/or achievement?

Target setting

Describe for me how targets are set? (gather artifacts)

- in the school, in the LEA?

What data do you have available to use? How do you use it?

Funding

How have the Strategies been funded in the LEA? In this school?

- What funding has come through the Standards Fund?
- Have you redirected any school funds to the Strategies?
- From where?
- Have you redirected the time of staff (head, teachers, support staff) to literacy and mathematics?
- What other activities have been reduced as a result?

Sustainability

Are the initiatives sustainable?

What will it take to sustain improvements in literacy and mathematics?

Appendix B: Sample Questionnaires (Headteacher, Teacher, Consultant)

OISE|UT

The Ontario Institute for Studies in Education of the University of Toronto

Evaluation of The National Numeracy Strategy

Headteacher Survey

Dear Headteacher

As you are aware, the National Literacy and National Numeracy Strategies have been major initiatives in England over the last few years. A team of researchers from the Ontario Institute for Studies in Education at the University of Toronto, commissioned by DfES, is evaluating the implementation of the Strategies. This survey, asking about the Numeracy Strategy (NNS), is part of that evaluation.

Your responses will help to inform the future work of NNS and lead to a better understanding of what the Strategies mean for schools. The research team has collected information from a wide range of sources; now we need to hear from headteachers, co-ordinators and teachers – to understand your experiences.

The questionnaire should take about 15 minutes to complete. The survey is anonymous and no school or individual will be identified in any reports. Responses will be summarised and the results included in the report that the OISE/UT team will write for the DfES, with recommendations for future policy and practice.

As you see, the questionnaire for teachers is slightly different from that for heads. Please encourage your teachers to respond to the survey. Experiences of both heads and teachers are important for future efforts to support the teaching of mathematics.

We use the term 'NNS' to refer to the Numeracy Strategy as a whole; this includes the daily mathematics lesson, training materials, resources and guidance provided by the Strategy, for classroom teaching and the management of mathematics in schools.

If you have any questions about this survey please call Helen Selden at NFER on 01753 695855.

Thank you, in advance, for your help. We appreciate it.

Michael Fullan

(on behalf of the University of Toronto research team)

ELQ
3882

HTQN

Please indicate your level of agreement by placing a tick in the appropriate box

Opinions About NNS

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	The aims of NNS are clear to me.	☐	☐	☐	☐	☐
2.	The aims of NNS are consistent with my own aims for teaching mathematics in my school.	☐	☐	☐	☐	☐
3.	I hear useful feedback about my school's use of the Numeracy Strategy (e.g., from LEA advisers, parents, etc.).	☐	☐	☐	☐	☐
4.	Pupils in this school are performing at a higher level in mental mathematics as a result of NNS.	☐	☐	☐	☐	☐
5.	Pupils in this school are performing at a higher level in written calculations as a result of NNS.	☐	☐	☐	☐	☐
6.	NNS has been helpful for engaging unmotivated pupils.	☐	☐	☐	☐	☐

NNS Training and Support

7. In the shaded column, tick the box(es) for any training/ preparation that you personally have had. For each tick, please indicate how useful it was.

	Please tick	Extremely useful	Fairly useful	Not very useful	Not useful at all
• One-off training session outside my school with LEA numeracy consultant(s)	☐	☐	☐	☐	☐
• Multiple training sessions outside my school with LEA numeracy consultant(s)	☐	☐	☐	☐	☐
• In-school training sessions with LEA numeracy consultant(s)	☐	☐	☐	☐	☐
• Support from others (e.g. teacher training faculty, private consultants, LEA advisers)	☐	☐	☐	☐	☐
• Autumn 2001/winter 2002 NNS headteacher conference	☐	☐	☐	☐	☐
• Observation of demonstration lessons	☐	☐	☐	☐	☐
• Use of training materials (e.g., manuals, videos) with colleagues	☐	☐	☐	☐	☐
• Use of training materials (e.g., manuals, videos) on my own	☐	☐	☐	☐	☐
• Support network outside my school (e.g. other heads)	☐	☐	☐	☐	☐

