**NIAO**

Northern Ireland Audit Office

# Improving Literacy and Numeracy Achievement in Schools

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This report has been prepared under Article 8 of the Audit (Northern Ireland) Order 1987 for presentation to the Northern Ireland Assembly in accordance with Article 11 of that Order.

K J Donnelly                                                          Northern Ireland Audit Office

Comptroller and Auditor General                                      19 February 2013

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# Abbreviations

| | |
|---|---|
| BELB | Belfast Education and Library Board |
| CCEA | Council for the Curriculum, Examinations and Assessment |
| CCMS | Council for Catholic Maintained Schools |
| ESA | Education and Skills Authority |
| ESAGS | Every School a Good School |
| ETI | Education and Training Inspectorate |
| FAST | Families and Schools Together project |
| FSM | Free School Meal |
| FSME | Free School Meal Entitlement |
| KS | Key Stage |
| NEELB | North Eastern Education and Library Board |
| NFER | National Foundation for Educational Research |
| PAC | Public Accounts Committee |
| PIRLS | Progress in International Reading Literacy Study |
| PISA | Programme for International Student Assessment |
| QUB | Queen's University of Belfast |
| OECD | Organisation for Economic Co-operation and Development |
| SEELB | South Eastern Education and Library Board |
| SELB | Southern Education and Library Board |
| SENCO | Special Educational Needs Co-ordinator |
| TIMSS | Trends in International Mathematics and Science Study |
| WELB | Western Education and Library Board |

*"Education is fundamental in determining a child's adult life."*

# Executive Summary

## Introduction

1. Education is fundamental in determining a child's adult life: indeed education is not only associated with higher income, but also with better health, and even longer life for individuals. The social and economic costs of school failure are extremely high, and take many different forms: increased criminality, lower rates of economic growth, lower intergenerational effects on children and parents, higher public health spending, higher unemployment, lower social cohesion, and even lower participation in civic and political activities[1]. Literacy and numeracy provide the foundation for all learning and it is a basic obligation of the education system to equip pupils with the reading, writing and mathematics skills needed to fulfil their potential. In an increasingly competitive economy, substantial improvements in these core skills must be achieved over time.

2. In March 2006, we published a report on 'Improving Literacy and Numeracy in Schools'. Our report concluded that improving literacy and numeracy standards was a major challenge for schools in Northern Ireland. Although pupils' literacy and numeracy proficiency levels compared very favourably at an international level at that time, we found that:

   - the performance of boys lagged significantly behind that of girls;

   - none of the targets set by the Department of Education (the

   - Department) in 1998 had been met; and

   - significant numbers of children, particularly in secondary schools, fail to reach the appropriate level of attainment, demonstrating that tackling inequality among pupils becomes more challenging as they progress through the school system.

3. In the same year, a House of Commons Public Accounts Committee (PAC) report concluded that, *"Improving literacy and numeracy standards in schools continues to be a major challenge in Northern Ireland."* The report went on to describe progress to date as, *"manifestly unsatisfactory"* and noted, in particular, lower levels of achievement for boys and for children attending controlled secondary schools in areas of high deprivation in Belfast.

4. Two Departmental policies/strategies have been issued and have important implications for literacy and numeracy in schools:

   - In April 2009, the Department launched *Every School a Good School*, the new policy for school improvement. The overall aim of the policy is to raise the quality of children's achievements and standards so that 'every child will leave compulsory education with appropriate standards of literacy and numeracy'.

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1   Overcoming School Failure: Policies that Work, Organisation for Economic Co-operation and Development, April 2010

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- The Department issued a new literacy and numeracy strategy, *'Count, Read: Succeed - A strategy to improve outcomes in Literacy and Numeracy'* in March 2011. The aims of the Strategy are to:

  ➢ support teachers and school leaders in their work to raise overall levels of attainment in literacy and numeracy among young people; and

  ➢ narrow the current gaps in educational outcomes.

5. This report provides a detailed update on the level of progress achieved in literacy and numeracy performance since we last reported in 2006 and outlines examples of good practice identified during school visits to discuss current literacy and numeracy practices. During our visits, we noted considerable work being undertaken in schools to improve classroom practice in literacy and numeracy and create learning environments within which pupils will have greater opportunities for success. This demonstrates that low levels of literacy and numeracy are not an intractable issue – they can be addressed and the potential of existing services unlocked to allow them to reach the most vulnerable pupils and, importantly, their parents to support their literacy and numeracy.

**Main Findings**

6. Since our previous report in 2006, levels of achievement in literacy and numeracy,

at Key Stage 2 and 3 and at GCSE level, have increased slowly in line with the targets set out in the Department's strategy, *Count, Read: Succeed* (see paragraph 1.15). However around 9,000 pupils still left full-time education in 2010-11 not having achieved the required standard in literacy and numeracy. The wide gap between the highest and lowest achieving children continues to be challenging with a strong correlation between low levels of academic achievement and free school meal entitlement (an indicator of social deprivation). There are further disparities in pupil achievement according to gender, residency and religion.

7. Despite moderate improvements in the levels of achievement in literacy and numeracy, Northern Ireland's global education positioning has fallen. Studies undertaken by the Programme for International Student Assessment (PISA) in 2000 and 2003 demonstrated that, at that time, Northern Ireland achieved a score in literacy and numeracy that was significantly higher than the OECD average. Since then, in both 2006 and 2009, Northern Ireland post-primary student scores have slipped and are not now significantly different to the OECD average in reading and mathematics.

8. In 2011 Northern Ireland primary schools took part for the first time in two international comparative studies – Progress in International Reading Literacy Study (PIRLS) which looked at reading achievement at ages 9-10, and Trends in International Mathematics

and Science Study (TIMSS), a parallel study of mathematics and science at ages 9-10. These studies reported very impressive performances by local primary schools.

9. As pupils progress from primary to post-primary, the percentage of pupils reaching the expected standard in literacy and numeracy declines. At the end of primary school, more than one in six does not achieve the expected standard in literacy and numeracy. By Key Stage 3, more than one in five does not achieve the expected standard in literacy and numeracy. By GCSE, two in five fail to achieve the standards deemed necessary to progress to sixth form studies at school; further education; training; or step onto the employment ladder. It is essential that during the primary years – and particularly the early primary years – pupils' learning needs are identified and addressed.

10. Teaching quality is the most significant factor influencing pupil learning that is under the control of schools. Our review acknowledges the considerable work being undertaken in schools to improve classroom practice in literacy and numeracy, and to create learning environments within which pupils will have greater opportunity for success. It is important that schools and teachers are encouraged to continually evaluate the learning needs of their pupils and that they are consistently expanding their repertoire of strategies to personalise literacy and numeracy learning for pupils.

11. We have noted the evidence from the most recent Chief Inspector's Report[2] which has continued to raise an issue of poor quality teaching in just under one quarter of post-primary schools and just under one-fifth of primary schools. Thus, while there are good practice mechanisms within many schools, these are not being systematically and consistently applied. This means there remains a crucial need to increase the reach of good practice and that this process is continually supported and evaluated by the Department, employing authorities and schools. It is equally important that teachers themselves can demonstrate at least minimal proficiency in literacy and numeracy teaching skills and knowledge.

12. Effective school leadership has a vital role to play in improving the level of attainment in literacy and numeracy and addressing under-performing schools, yet the Chief Inspector's Report concluded that the quality of leadership across schools of various types ranges from unsatisfactory to outstanding. The first challenge is, therefore, to get all school leaders doing what the best leaders do. Beyond that, the challenge is to develop new approaches to school leadership for the future.

13. A number of the schools we visited as part of the review place a high priority on diagnosing and addressing individual learning needs and have made decisions to dedicate discretionary resources or seek external assistance to provide targeted support to more vulnerable pupils. Our experiences in schools demonstrates, too,

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2 Chief Inspector's Report 2010-12, Education and Training Inspectorate, page 46, para 110, and page 56, para 130.

# Executive Summary

that, as a key element in pupils' literacy and numeracy progression, families can be supported and the home learning environment boosted through partnerships between communities and the education services. While this is not a guarantee, the potential to save money by taking action to prevent problems and costs further down the line is significant.

14.    We commend the consistent disaggregation and sharing of data by the Department and its use by the schools we visited. In our view, this can only assist in enabling their respective understanding of levels of, and changes in, the performance of schools and can help to inform approaches as to how best pupil performance might be sustained and improved upon. Despite these actions, our review identified a risk that data is not always utilised in a timely and effective manner across all schools and sectors. It is vital that school-wide processes are put in place to ensure that information on individual pupils and their learning is analysed appropriately and that schools' capacity to utilise data to enhance pupil performance is supported by the Department, the Education and Library Boards (the Boards) and the Council for Catholic Maintained Schools (CCMS). In particular, the limitations and deficiencies which can exist in tracking the learning needs of pupils as they move from primary to post-primary phases must be addressed to ensure that those needs are not lost.

15.    Within the schools we visited there was an obvious zeal to seek out

and share good teaching practices from a wide range of sources. This resonates, too, with the call from the Literacy and Numeracy Taskforce[3] to develop a "shared culture of good practice" throughout the school system. Our review echoes this exhortation. It highlights the need for ongoing consideration to be given to ways of identifying and sharing practices that are already working to raise levels of literacy and numeracy achievement in schools. Continuous improvement – particularly progress in closing gaps and improving outcomes for underperforming pupils – will require ongoing organisational learning, not only at the level of the school, but also at the level of the system.

## Summary of Recommendations

### Recommendation 1 (page 30)

- We acknowledge the target set for socially disadvantaged pupils at GCSE level. In our view this creates a powerful incentive to narrow the gap in achievement between pupils from different socio-economic backgrounds. Given this rationale, **it would be advantageous to have a system in place which would allow a similar Free School Meal Entitlement target to be established for pupils at Key Stage 2.** However, the Department told us that, at present, pupil level data is not collected in a way which allows such a target to be set. The Department

expects to have pupil level data available from 2012-13 academic year onwards. **We recommend that the Department progresses this as soon as possible.**

### Recommendation 2 (page 30)

- We acknowledge the Department's view that expectations for attainment should apply equally to pupils in both controlled and maintained schools. While it matters most that all pupils are improving, it is also important that the gap in performance between the two sectors is narrowing. **A sound monitoring regime which periodically highlights the relative performance and progress of pupils in the controlled and maintained sectors will provide for greater accountability and transparency.**

### Recommendation 3 (page 42)

- **We recommend that all aspiring teachers be required to demonstrate through some process of testing or assessment that, as a condition of registration with the General Teaching Council, they meet threshold levels of knowledge about the teaching of literacy and numeracy and have sound levels of content knowledge in these areas.**

### Recommendation 4 (page 54)

- Whilst successful schools make good use of data, we are concerned that the collection and use of data is neither systematic nor consistent across the school system and between school phases. In our view, some schools may experience difficulties with using data to evaluate their performance and guide their improvement activities. It is crucial that schools facing such difficulties are provided with guidance and support on the systematic and structured use of data for monitoring and evaluating progress. **We recommend that the Department, Boards and CCMS ensure that adequate and appropriate training opportunities in data interpretation and analysis are made available to Principals and teachers in those schools where such participation needs to be further encouraged.**

### Recommendation 5 (page 55)

- The transfer to post-primary schooling is a time of special significance in the lives of pupils. **Our school visits convinced us of the importance of the closest possible dialogue and exchange of data between both primary and post-primary sectors. We recommend that this approach is strongly supported by the Department, Boards, CCMS and**

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**in the future the Education and Skills Authority**. In our view, this will involve encouraging contacts, information and training by teachers in order to understand better the differences between systems. This will enable teachers at both levels of education to listen to each other and to develop strategies so that pupils and their families (particularly those at risk of failure) can be involved and supported academically, socially and emotionally throughout the transfer.

### Recommendation 6 (page 58)

- The Literacy and Numeracy Taskforce has concluded that the 'development of a "shared good practice" culture across all schools is essential and inexpensive but as yet there appears to be no clear strategy or desire to introduce a systematic in-service programme to make this happen'. We share the Taskforce's concerns. It is important, therefore, that the full range of expertise and capacity that exists within the schools system is utilised to best effect to drive through innovation and change. **While we acknowledge that the Department, Boards and CCMS work closely to assist schools, we recommend that even greater attention is given to encouraging and supporting local experimentation, collaboration and innovation and to systematically identify and scale-up effective models of teacher and school practice.**

*"Literacy and Numeracy skills are essential in life and today's global market place."*

# Part One:
## Introduction

## What are literacy and numeracy?

1.1 Literacy is the ability to read, write and use written language appropriately in a range of contexts for different purposes and to communicate with a variety of audiences. Reading and writing, when integrated with speaking, listening, viewing and critical thinking, constitute valued aspects of literacy in modern life. Numeracy is the effective use of mathematics to meet the general demands of life at school and at home, in paid work, and for participation in community and civic life[4].

## Why are literacy and numeracy skills important?

1.2 Literacy and numeracy skills are essential in life and today's global marketplace. Students skilled in literacy and numeracy are more likely to stay in full time education, and as adults be more productive and earn higher wages. Improving pupils' literacy and numeracy can have a positive effect on their confidence, their ability to deal with every-day tasks, as well as their lifelong learning and health.

1.3 Poor literacy and numeracy skills are part of a vicious cycle of factors that lead to disadvantage and poverty of opportunity. Research shows the links between low literacy and numeracy and crime, poor health choices, low educational attainment and

unemployment. For example, our report on adult literacy in 2009[5] stated that those with poor literacy and numeracy skills were:

- four times more likely to be unemployed;

- if employed, more like to be in a low paid, low skilled job;

- more likely to suffer from ill-health or depression;

- more likely to be dependent on state benefits; and

- more likely to be in poor housing.

1.4 Low literacy and numeracy levels continue to be associated with the poorest pupils and families. Moreover, the early years are seen as formative; patterns that begin in this period of development can set the course of future development. Research[6] has suggested that pupils from the poorest families were less likely to have had access to preschool educational experiences and were already performing less well in cognitive assessments as early as five years of age. By the age of ten, the children were likely to have fallen further behind, becoming disillusioned with school and wanting to leave at the first opportunity. Stemming from this, they were most likely to have left full-time education at the earliest opportunity with no qualifications. Subsequently, they were found to be four times more likely

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4 A fuller version of literacy and numeracy definitions can be found in the Department's Count, Read: Succeed – A Strategy to Improve Outcomes in Literacy and Numeracy, November 2011, pages 2 & 3, paras 1.7 & 1.10

5 *Improving Adult Literacy and Numeracy*, NIAO, 9 December 2009

6 *Illuminating disadvantage: profiling the experiences of adults with entry level literacy or numeracy over the life course*, S. Parsons and J. Brynner, National Research and Development Centre for Adult Literacy and Numeracy, London, 2007

to hold negative views of the value of education for future employment opportunities and often had lower career aspirations. Ongoing negative consequences are likely to be experienced throughout life, in the labour market and at home, especially for men. In an attempt to redress the balance the Department of Education (the Department) implemented a pre-school expansion programme in 1998 with a clear focus on disadvantage.

1.5     Research[7] consistently indicates that the home learning environment is a crucial factor in predicting, and developing, children's literacy and numeracy skills and their future life chances. Parents are a child's first educator. A child's family and home environment has a strong impact on his/her language, literacy and numeracy development and educational achievement. This impact is stronger during the child's early years but continues throughout their school years. Many background variables affect the impact of the family and home environment (such as socio-economic status, level of parental education, family size, etc.) but parental attitudes and behaviour, especially parents' involvement in home learning activities, can be crucial to children's achievement and can overcome the influences of other factors. Several recent studies found that parents with low literacy levels are less likely to help their children with reading and writing, feel less confident to do so, are less likely to have children who read for pleasure and are more likely to have children with lower cognitive and language development levels.

## Literacy and numeracy interventions and value for money

1.6     Because of the impact of socio-economic factors in determining educational outcomes, it is extremely difficult to draw value for money conclusions on literacy and numeracy interventions in terms of expenditure per pupil outcome. The Department deliberately does not approach raising standards of literacy and numeracy across schools by ring fencing funding.  The rationale for this approach is that literacy and numeracy are so fundamental to a child's education that they should not be viewed as separate or stand-alone initiatives but rather as being integral to a pupil's whole education.  The Department allocates funding to schools from its Aggregated Schools Budget using a Common Funding Formula[8].