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
8. We have the staff needed to implement the Numeracy Strategy successfully in my school.	☐	☐	☐	☐	☐
9. We have the resources (e.g. materials) needed to implement the Numeracy Strategy successfully in my school.	☐	☐	☐	☐	☐
10. I feel confident that I understand the expectations in the Numeracy Strategy associated with mental mathematics.	☐	☐	☐	☐	☐
11. I feel confident that I understand the expectations in the Numeracy Strategy associated with written calculations.	☐	☐	☐	☐	☐
12. I have the knowledge and skills I need to support staff in implementing the Numeracy Strategy.	☐	☐	☐	☐	☐

NNS In My School

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
13. Pupils spend more of their time in school on mathematics than they did before NNS.	☐	☐	☐	☐	☐
14. Parents spend more time helping their children with mathematics now than they did before NNS.	☐	☐	☐	☐	☐
15. Staff have been fully involved in setting numerical Key Stage 2 mathematics targets in this school.	☐	☐	☐	☐	☐
16. Staff have been fully involved in setting mathematics curriculum targets for pupils in this school.	☐	☐	☐	☐	☐
17. Teachers in this school build on one another's strengths in implementing NNS.	☐	☐	☐	☐	☐
18. Teachers in this school work together to implement the new classroom practices recommended by NNS.	☐	☐	☐	☐	☐
19. Teachers feel a sense of responsibility for work in the school as a whole.	☐	☐	☐	☐	☐
20. Teachers in this school believe all pupils can succeed.	☐	☐	☐	☐	☐
21. Structures (e.g., timetables, meeting times) in this school give teachers opportunities to work with colleagues in mathematics teaching and planning.	☐	☐	☐	☐	☐
22. The physical layout of the school makes it easy for teachers to talk with each other about mathematics teaching and learning.	☐	☐	☐	☐	☐
23. Parents are supportive of the school's efforts in numeracy.	☐	☐	☐	☐	☐

Leadership and NNS	*Strongly Agree*	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*
24. NNS has required significant new leadership or management practices on my part.	☐	☐	☐	☐	☐
25. I have had adequate opportunities to clarify my role in implementing NNS.	☐	☐	☐	☐	☐
26. I have had adequate opportunities to practise and refine new management skills for managing mathematics.	☐	☐	☐	☐	☐
27. I have been successful in helping teachers implement the Numeracy Strategy.	☐	☐	☐	☐	☐
28. I give useful feedback to teachers about mathematics teaching.	☐	☐	☐	☐	☐
29. I encourage teachers to consider new ideas for teaching of mathematics.	☐	☐	☐	☐	☐
30. I demonstrate high expectations for work with pupils in mathematics.	☐	☐	☐	☐	☐
31. I provide non-contact time for teachers to work on mathematics.	☐	☐	☐	☐	☐
32. I model a high level of professional practice in relation to NNS.	☐	☐	☐	☐	☐
33. I encourage collaborative work in mathematics among staff.	☐	☐	☐	☐	☐
34. There is wide participation in decisions about NNS in this school.	☐	☐	☐	☐	☐
35. We have good relationships with parents in relation to NNS.	☐	☐	☐	☐	☐
36. The LEA provides adequate resources and assistance to schools for NNS implementation.	☐	☐	☐	☐	☐
37. There is a sense of community in this LEA in relation to NNS and raising mathematics attainment.	☐	☐	☐	☐	☐
38. This LEA has a plan for sustaining mathematics attainment over time.	☐	☐	☐	☐	☐

39. With the introduction of the Numeracy Strategy, DfES provided resources (funding, professional development, etc.) through the Standards Fund. Beyond such DfES and LEA funding, has your school allocated additional resources to support numeracy?

- ☐ yes
- ☐ no
- ☐ not sure

40. Do you expect your school to meet its 2002 mathematics targets for Key Stage 2?

- ☐ yes
- ☐ no
- ☐ not sure

41. Which of the following statements best describes the National Numeracy Strategy in your school?

- ☐ we are fully implementing NNS
- ☐ we have implemented NNS and have modified components to suit our pupils
- ☐ we are making consistent use of some elements of NNS
- ☐ we sometimes use NNS but mostly we use other materials and approaches
- ☐ we are not using NNS

please turn over

Background Information

Number of years experience as an educator, including as headteacher:

- ☐ 2 to 3
- ☐ 4 to 5
- ☐ 6 to 10
- ☐ 11 to 18
- ☐ 19+

Number of years as a headteacher in this or other schools:

- ☐ 1 to 2
- ☐ 3 to 5
- ☐ 6 to 10
- ☐ 11+

What do you see as the strengths of NNS?