1.7     Of the total funding allocated under the Common Funding Formula, on average, almost 80 per cent of the available funding is allocated to all schools under the age weighted pupil units factor, i.e. this element represents the core funding for a school.  However, due to the unique profiles of pupils and differing school characteristics, other factors in the formula will vary how much an individual school will receive from Age Weighted

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7     *A research review: the importance of families in the home,* A. Bonci, National Literacy Trust, 2011

8     The formula takes a number of factors into consideration including; age weighted pupil units; targeting social needs (TSN); foundation stage; primary principals' release time; small schools; newcomers; traveller children; premises; and above average teaching costs.
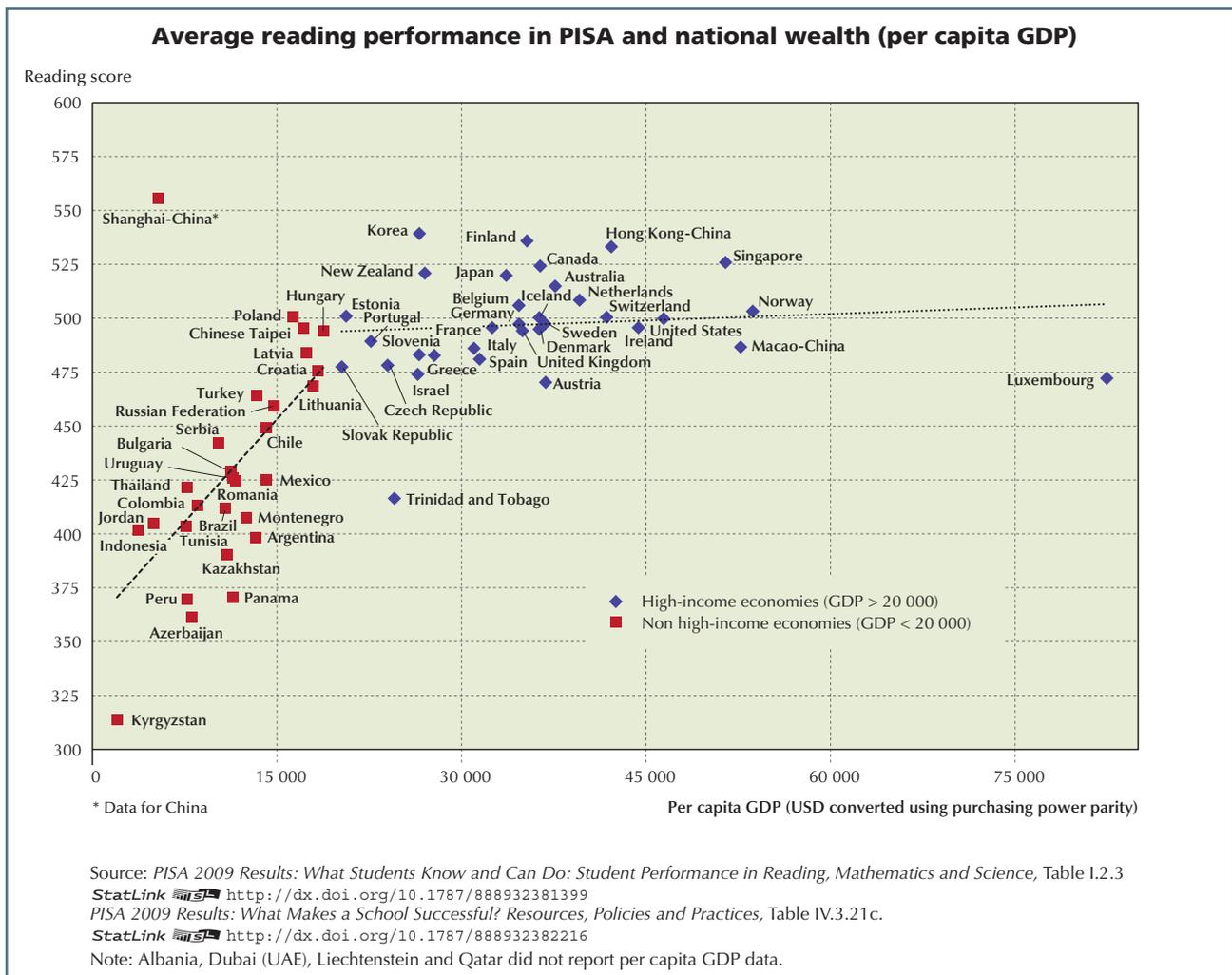
# Part One:
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Pupil Units (AWPU) funding within its delegated budget. For example, on average, primary schools receive 79 per cent of their school delegated budget via core AWPU funding, whilst at post-primary level, on average, this figure is 87 per cent. The average funding per pupil for 2012-13 is £3,696 for a nursery school pupil, £3,014 for a primary school pupil and £4,172 for a post-primary school pupil. Complexity in formula funding renders value for money conclusions in terms of expenditure per pupil difficult. However, broadly speaking, there is little variation in the funding per pupil yet the outcomes for individual pupils vary greatly.

1.8    Value for money, therefore, is not so much about the scale of resources spent on literacy and numeracy but more about how such educational resources are deployed. Many schools with low levels of attainment could achieve better value in terms of literacy and numeracy achievement by applying the good practice identified during our school visits.

**Average reading performance in PISA and national wealth (per capita GDP)**

Reading score

(scatter plot with data points for various countries plotting Reading score (300–600) against Per capita GDP (USD converted using purchasing power parity, 0–75 000))

Countries labelled: Shanghai-China*, Korea, Finland, Hong Kong-China, Canada, Singapore, New Zealand, Japan, Australia, Hungary, Estonia, Belgium, Iceland, Netherlands, Switzerland, Norway, Poland, Portugal, Germany, Chinese Taipei, France, Sweden, United States, Slovenia, Denmark, Ireland, Latvia, Italy, United Kingdom, Macao-China, Croatia, Greece, Spain, Turkey, Israel, Luxembourg, Russian Federation, Lithuania, Austria, Serbia, Czech Republic, Bulgaria, Chile, Slovak Republic, Uruguay, Thailand, Mexico, Colombia, Romania, Trinidad and Tobago, Jordan, Montenegro, Brazil, Indonesia, Tunisia, Argentina, Kazakhstan, Peru, Panama, Azerbaijan, Kyrgyzstan

Legend:
◆ High-income economies (GDP > 20 000)
■ Non high-income economies (GDP < 20 000)

* Data for China

Per capita GDP (USD converted using purchasing power parity)

Source: *PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science,* Table I.2.3
StatLink http://dx.doi.org/10.1787/888932381399
*PISA 2009 Results: What Makes a School Successful? Resources, Policies and Practices,* Table IV.3.21c.
StatLink http://dx.doi.org/10.1787/888932382216
Note: Albania, Dubai (UAE), Liechtenstein and Qatar did not report per capita GDP data.

1.9    In February 2012 PISA[9] reported that the success of a country's education system depends more on how educational resources are invested than on the volume of investment.[10]   It concluded that greater national wealth or higher expenditure on education does not guarantee better student performance. The results indicate that a country's cumulative spend on educating a student from the age of 6 to the age of 15 (in US dollars) is unrelated to performance after a threshold of USD 35,000 per student is reached.   For example, countries that spend more than USD 100,000 per student from the age of 6 to 15, such as Luxembourg, Norway, Switzerland and the United States, show similar levels of performance as countries that spend less than half that amount per student, such as Estonia, Hungary and Poland. Meanwhile, New Zealand, a top performer in PISA, spends a lower-than-average amount per student from the age of 6 to 15.

1.10   Research commissioned by the KPMG Foundation[11] highlighted the importance of literacy interventions as a cost-effective means of addressing social inequality.  It has been estimated returns of £11 - £16 have been made for every £1 spent on reading recovery.  Other research[12] has calculated that between £12 and £19 is returned for every £1 spent on effective early numeracy intervention.  It is

important that funding is made available for initiatives however, in general, PISA's research supports our conclusion that better value for money is best achieved by making the most of the resources available, increased investment is likely to have a limited impact on achievement in literacy and numeracy.

## Literacy and Numeracy - the Northern Ireland perspective

1.11   The Department introduced the *Strategy for the Promotion of Literacy and Numeracy in Primary and Secondary Schools* in 1998.  By 2004-05, in addition to normal spending on the curriculum, £40 million was spent on specific literacy and numeracy programmes.  In spite of this expenditure, our report in 2006[13] found that significant numbers of children were still not reaching expected levels at Key Stages in their journey through the school system (see Appendix 1 for the Department's targets for improving educational outcomes in literacy and numeracy).

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9   PISA (Programme for International Student Assessment) tests have become the leading international benchmark. These tests, held every three years by the Organisation for Economic Co-operation and Development (OECD) measure pupils' skills in reading, numeracy and science.

10   PISA in Focus 2012/02 – Does money buy strong performance?

11   *The long-term costs of literacy difficulties*, KPMG Foundation, 2008, 2nd edition

12   *The long-term costs of numeracy difficulties*, Every Child a Chance Trust, 2008

13   *Improving literacy and numeracy in schools*, NIAO, March 2006, HC 953

# Part One:
## Introduction

**Figure 1: Key Stages in a child's education**

| Age | Year | Key Stage (KS) | Statutory Assessment in relation to Literacy and Numeracy |
|---|---|---|---|
| 4-5 | Year 1 | Foundation Stage (FS) | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 5-6 | Year 2 | FS | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 6-7 | Year 3 | KS1 | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 7-8 | Year 4 | KS1 | Teacher assessments in Communication and Using Mathematics made with reference to Levels of Progression. System data collated by CCEA/Department. |
| 8-9 | Year 5 | KS2 | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 9-10 | Year 6 | KS2 | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 10-11 | Year 7 | KS2 | Teacher assessments in Communication and Using Mathematics made with reference to Levels of Progression. System data collated by CCEA/Department. |
| 11-12 | Year 8 | KS3 | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 12-13 | Year 9 | KS3 | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 13-14 | Year 10 | KS3 | Teacher assessments in Communication and Using Mathematics made with reference to Levels of Progression. System data collated by CCEA/Department. |
| 14-15 | Year 11 | KS4 | Progress in Communication and Using Mathematics assessed by teacher and reported to parent. |
| 15-16 | Year 12 | KS4 | Most children take GCSE qualification in Mathematics and English. System data collated by CCEA/Department. |

*Source: Department*

1.12 When we last reported, in 2004-05 around 5 per cent (1,214 children) did not achieve the expected level at Key Stage 1; and at Key Stage 2, it was around 23 per cent (5,500 children). In secondary schools at Key Stage 3, around 40 per cent (6,500 children) did not achieve the expected level as compared with 1 per cent in grammar schools.

1.13 In 2006, a House of Commons Public Accounts Committee (PAC) report[14] (see Appendix 2) concluded: *"Improving literacy and numeracy standards in schools continues to be a major challenge in Northern Ireland."* The report went on to describe progress to date as, *"manifestly unsatisfactory"* and noted, in particular, lower levels of achievement for boys and for children attending controlled secondary schools[15] in areas of high deprivation in Belfast.

1.14 Without doubt, the importance of literacy and numeracy is growing in recognition - there are references to it in the Executive's Economic Strategy[16] and commitments both to the Education and Skills Authority (ESA), GCSE results and levels of literacy and numeracy in the Executive's Programme for Government 2011-15[17]. The Department also participates in the PISA[18] international ranking of countries (for post-primary) and, in 2011, Northern Ireland primary schools took part for the first time in two international comparative studies

– Progress in International Reading Literacy Study (PIRLS) and Trends in International Mathematics and Science Study (TIMSS).

1.15 Two Departmental policies/strategies have been issued and have important implications for literacy and numeracy in schools:

- In April 2009, the Department launched *Every School a Good School*, the new policy for school improvement. The overall aim of the policy is to raise the quality of children's achievements and standards so that 'every child will leave compulsory education with appropriate standards of literacy and numeracy'.

- The Department issued a new literacy and numeracy strategy, *'Count, Read: Succeed - A strategy to improve outcomes in Literacy and Numeracy'* in March 2011. The aims of the Strategy are to:

  ➢ support teachers and school leaders in their work to raise overall levels of attainment in literacy and numeracy among young people; and

  ➢ narrow the current gaps in educational outcomes[19].

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14 *Improving Literacy and Numeracy in Schools (Northern Ireland),* Committee of Public Accounts, HC 108, 8 December 2006
15 for definition, see Appendix 3
16 Northern Ireland Executive – Economic Strategy: Priorities for sustainable growth and prosperity, March 2012
17 Northern Ireland Executive – Programme for Government 2011-15, March 2012
18 See footnote 8

19 Between the highest and lowest performing pupils, those most and least disadvantaged, girls and boys, and schools themselves

# Part One:
## Introduction

1.16    The literacy and numeracy strategy was published as a result of an undertaking given to PAC in 2006. At that time, the Department had indicated that the strategy would be implemented by September 2007.[20] To assist the Department in finalising the strategy, it established a Literacy and Numeracy Taskforce in February 2008. However, the strategy was only finally completed in March 2011 and launched in November 2011. We asked the Department why the finalised strategy was only published three and a half years after it was intended (and nearly two and a half years after the consultation had ended). The Department told us that there were several reasons for this. Clearly, following devolution in May 2007 it was important and entirely appropriate for a devolved Education Minister to review progress and establish strategic direction. Within that strategic direction, there were two areas in which progress had to be made before a coherent literacy and numeracy strategy could be finalised. First, there was a need to advance and complete work on a wider school improvement policy within which the literacy and numeracy strategy would sit. The Department's school improvement policy, *Every School a Good School*, was published in April 2009. Following this, the Department also finalised its policy on end of KeyStage assessment during 2010.

This included consultation on and establishing of important Levels of Progression which set out the expected standards in Communication (literacy) and Using Mathematics (numeracy). A literacy and numeracy strategy finalised in advance of this wider work would not have been either comprehensive or coherent.

## Literacy and numeracy performance in primary and post-primary schools continues to concern the Schools' Inspectorate

1.17    While there have been improvements in pupil outcomes at Key Stage 2, 3 and at GCSE level, according to the Chief Inspector's Report 2010-12 "inspection evidence reveals that the continued development of learners' literacy and numeracy skills remains a priority for all sectors"[21].

1.18    Compared to the previous reporting cycle, the Inspectorate highlighted that the proportion of primary schools inspected in which the standards and achievements were not good enough had improved, at just over one in five[22]. However, almost one child in five still leaves primary school not having achieved the expected level in English and mathematics[23]. The Chief Inspector reported that overall effectiveness was evaluated as good or better in 65 per cent of post-primary schools, which

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20  Department of Finance and Personnel - Memoranda of Reply dated 19 February 2007 on the 2nd Report

21  Chief Inspector's Report 2010-12, Education and Training Inspectorate (ETI), page 17, para 39
22  Chief Inspector's Report 2010-12, ETI, page 44, para 104
23  Chief Inspector's Report 2010-12, ETI, page 17, para 42

drops to 59 per cent when added to outcomes of follow up inspections[24]. A key challenge is improvement of outcomes for learners in English and mathematics across all sectors, but particularly those from disadvantaged backgrounds as only 32 per cent of pupils entitled to free schools meals achieve five GSCEs A*-C or equivalent, including English and mathematics. The Chief Inspector concluded *'this low level of achievement and the widening gap in outcomes is unacceptable'*[25].

## Our follow-up study

1.19　In 2006 a PAC report (see paragraph 1.13) concluded that, *"while Northern Ireland has a high proportion of pupils at the highest levels of achievement in literacy and numeracy it also has a long tail of children who are not performing well"*. As pointed out at paragraph 1.18, the dissatisfaction expressed recently by the Inspectorate would indicate that improving literacy and numeracy performance continues to pose a significant challenge within schools. Against this background our follow-up study:

- provides a detailed update on the level of progress achieved in literacy and numeracy performance since our report in 2006 (Part 2); and,

- outlines examples of good practice (Part 3).

1.20　In conducting our examination we visited ten primary and ten post-primary schools to discuss current literacy and numeracy practices. Schools were selected on the basis of high achievement in 2009-10 or because of recent improvements in literacy and numeracy performance in challenging circumstances – typically schools with high Free School Meal (FSM) entitlement and/or non-selective post-primary schools. The aim of the visits was to identify how schools are applying good practice to deliver results and to understand how they are overcoming obstacles to improve pupil and school performance. Case study examples are highlighted in Part 3 of this report.