What do you see as the weaknesses or limitations of NNS?

If you have any additional comments related to NNS, please add them here.

Thank you for completing this questionnaire.
Please collect all the questionnaires from your teachers. NFER has arranged for them to be collected from your school on
Monday 18 March.

National Foundation for Educational Research, RDS, The Mere, Upton Park, Slough, Berkshire. SL1 2DQ

OISE|UT
The Ontario Institute for Studies in Education of the University of Toronto

Evaluation of The National Literacy Strategy

Teacher Survey

Dear Teacher

As you are aware, the National Literacy and Numeracy Strategies have been major initiatives in England over the last few years. A team of researchers from the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT), commissioned by DfES, is evaluating the implementation of the Strategies. This survey, asking about the National Literacy Strategy (NLS), is part of that evaluation. Members of the research team have been collecting information from a wide range of sources and are now inviting you to complete the enclosed questionnaire, asking about your perceptions and experiences with teaching literacy and with the Strategy.

Your responses will help to inform the future work of NLS and lead to a better understanding of what the Strategy means for schools. We need to hear from headteachers, co-ordinators and teachers – to understand your experiences.

The questionnaire should take no longer than 15 minutes to complete. The survey is anonymous and no school or individual will be identified in any reports. Responses will be summarised and the results included in the report that the OISE/UT team will write for the DfES, with recommendations for future policy and practice.

Your responses can influence the future development of efforts to support literacy. Your co-operation in completing the questionnaire is much appreciated.

We use the term 'NLS' to refer to the Literacy Strategy as a whole; this includes the literacy hour, training materials, resources and guidance produced by the Strategy.

If you have any questions about this survey please call Helen Selden at NFER on 01753 695855.

Thank you, in advance, for your help. We appreciate it.

Michael Fullan

(on behalf of the University of Toronto research team)

ELQ
3881

TQL

Please indicate your level of agreement by placing a tick in the appropriate box.

Opinions About NLS

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	The aims of NLS are clear to me.	☐	☐	☐	☐	☐
2.	The aims of NLS are consistent with my own aims for teaching literacy in my classroom.	☐	☐	☐	☐	☐
3.	The Literacy Strategy helps make my job more satisfying and engaging.	☐	☐	☐	☐	☐
4.	My teaching is more effective as a result of NLS.	☐	☐	☐	☐	☐
5.	My pupils are performing at a higher level in reading as a result of NLS.	☐	☐	☐	☐	☐
6.	My pupils are performing at a higher level in writing as a result of NLS.	☐	☐	☐	☐	☐
7.	NLS has been helpful in engaging unmotivated pupils.	☐	☐	☐	☐	☐
8.	The benefits of NLS have outweighed the costs in terms of teacher time and effort required for implementation.	☐	☐	☐	☐	☐

NLS In My Class

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
9.	I set objectives or curriculum targets for groups or individual children in my class.	☐	☐	☐	☐	☐
10.	I feel comfortable making adaptations to NLS to fit my class.	☐	☐	☐	☐	☐
11.	I have the freedom that I need to teach literacy in a manner that I believe is best for my pupils.	☐	☐	☐	☐	☐
12.	I use NLS teaching approaches in other curriculum subjects.	☐	☐	☐	☐	☐
13.	The focus on literacy means that other subjects get less attention than I would like to give them.	☐	☐	☐	☐	☐
14.	Children are applying skills developed in literacy to other curriculum subjects.	☐	☐	☐	☐	☐
15.	I believe that all pupils in my class can succeed.	☐	☐	☐	☐	☐

NLS In My School

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
16. I have been involved in setting literacy curriculum targets for a year group in the school.	☐	☐	☐	☐	☐
17. Colleagues in this school build on one another's strengths in implementing NLS.	☐	☐	☐	☐	☐
18. Colleagues in this school work together to implement the new classroom practices recommended by NLS.	☐	☐	☐	☐	☐
19. I work with teachers from other schools on literacy plans or programmes.	☐	☐	☐	☐	☐
20. Teachers feel a sense of responsibility for work in the school as a whole, not just in their own classrooms.	☐	☐	☐	☐	☐
21. Structures (e.g., timetables, literacy meeting times) in this school give teachers opportunities to work with colleagues about literacy teaching and learning.	☐	☐	☐	☐	☐
22. The physical layout of the school makes it easy for teachers to talk with each other about literacy teaching and learning.	☐	☐	☐	☐	☐
23. Parents are supportive of the school's efforts in literacy.	☐	☐	☐	☐	☐
24. In our school, we focus a lot of time on practising for the Key Stage 2 tests.	☐	☐	☐	☐	☐
25. The numerical targets set for this school are possible for us to attain.	☐	☐	☐	☐	☐