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24　Chief Inspector's Report 2010-12, ETI, page 54, para 119
25　Chief Inspector's Report 2010-12, ETI, page 7, para 7

Part Two:
The Literacy and Numeracy Performance of Schools
and Pupils since our 2006 Report

*"Levels of academic achievement in Northern Ireland
are rising slowly however disparities still exist
according to socio-economic background,
gender and residency."*

# Part Two:
## The Literacy and Numeracy Performance of Schools and Pupils since our 2006 Report

**Key Messages:**

- Levels of academic achievement in Northern Ireland are rising slowly, however Northern Ireland's student scores in reading and mathematics are not statistically different to the OECD average.

- Disparities in pupil achievement according to socio-economic background, gender and residency persist (paragraph 2.14):

    ➢ pupils from an economically deprived background achieve considerably lower results;

    ➢ social deprivation appears to have a greater negative impact on achievement levels in controlled schools than in their maintained counterparts;

    ➢ achievement in Belfast continues to lag behind the rest of Northern Ireland; and

    ➢ outcomes for boys are worse than those for girls at almost all levels.

- In the new Literacy and Numeracy Strategy:

    ➢ there is a specific gender target where boys' and girls' GCSE results are reported separately; and

    ➢ there is a specific socio-economic  target where GCSE results are reported in the context of FSM entitlement.

- Mean scores in reading and mathematics for Northern Ireland are on a par with England and Scotland however its OECD positioning has fallen (paragraphs 2.40 and 2.41).

## Levels of achievement have risen slowly

2.1    Since our previous report in 2006, levels of achievement in literacy and numeracy have continued to increase slowly. This overall increase is evident in pupil outcomes at Key Stage 2 and 3 and at GCSE level.  While this section looks at performance at specific points in the progression of children through the school system, it is important to recognise the importance and status of each stage of schooling; the inter-relatedness of all stages and the responsibility incumbent in each stage to ensure a pupil's satisfactory progression during that stage and into the next.

2.2 This report analyses performance recorded throughout the period 2005-06 to 2010-11 by the Department at Key Stage 2, Key Stage 3 and GCSE. We did not undertake any analysis of the outcomes recorded at Key Stage 1 on the basis that there was little differential recorded at this level. The Department expects that under revised assessment arrangements the data provided will be robustly moderated to ensure the consistent application of standards which will allow further analysis in future years.

**Primary School performance: Key Stage 2 – Pupils aged 11**

2.3 Figure 2 shows that at Key Stage 2, over 82 per cent of pupils now leave primary school having achieved at or above the expected level (Level 4) in English and nearly 83 per cent in maths. These figures represent moderate increases in the levels since our last report –78 per

cent and 80 per cent in English and maths respectively in 2005-06.

2.4 Whilst this increase in achievement levels is welcome, progress has been slow. In 2010-11 3,876 pupils left primary school without having reached the expected level in Communication whilst 3,754 pupils left primary school without having achieved the expected level in Using Mathematics. These pupils are likely to struggle with the demands of the post-primary curriculum and are at risk of falling behind the achievement levels of their peers.

2.5 The new Literacy and Numeracy Strategy has a long term target for 2019-20 of over 90 per cent for both Key Stage 2 Communication and Using Mathematics.

**Figure 2: Percentage of pupils achieving at or above the expected level at Key Stage 2**

|  | English % | Maths % |
| --- | --- | --- |
| 2005-06 | 78.0 | 80.0 |
| 2006-07 | 78.0 | 79.5 |
| 2007-08 | 78.8 | 80.6 |
| 2008-09 | 80.1 | 81.3 |
| 2009-10 | 81.4 | 82.5 |
| 2010-11 | 82.4 | 82.9 |

A target of 83 per cent and 84 per cent for English and maths respectively was set for 2011-12.

*Source: Department*

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**Post-Primary School performance: Key Stage 3 – Pupils aged 14**

2.6   As pupils progress from Key Stage 2 to Key Stage 3, there has been a less than marked improvement in literacy and numeracy performance in terms of the expected level of attainment.  In recent years this has levelled-off at approximately 79 per cent for English and 77 per cent for mathematics (Figure 3).  Another interesting feature in comparing trends at Key Stage 2 with Key Stage 3 performance is that, at the latter stage, pupils generally perform less well in numeracy than literacy – a switch around from Key Stage 2.

2.7   As with Key Stage 2 outcomes, there are still substantial numbers of pupils at Key Stage 3, who are not achieving the required levels in literacy and numeracy. In 2010-11 more than one in five failed to reach the requirement in literacy at

Key Stage 3 – just over 5,000 pupils. In maths the figure was higher, at nearly 5,500 pupils. These pupils are unlikely to be able to catch up sufficiently so as to gain the necessary grades at GCSE to give them access to higher education.

2.8   The new Literacy and Numeracy Strategy has a long term target for 2019-20 of over 85 per cent for both Key Stage 3 English and maths.

**Post-Primary School performance: GCSE – School Leavers**

2.9   Attainment at the level of five or more GCSEs at grade A* - C or equivalent, including GCSEs at A*-C in GCSE English and maths, is widely seen as the minimum qualification required for students to progress to sixth form studies at school; further education; training; or step onto the employment ladder.

**Figure 3:  Percentage of pupils achieving at or above the expected level at Key Stage 3**

|  | English % | Maths % |
|---|---|---|
| 2005-06 | 76.6 | 72.9 |
| 2006-07 | 78.2 | 74.4 |
| 2007-08 | 79.2 | 74.1 |
| 2008-09 | 78.9 | 77.3 |
| 2009-10 | 79.4 | 76.7 |
| 2010-11 | 79.2 | 77.3 |

A target of 81 per cent and 80 per cent for English and maths respectively was set for 2011-12.

*Source: Department*

Since our last report, the percentage of pupils achieving at this standard has increased.[26]   Figure 4 shows that in 2010-11 59.5 per cent of pupils achieved this standard, an increase of nearly 7 percentage points since 2005-06.

2.10   GCSE attainment levels have improved steadily since our previous report but, as with performance at Key Stages 2 and 3, GCSE attainment has also levelled off over recent years.  In terms of pupil numbers, around 9,000 pupils are still leaving full-time education not having achieved the required standards in literacy and numeracy.  Moreover, as

Figure 5 demonstrates, there remains a stubborn level of around 10 per cent of pupils who are failing to achieve even a grade G at GCSE English and maths.

2.11   The data gathered to assess pupil outcomes at GCSE stage also provides the basis for measuring the relative performance of post-primary schools. Out of 213 post-primary schools over 100 had less than 50 per cent of year 12 pupils achieving 5+ GCSEs including GCSE English and maths at grades A*-C.  Seventy three schools had fewer than 35 per cent of year 12 pupils achieving the standard.

**Figure 4: Percentage of school leavers achieving 5+ GCSEs at A* - C including GCSE English and Maths**
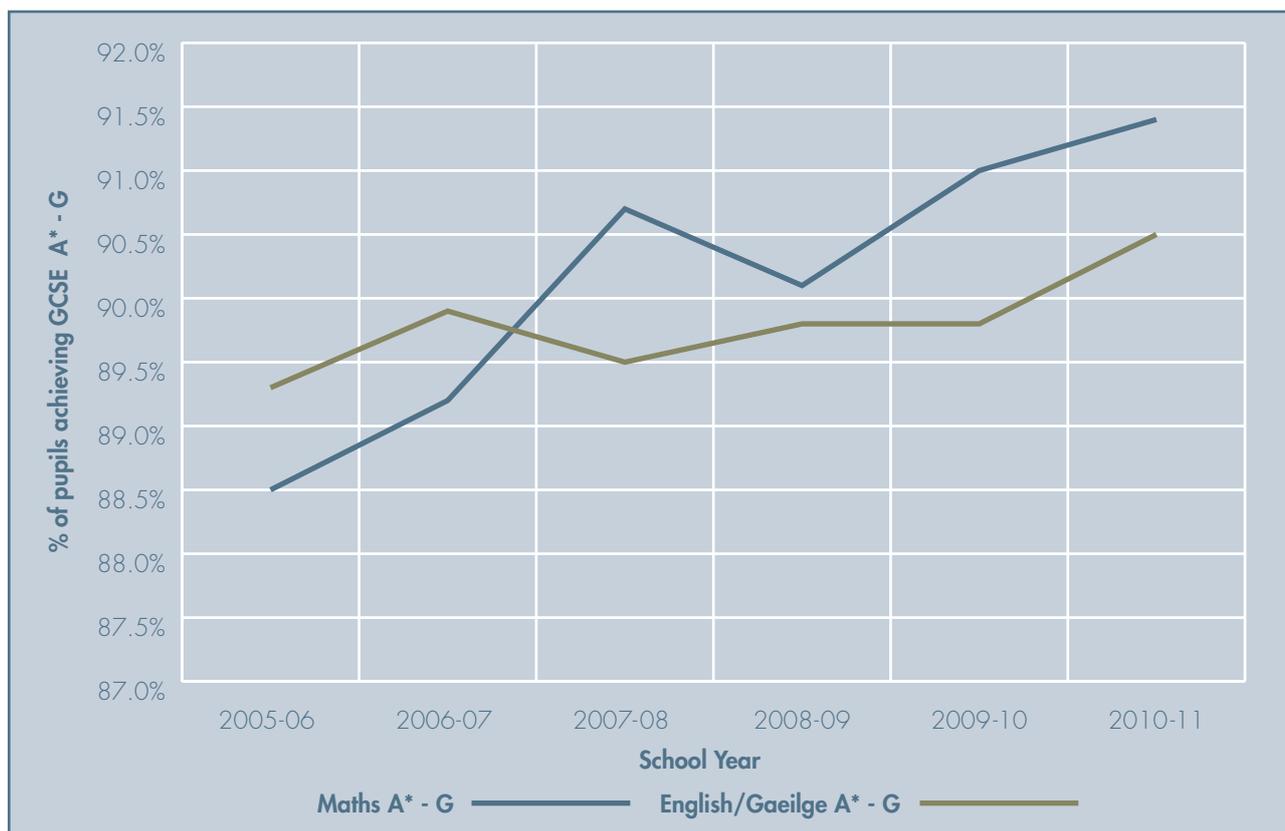


*Source: Department*

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26   Since 2008, changes to the structure of GCSE Mathematics mean all candidates now have access to Grade C. Prior to this, candidates entered for Foundation level could only be awarded grades D – G.

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**Figure 5: Percentage of Year 12 pupils achieving A\*-G in GCSE English/Gaeilge and GCSE Maths**



*Source: Department*

## The percentage of pupils achieving the expected standard declines as pupils progress through schooling

2.12    As pupils progress from primary to post-primary, the percentage of pupils reaching the expected standard declines.  At the end of primary school, more than one in six are failing to achieve the expected standards in literacy and numeracy.  By Key Stage 3, more than one in five are failing to achieve the expected standard in literacy and numeracy.  By GCSE, two in five fail to achieve the standards deemed necessary to progress to sixth form studies at school; further education; training; or step onto the employment ladder[27].

2.13    This decline in achievement appears to suggest that those who are unable to achieve satisfactorily at primary school find it more challenging to catch up by post-primary.  In our view, this makes it important for schools to identify at an early stage pupils at risk of underachievement and apply appropriate interventions to ensure that

27    This standard is the achievement of at least 5 GCSEs at A\*-C or equivalent including GCSE in English and Maths

they can achieve to the best of their abilities. Early intervention is considered further at paragraph 3.22.

## Considerable variation in achievement levels persists across several groups

2.14    Whilst there have been marginal improvements in the proportion of pupils achieving the expected standards, the improvements do not appear to have been universal across the education system.  Instead, some groups continue to lag behind and have achievement rates of considerably less than other comparable groups.  Disparities still exist according to:

- social class;

- religious background;

- gender; and

- geographical location.

2.15    The Department recognises that this is an issue and has included *'insufficient progress to remain on target to raise educational standards and to reduce under achievement'* as one of nine key risks in its Corporate Risk Register.

## Family income remains an indicator of low attainment at school

2.16    Many recent statistical studies have highlighted that social class is the strongest predictor of educational attainment in the United Kingdom.[28]  In Northern Ireland, as elsewhere, it has increasingly been seen as a problem by policy makers, however, the gap between the educational achievement of poor children and their more affluent peers remains a complex problem.  By the age of three, poor children have been assessed to be one year behind richer ones in terms of communication[29] and in some disadvantaged areas, up to 50 per cent of children begin primary school without the necessary language and communication skills.[30] As compulsory schooling progresses, educational inequalities continue to widen between children from poor families and those from more affluent backgrounds.  Using FSM entitlement as the best available indicator of socio-economic background our previous study showed that higher levels of socio-economic deprivation are closely associated with lower attainment at GCSE.  Pupils entitled to FSM have a substantially lower pass rate than those not entitled and are only half as likely to achieve 5 GCSEs or equivalent at grades A* - C including GSCEs in English and maths as their non-FSM

28    For example, *Education: New Labour's top priority,* R. Lupton, N. Heath and E. Salter (2009), in Hills, J., Sefton, T., and Stewart, K. (eds) *Towards a more equal society? Poverty, inequality and policy since 1997,* Bristol: Policy Press; and *A generation of disengaged children is waiting in the wings…,* Sodha, S. and J. Margo, 2010  London: DEMOS.

29    *Unequal Opportunities,* BBC, John Humphrys, 20th September 2010.

30    *An anatomy of economic inequality in the UK,* National Equality Panel, 2010, London: Government Equalities Office.

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counterparts. Moreover, the gap between these two groups of pupils has increased slightly in the six years since our previous report and has settled at around 33 percentage points (see Figure 6).

2.17    Fewer than one third of pupils entitled to FSM achieve what is seen as the standard required for entry to higher education or the career ladder. In contrast, nearly two in three students not entitled to FSM achieve this standard.

2.18    There is a strong link between FSM entitlement and low attainment in Northern Ireland's schools. A statistical analysis of outcomes from the 2009-10 year shows that there is negative correlation between achievement in Key Stage 2 English and maths in primary school and FSM entitlement. The correlation is stronger in controlled primary schools than in maintained primary schools.

2.19    A similar pattern can be seen at post-primary level. At Key Stage 3, there is a strong negative correlation between FSM entitlement and achievement in English and maths. Again, the correlations are stronger in controlled schools than in maintained schools.

**Figure 6: Percentage of School Leavers achieving 5 GCSEs A* - C including English and Maths**



*Source: Department*

2.20    The pattern at GCSE level matches this – overall a strong negative correlation exists between FSM entitlement and pupils achieving 5+ GCSEs A\*- C including English and maths. In controlled post primaries the correlation is considerably stronger than in maintained schools.

2.21    We acknowledge that within the new literacy and numeracy strategy, there is a specific target for 65 per cent of pupils with FSM entitlement to achieve 5 GCSEs A\*-C including English and maths by 2019-20.  However Figure 6 illustrates that the performance of pupils entitled to FSM has improved by only around 5 percentage points in six years.   While we acknowledge that high expectations can drive higher performance, it is important that attainment targets are realistically pitched.  Given the complexity of the factors affecting literacy and numeracy outcomes as described at paragraphs 1.4–1.5, in our view, the scale and timeframe for change as set out in the Strategy is incredibly challenging.

### Pupils in controlled schools from less affluent backgrounds continue to under-achieve in relation to their maintained sector counterparts

2.22    Although socio-economic deprivation is the strongest predictor of educational achievement, it intersects in complex ways with other factors, notably religious background and gender.  In the 2006 PAC report it was noted that, *"among socially deprived communities in Belfast, significant differences between Protestant and Roman Catholic children exist in GCSE English and Maths"*. The Committee reflected that this *"must be one of the major challenges Northern Ireland faces"* and recommended that differences in performance by pupils from different religious backgrounds be addressed.

2.23    Following the PAC report, research commissioned by the Department[31] identified clusters of under-performance in schools in Belfast and in the controlled sector.  Factors contributing to under-achievement[32] were thought to  include:

- a lack of parental involvement in their children's education;

- a perceived lack of value placed on education in certain areas, particularly deprived Protestant areas;

- a shortage of positive role models;

- the impact of 30 years of civil unrest; and

- a lack of baseline data on young children, hindering early intervention.