NLS Training and Support

26. In the shaded column, tick the box(es) for any training/ preparation you have had.
For each tick, please indicate how useful it was.

	Please tick	Extremely useful	Useful	Not very useful	Not useful at all
• one-off training session outside my school with the LEA literacy consultant(s)	☐	☐	☐	☐	☐
• 3 or 5 day training sessions outside my school with the LEA literacy consultant(s)	☐	☐	☐	☐	☐
• assistance in my classroom from an LEA literacy consultant	☐	☐	☐	☐	☐
• observed demonstration lessons or received assistance in my own classroom from the literacy co-ordinator in my school	☐	☐	☐	☐	☐

	Please tick	Extremely useful	Useful	Not very useful	Not useful at all
• use of training materials (e.g., manuals, videos) in discussion with colleagues	☐	☐	☐	☐	☐
• use of training materials (e.g., manuals, videos) by myself	☐	☐	☐	☐	☐
• use of NLS website	☐	☐	☐	☐	☐
• have observed an 'expert literacy teacher' (or equivalent in your LEA)	☐	☐	☐	☐	☐

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
27.	I have the knowledge and skills I need to implement NLS well.	☐	☐	☐	☐	☐
28.	I have developed new knowledge and skill through implementing NLS.	☐	☐	☐	☐	☐
29.	NLS training has helped me teach literacy more effectively.	☐	☐	☐	☐	☐
30.	I have access to the resources (e.g., people, materials) that I need to implement NLS.	☐	☐	☐	☐	☐

Leadership For Literacy

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
31.	Leaders (head, deputy head and/or literacy co-ordinator) in this school provide assistance in setting curricular targets for literacy teaching and learning.	☐	☐	☐	☐	☐
32.	Leaders in this school give useful feedback about literacy teaching.	☐	☐	☐	☐	☐
33.	Leaders in this school encourage teachers to consider new ideas for teaching literacy.	☐	☐	☐	☐	☐
34.	Leaders in this school demonstrate high expectations for work with pupils in literacy.	☐	☐	☐	☐	☐
35.	Leaders in this school model a high level of professional practice in relation to NLS.	☐	☐	☐	☐	☐
36.	Leaders in this school encourage collaborative work in literacy among staff.	☐	☐	☐	☐	☐
37.	Leaders in this school create conditions in the school that allow for wide participation in decisions about literacy.	☐	☐	☐	☐	☐
38.	Leaders in this school provide time for teachers to work together on literacy.	☐	☐	☐	☐	☐
39.	Leaders in this school help develop good relationships with parents as part of the school's response to NLS.	☐	☐	☐	☐	☐

General Comments

40. Which of the following best describes your current use of the National Literacy Strategy?

- ☐ I am fully implementing NLS
- ☐ I have implemented NLS and am now modifying elements to suit my classroom
- ☐ I am making consistent use of some elements of NLS
- ☐ I sometimes use ideas from NLS but mostly use other materials and strategies.
- ☐ I am not using NLS

Background Information

Which years(s) do you teach?

- ☐ Reception
- ☐ Year 1
- ☐ Year 2
- ☐ Year 3
- ☐ Year 4
- ☐ Year 5
- ☐ Year 6

Number of years teaching experience:

- ☐ Less than 2
- ☐ 2 to 3
- ☐ 4 to 5
- ☐ 6 to 10
- ☐ 11 to 18
- ☐ 19+

Please indicate if you have undertaken any of the following roles during the current academic year:

- ☐ English or literacy co-ordinator
- ☐ Deputy head
- ☐ Other senior management position

Please turn over

What do you see as the strengths of NLS?

What do you see as the weaknesses or limitations of NLS?

If you have any additional comments about NLS and its implementation, please write them here.

Thank you for completing this questionnaire.
Please now place it in the envelope provided, seal and return it to your Headteacher.
All questionnaires from your school will be collected by courier on Monday 18th March 2002.

National Foundation for Educational Research, RDS, The Mere, Upton Park, Slough, Berkshire. SL1 2DQ

OISE|UT
The Ontario Institute for Studies in Education of the University of Toronto

External Evaluation of The National Numeracy Strategy

Numeracy Consultant Survey

Dear Numeracy Consultant

As you know, the National Literacy and Numeracy Strategies have been major initiatives in England over the last few years. You may be aware that a team of researchers from the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT), commissioned by DfES, is evaluating the implementation of the Strategies. This survey, asking about the Numeracy Strategy (NNS), is part of that evaluation and will provide valuable information from the perspective of numeracy consultants.

The support provided by consultants has been critical in the implementation of the Strategy. Although members of the research team have interviewed many of you over the past 3 years, we are now asking for the views of all consultants through this survey. Your responses will supplement information our team has been collecting from a wide range of sources, including school and LEA visits, and can influence the future development of efforts to support literacy and mathematics. Responses will be summarised and the results included in the final report that the OISE/UT team will write for the DfES, with recommendations for future policy and practice.

The questionnaire takes approximately 20 minutes to complete. The survey is anonymous and no individual will be identified in any reports. NFER is gathering the information for the OISE/UT team. The information will be most useful in planning if you give your candid responses to the questions about NNS and about your work. Your participation is much appreciated.

When we use the term 'NNS' we are referring to the Numeracy Strategy as a whole; this includes not simply the daily mathematics lesson but also the training materials, resources and guidance produced by the Strategy relating to classroom teaching and the management of mathematics in schools.

If you have any questions about this survey please call Helen Selden at NFER on 01753 695855.

Thank you, in advance, for your help. We appreciate it.

Michael Fullan

(on behalf of the University of Toronto research team)

ELQ
3884

CQN

Background Information about You and the LEA

About the LEA

Number of primary schools:

Less than 50	☐	50 to 99	☐	100 to 149	☐
150 to 300	☐	over 300	☐		

Number of numeracy consultants in your LEA (number of persons to the best of your knowledge, including you):

Full-time _____ Part-time _____

About You

Number of years as a consultant:

Up to 2 years ☐
3 - 4 years ☐
more than 4 years ☐

Assignment as a consultant:

Full-time ☐ Part-time ☐

Previous Post

Class teacher ☐
Mathematics co-ordinator ☐
Deputy headteacher ☐ other (please specify) _____

The NNS Consultant Role

How many schools do you expect to have worked with this academic year? (Count each school only once)

Providing intensive school-based support (4 or more days per year) ☐ schools

Providing less intensive support (3 or fewer days per year) ☐ schools

Providing school-based INSET only ☐ schools

Approximately what proportion of your time have you spent in each of the following activities this school year? (please tick)	**Less than 10%**	**11 - 25%**	**26 - 50%**	**more than 50%**
Leading training workshops or professional development in the LEA (including preparation time)	☐	☐	☐	☐
Providing in-school support to individual schools (including observations and working with individual teachers and including preparation time)	☐	☐	☐	☐
Attending professional development sessions in which you were being trained to support NNS (including attendance at regional network meetings)	☐	☐	☐	☐
Participating in LEA meetings related to mathematics	☐	☐	☐	☐
Other LEA meetings	☐	☐	☐	☐
Other (please specify) _____	☐	☐	☐	☐

Please indicate your level of agreement by placing a tick in the appropriate box.

	Your Role	*Strongly Agree*	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*
1.	I get consistent messages about my role from advisers and managers in my LEA.	☐	☐	☐	☐	☐
2.	In our LEA, there are enough numeracy consultants to provide necessary support to all schools.	☐	☐	☐	☐	☐
3.	I have sufficient opportunities to work with colleagues in my LEA.	☐	☐	☐	☐	☐
4.	My line manager encourages me to learn from colleagues in other LEAs.	☐	☐	☐	☐	☐