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31    Literacy and Numeracy of Pupils in Northern Ireland, PricewaterhouseCoopers, No.49, 2008

32    Under-achievement is used to describe a situation where performance is below what is expected based on ability. Low achievement is different from under-achievement. Low achievement is where a pupil is achieving to the full extent of her or his ability, but is well below average compared to her or his peers (*'Count, Read: Succeed - A strategy to improve outcomes in Literacy and Numeracy'*, March 2011, page 4, paras 1.13 & 1.15)

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2.24 Despite the passage of time, significant gaps in achievement remain between Belfast Education and Library Board (BELB) schools with high FSM entitlements in the controlled (largely Protestant) and maintained (largely Catholic managed) sectors. Children in maintained schools with a high percentage of FSM entitlement (50 per cent or more) have a better chance of reaching Level 4 at Key Stage 2 than those in other schools. In 2010-11, 49 per cent of pupils attending controlled schools in deprived areas of Belfast met the required standard in English and 59 per cent in maths; respectively, 21 and 14 percentage points lower than pupils in maintained schools serving similarly disadvantaged communities.

2.25 In 2010-11 there were 15 schools that had fewer than 50 per cent of pupils reaching the required level in English. As illustrated in Figure 7, 12 of the 15 schools were controlled primaries.

2.26 The achievement gap between socially deprived pupils in maintained and controlled schools persists as pupils transfer into the post-primary sector. In 2010-11, 23.3 per cent of Protestant pupils entitled to FSM achieved 5+

**Figure 7: Schools with 50 per cent or less pupils achieving the expected level in Key Stage 2 English in 2010-11**
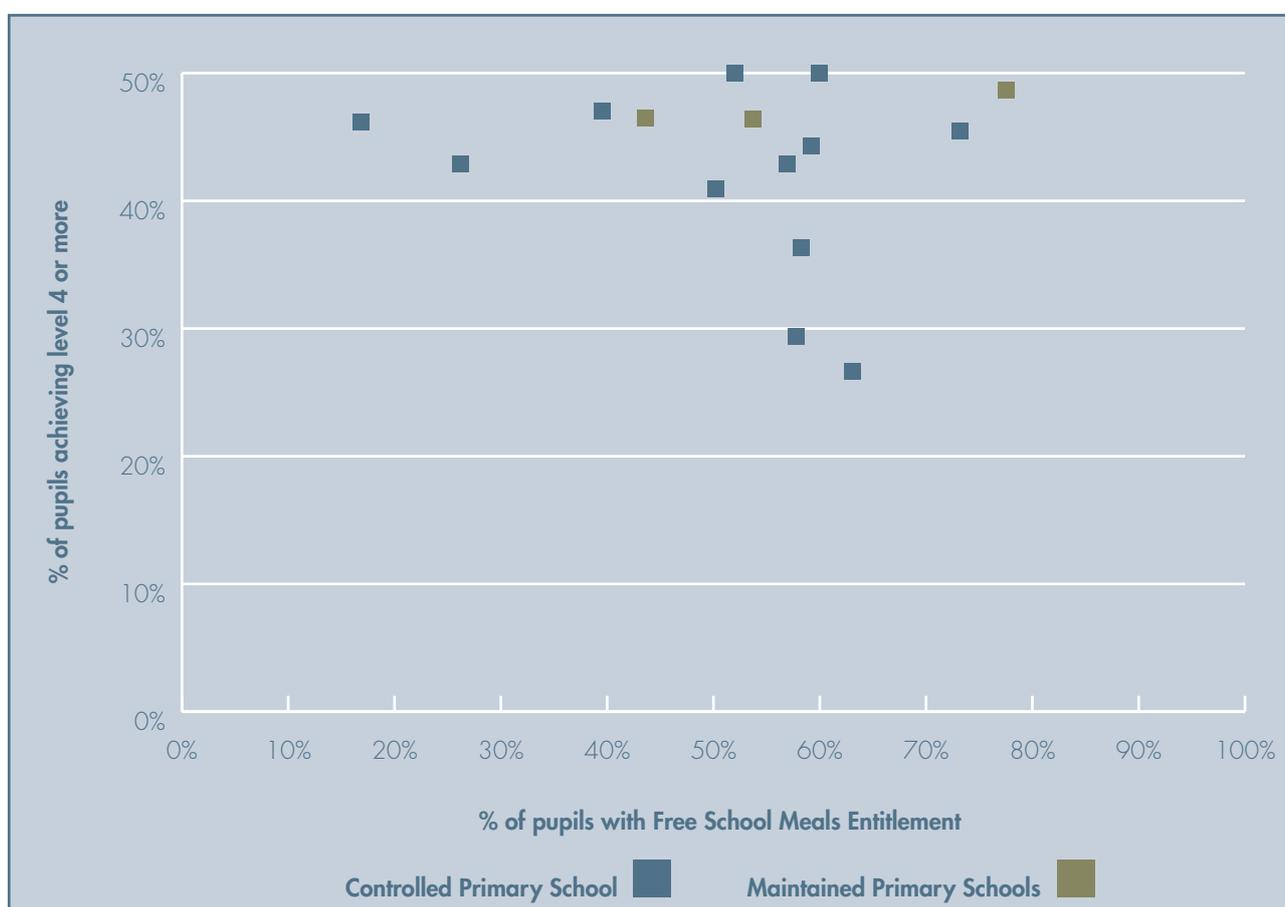


*Source: Department*

GCSEs including English and maths. The equivalent rate amongst Catholic pupils was 35.9 per cent. The success rate is particularly low amongst Protestant boys, where only one in five entitled to FSM achieved at the level of 5+ GCSEs A*-C or equivalent including GCSEs in English and maths. Meanwhile, there is a gap of 5.4 percentage points[33] of a difference between Catholic and Protestant pupils who are not entitled to FSM.

2.27 While there is a gap in performance between the controlled and maintained sectors in socially disadvantaged areas, the Department told us it does not regard it as appropriate to set differential targets based on pupils' religious or community background. The policy position is that the best way to tackle this issue is to implement measures that will have the effect of addressing under-achievement wherever it occurs. The Department told us that all schools identified as being consistently in the bottom quartile are being addressed through the 'Closing the Gap'[34] intervention whereby the Council for Catholic Maintained Schools and the five Education and Library Boards are working together to offer extra support to any school found to be consistently struggling and near the intervention process. Those schools with the lowest levels of attainment in Belfast and Derry/Londonderry specifically are being supported through the

'Bright Futures'and 'Achieving Belfast' initiatives[35].

2.28 The Department's target in terms of social disadvantage is that, across all sectors, 65 per cent of socially disadvantaged pupils, as defined by their entitlement to FSM, should achieve 5 GCSEs A*-C or equivalent (including GCSE English and mathematics) by 2019-20. Currently this figure stands at 31.7 per cent (see Figure 6) overall however this average reflects 35.9 per cent Catholic pupils and 23.3 per cent Protestant pupils. To achieve the target by 2019-20 will be a substantial undertaking, even over an eight year period, particularly given the marginal increase in the attainment of socially disadvantaged pupils in recent years.

2.29 This all sector approach can mask problems. In 2010-11 the percentage of pupils achieving the expected standard at Key Stage 2 was as low as 48.6 per cent in English and 59.0 per cent in mathematics in controlled schools with 50 per cent or more FSM entitlement in BELB. However, Departmental statistics show that Key Stage 2 achievement milestone targets of 83 per cent (Communication) and 84 per cent (Using Mathematics) have currently been achieved across all schools. This headline figure, therefore, disguises the significant underperformance of socially disadvantaged pupils and that of those in controlled schools in particular.

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33  In 2010-11, 68 per cent of Catholic school leavers who were not entitled to FSM achieved at least 5 GCSEs at grades A*-C (inc equivalent qualifications) inc GCSE English and maths. The equivalent figure for Protestant school leavers who were not entitled to FSM was 62.6 per cent. This equates to a gap of 5.4 percentage points.

34  Introduced as part of the 'Every School A Good School: A Policy for Schools Improvement' in April 2009

35  The Department commissioned two programmes that aim to address the particularly high levels of under-achievement, linked to social disadvantage in Belfast and Derry/Londonderry: 'Achieving Belfast' and 'Bright Futures'. Both programmes were introduced from the 2008-09 school year.