	Opinions About NNS	*Strongly Agree*	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*
5.	The aims of NNS are clear to me.	☐	☐	☐	☐	☐
6.	The aims of NNS are consistent with my own beliefs about teaching mathematics.	☐	☐	☐	☐	☐
7.	Pupils are performing at a higher level in mental mathematics as a result of NNS.	☐	☐	☐	☐	☐
8.	Pupils are performing at a higher level in written calculations as a result of NNS.	☐	☐	☐	☐	☐
9.	NNS has provided helpful approaches for engaging unmotivated pupils.	☐	☐	☐	☐	☐
10.	The focus on mathematics means that other subjects get less attention than they need.	☐	☐	☐	☐	☐
11.	Teachers have the freedom that they need to teach mathematics in the manner that they believe is best for their pupils.	☐	☐	☐	☐	☐
12.	The benefits of NNS have outweighed the costs in terms of teacher time and effort required for implementation.	☐	☐	☐	☐	☐

NNS In Schools

Answer the following questions in relation to the schools you have worked with regularly. Please select the answer that reflects what is happening in most of the schools.

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
13.	Most teachers have the subject knowledge that they need to improve mathematics learning.	☐	☐	☐	☐	☐
14.	Most teachers have the teaching skills that they need to improve mathematics learning.	☐	☐	☐	☐	☐
15.	Teachers set objectives or curriculum targets for groups or individual children in their classes.	☐	☐	☐	☐	☐
16.	Teachers feel comfortable making adaptations to NNS to fit their classes.	☐	☐	☐	☐	☐
17.	Teachers use NNS teaching approaches in other curriculum subjects.	☐	☐	☐	☐	☐
18.	Teachers are involved in setting mathematics curriculum targets for year groups in the school.	☐	☐	☐	☐	☐
19.	Teachers work together to build on one another's strengths in implementing NNS.	☐	☐	☐	☐	☐
20.	Teachers work with teachers from other schools on mathematics plans or programmes.	☐	☐	☐	☐	☐
21.	Teachers focus a lot of time on practising for the Key Stage 2 tests.	☐	☐	☐	☐	☐
22.	Increasing scores on KS2 tests is a high priority.	☐	☐	☐	☐	☐
23.	These schools will achieve their 2002 KS2 numerical targets.	☐	☐	☐	☐	☐
24.	There have been significant improvements in children's learning in mathematics in KS1.	☐	☐	☐	☐	☐
25.	There have been significant improvements in children's learning in mathematics in Years 3 and 4.	☐	☐	☐	☐	☐
26.	There have been significant improvements in children's learning in mathematics in Years 5 and 6.	☐	☐	☐	☐	☐

	NNS Training and Support	*Strongly Agree*	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*
27.	I have the knowledge and skills I need to support NNS well.	☐	☐	☐	☐	☐
28.	I continue to develop new knowledge and skill through my involvement in NNS.	☐	☐	☐	☐	☐
29	NNS training has helped me support mathematics in the LEA more effectively.	☐	☐	☐	☐	☐
30.	The NNS training I get in regional meetings/conferences prepares me well to provide mathematics training in my LEA.	☐	☐	☐	☐	☐
31.	I have access to the resources (e.g., people, materials) that I need to support NNS.	☐	☐	☐	☐	☐
32.	As a numeracy consultant I have sufficient flexibility to modify NNS training to fit the specific needs of participants in my LEA.	☐	☐	☐	☐	☐
33.	All teachers in this LEA have received adequate training for NNS.	☐	☐	☐	☐	☐
34.	All teachers in this LEA have adequate materials to implement NNS.	☐	☐	☐	☐	☐
35.	Teachers need detailed classroom guidance in order to implement the Strategy successfully.	☐	☐	☐	☐	☐

	LEA Leadership For Numeracy	*Strongly Agree*	*Agree*	*Undecided*	*Disagree*	*Strongly Disagree*
36.	Leaders in this LEA (advisers, CEO, line managers, etc.) have a clear vision for mathematics learning in schools.	☐	☐	☐	☐	☐
37.	There is coherence in this LEA between policies for mathematics and other policies.	☐	☐	☐	☐	☐
38.	This LEA is supportive of the principles of NNS.	☐	☐	☐	☐	☐
39.	This LEA provides schools with assistance in setting curricular targets for mathematics teaching and learning.	☐	☐	☐	☐	☐
40.	Leaders in this LEA see mathematics as a very high priority.	☐	☐	☐	☐	☐

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
41.	Leaders in this LEA encourage teachers to consider new ideas for teaching of mathematics.	☐	☐	☐	☐	☐
42.	Leaders in this LEA demonstrate high expectations for work with pupils in mathematics.	☐	☐	☐	☐	☐
43.	Leaders in this LEA model a high level of professional practice in relation to NNS.	☐	☐	☐	☐	☐
44.	This LEA encourages and supports collaborative work in mathematics across schools.	☐	☐	☐	☐	☐

	Sustainability of NNS	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
45.	NNS is embedded in schools in this LEA.	☐	☐	☐	☐	☐
46.	If the national network of Regional Directors were disbanded, improvements in mathematics teaching would continue.	☐	☐	☐	☐	☐
47.	If the emphasis on numerical target-setting were dropped, improvements in mathematics teaching would continue.	☐	☐	☐	☐	☐
48.	If the designated resources of the standards fund disappeared, improvements in mathematics teaching would continue.	☐	☐	☐	☐	☐
49.	If the role of numeracy consultant disappeared, improvements in mathematics teaching would continue.	☐	☐	☐	☐	☐
50.	If the role of leading mathematics teacher disappeared, improvements in mathematics teaching would continue.	☐	☐	☐	☐	☐
51.	Setting higher numerical targets for 2004 is necessary for continued improvement in pupil learning.	☐	☐	☐	☐	☐
52.	From my observations, many teachers in this LEA need deeper subject knowledge if improvements in mathematics are to be sustained.	☐	☐	☐	☐	☐
53.	From my observations, many teachers in this LEA need greater pedagogical expertise if improvements in mathematics are to be sustained.	☐	☐	☐	☐	☐

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
54. Headteachers in my LEA display a thorough understanding of the principles of NNS.	☐	☐	☐	☐	☐
55. Teachers I work with in the LEA display a thorough understanding of the principles of NNS.	☐	☐	☐	☐	☐
56. Schools need time to reflect and consolidate before any further central initiatives are introduced.	☐	☐	☐	☐	☐

57. ***Following is a list of components of the Strategy. For each component, please indicate the value or impact on quality of teaching:***

Strategy Component	High impact	Moderate impact	Little impact
Standards Fund support targeted for mathematics	☐	☐	☐
The framework for teaching mathematics	☐	☐	☐
Annual KS2 LEA targets	☐	☐	☐
Annual KS2 national targets	☐	☐	☐
The work of numeracy consultants	☐	☐	☐
The work of leading mathematics teachers (or equivalent term in your LEA)	☐	☐	☐
Increased use of teaching assistants	☐	☐	☐
The NNS 5-day course	☐	☐	☐
Other (please specify) _____	☐	☐	☐

What do you see as strengths of NNS?

What do you see as weaknesses or limitations of NNS?

What could the National Numeracy Strategy learn from the National Literacy Strategy?

Thank you.

Please return your questionnaire to RDS, The Mere, Upton Park, Slough Berkshire SL1 2DQ.
A pre-paid envelope is provided

Appendix C: Value for Money Analyses in Education

1. Value for Money Analyses in Education

How Outcomes Are Produced

Much of the discussion of the value of a programme reflects different ideas about how resources are actually used to produce outcomes. In some cost studies, for instance, total amounts of money are compared to academic achievement levels without regard to whether the spending is used to hire teachers, increase salaries, buy equipment, reduce class sizes, increase professional development, or provide any other support. In other words, the analysis is not informed by any theory of education. We do not learn anything from such analyses about why outcomes are produced or how efficiency might be improved.

Given the range of factors that shape educational achievement, we do not even know if differences in outcomes are a result of educational policies or whether they would be worse without particular policies. Accordingly, programme evaluation, including value for money analysis, requires a mapping of the proposed relationship between inputs or resources and outcomes. In other words, there needs to be a coherent argument behind the expectations that changes will lead to improvements.

Several lines of inquiry have been used to attempt to understand the ways that educational outcomes are produced. Production-function analysis (Monk, 1990, 1992), for instance, constructs an equation or set of equations that relate a number of inputs to key outputs. Production-function research has not proved to be very satisfactory in education, however, because schools tend not to have "clear production goals, adequate information about consequences of patterns of resource allocation (meaning understanding the way production occurs), discretion over resource allocation, and incentives to use resources well" (Simkins, 1987, p. 71).

One crucial difficulty is that the outcomes of schooling are strongly influenced by non-school factors, especially family background. A great deal of research from all over the world finds that school outcomes correlate more highly with family variables such as parental education than with any factor within the school (Kohn, 2001; Gorard, Fitz & Taylor,

2001; West, Pennell, West & Travers, 1999; Thrupp, 1999). Most recently, the results of the PISA study (OECD, 2001) show that a large proportion of the variance in pupil outcomes across and within countries is due to pupils' background and to social context. If families and neighbourhoods are important in shaping outcomes then they must also somehow be built into the analysis, otherwise we will be omitting elements that are important. School improvement strategies with promising results in the United States (see Slavin and Fashola, 1998) usually involve very substantial elements of family education and parent involvement.

The production-function approach also treats pupils as raw materials to be shaped by the school rather than as active participants in their own education. However, it is clear that pupils are intentional actors, and it is their decisions and actions that shape learning (B. Levin, 1994). If raw materials in factories were analogous to pupils, then pieces of metal would express strong opinions on whether they wanted to be made into tables or chairs, and depending on their choice might opt not to appear at the factory.

The relationship among these factors – the family, the school and the pupil – is complex because people can alter their behaviour in response to their perceptions. Some pupils react well to one kind of teaching while others do not. Students, teachers and parents have better and worse days, or months, or years, so that the effects of people and practices are not constant over time or across settings.

Assessing outcomes

Assessing outcomes is also highly problematic. Education has many outcomes, both for individuals and for societies. These may include knowledge, skills, attitudes, or behaviour both for individuals and groups. People may disagree, sometimes strongly, about which of these outcomes or goals are most important. Further, many of the goals of schooling are themselves intermediate goals, intended to contribute to larger and longer-term purposes. Literacy is a good example – important not just for its own sake, but because we believe it contributes to other important goods such as employability, citizenship, parenting skills, and so on. If people became literate, for example, only at the cost of becoming completely uncivil, we might value literacy quite differently.

Timing of goal attainment is also a problem. The most important outcomes of education are long-term. Improved early literacy is related to a variety of other positive outcomes, as discussed in chapter 6. However, like physical fitness, literacy and numeracy require continuing exercise for good lifetime results. Literacy at age 11 is important, but it will never be a perfect predictor of literacy at later ages, especially given increasing evidence, such as from the International Adult Literacy Survey (OECD/Statistics Canada, 1997), that many jobs do not require significant literacy or numeracy skills. The result is that people's skills may atrophy over time (see also Livingstone, 1999).

Finally, it should be noted that benefits could accrue to different parties. Some benefits are individual, for example, higher incomes for those with more education. Other benefits are governmental, for instance, lower expenditures for social programmes. Still other benefits accrue to the society as a whole in terms of greater volunteerism or improved parenting.

Even when a particular outcome has been accepted as important, its assessment is usually

a complex task. Many of the most valued outcomes of schooling, such as a sense of civic duty or the ability to solve problems or to work in teams, are difficult to measure in large-scale assessments at a reasonable cost. In the case of literacy and numeracy, there is considerable debate about the best way to measure skills effectively and efficiently. Typically some kind of test is used, but there must always be at least some doubt as to whether any test validly and reliably measures the domain under consideration, and further doubt about whether the skill being measured is in fact the best representation of the desired domain. The International Adult Literacy Study (IALS) is a very sophisticated attempt to assess literacy and numeracy skills across nations yet it, too, has been criticised as lacking validity (e.g. Hamilton & Barton, 2000).

Questions of improvement also depend on the starting point. It is generally easier to produce achievement gains when initial achievement levels are low. The higher the starting point, the harder it is to get improvements and the more expensive one might expect the improvements to be. Some evidence from international comparisons suggests that the achievement levels in Britain for literacy and numeracy a few years ago were not particularly good (OECD, 2000). Whether they were low enough so that improvement would be readily possible is another matter.

None of this is meant to suggest that outcomes cannot or should not be measured. Gathering data about how well we are doing is a fundamental part of any considered effort to improve schooling. It is, however, a difficult thing to do and we should be particularly cautious about excessive reliance on any single measure as an indicator of how well we are achieving complex and difficult goals.

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Please quote ref: DfES 0101/2003
ISBN 1 84185 866 8
PP3/D16/PUB020665/0103/252

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