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### Recommendation 1

We acknowledge the target set for socially disadvantaged pupils at GCSE level. In our view this creates a powerful incentive to narrow the gap in achievement between pupils from different socio-economic backgrounds. Given this rationale, it would be advantageous to have a system in place which would allow a similar FSM entitlement target to be established for pupils at Key Stage 2. However, the Department told us that, at present, pupil level data is not collected in a way which allows such a target to be set. The Department expects to have pupil level data available from the 2012-13 academic year onwards. We recommend that the Department progresses this as soon as possible.

### Recommendation 2

We acknowledge the Department's view that expectations for attainment should apply equally to pupils in both controlled and maintained schools. While it matters most that all pupils are improving, it is also important that the gap in performance between the two sectors is narrowing. A sound monitoring regime which periodically highlights the relative performance and progress of pupils in the controlled and maintained sectors will provide for greater accountability and transparency.

### Boys' levels of achievement continues to be lower than girls

2.30    In keeping with many other countries, there is a significant gender gap in achievement levels in Northern Ireland. In 2010-11, 35.7 per cent of girls left school without achieving 5 GCSEs A* - C or equivalents including GCSEs in English and mathematics whereas 45 per cent of boys did not achieve the standard level – a 9.3 percentage point gap.

2.31    Girls outperform their male counterparts in English and maths at Key Stage 2 and Key Stage 3. By the end of primary school, many more boys than girls continue to lack the literacy and numeracy skills that will equip them to access the curriculum and attain higher grades. This pattern intensifies at Key Stage 3 as pupils move on to post-primary school. Figures 8a and 8b illustrate the percentage point differences in the achievement of boys and girls over time. They show that the gap between levels of attainment increases as pupils move through the Key Stages. While the gap has reduced slightly over the years, progress has been very slow. The Department pointed out that, although significant, the gap between girls and boys in Northern Ireland for reading is actually less than the differential in many other OECD countries.

2.32    A number of factors have been advanced by researchers to explain the different distributions of achievement

**Figure 8a: Percentage Point Variation between the Achievement of Girls and Boys at Key Stage 2**
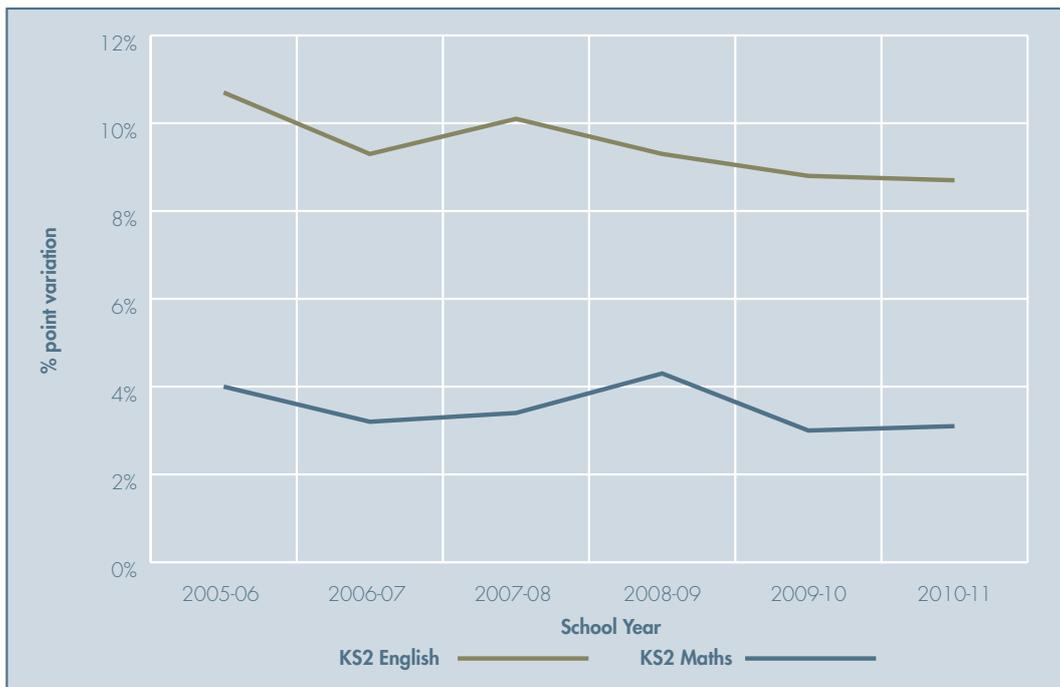


**Figure 8b: Percentage Point Variation between the Achievement of Girls and Boys at Key Stage 3**
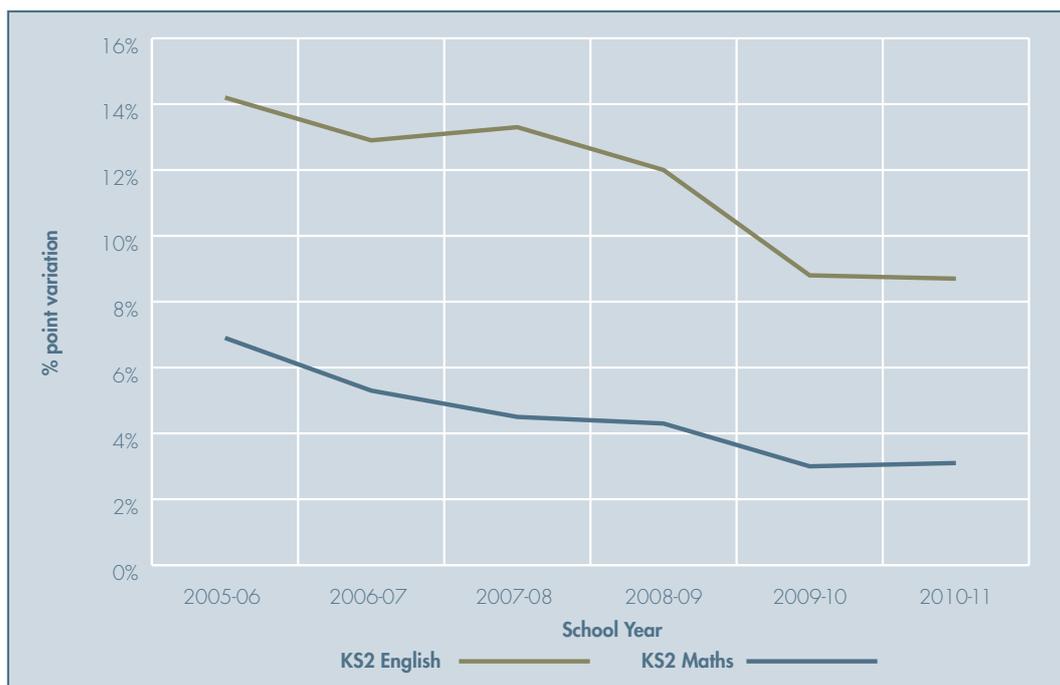


*Source: Department*

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between boys and girls: developmental differences; behavioural factors; genetic differences (in the sense that a higher proportion of boys have learning difficulties or cognitive or hearing impairments); a tendency for more boys than girls to favour the mathematical in preference to language-based modes of thinking; changes in pedagogy; and the 'feminisation' of primary teaching.

2.33 While boys' under-achievement has regularly been raised as a problem, the solution has continually been incorporated into a generalist approach, rather than a targeted one. For example, local research[36] with heads of Year 10 in Northern Ireland secondary schools, generally found an absence of an understanding of gender within strategies tackling under-achievement. While interviewees recognised the predominance of boys in their lower sets, they generally did not take this into account in terms of learning styles or teaching approaches. There was a separation between identifying the problem and what strategies could be used to solve it.

2.34 Interestingly, the only specific reference to gender in the Department's 2011 strategy document, *Count, Read: Succeed*, is that there are separate targets for boys and girls achievement at GCSE. The strategy envisages bridging the gap by 2019-20. To date, progress in closing the gender gap at Key Stages 2 and 3 has been slow. Indeed, against the timescale envisaged for closing the gap at GCSE, without serious intervention, would take 23 years

to close the gap in English at Key Stage 2 and 32 years at Key Stage 3. Whilst the gender gaps in maths are smaller, at the current pace it would only be closed after 20 years at Key Stage 2 and 7 years at Key Stage 3. These timescales demonstrate just how challenging the target is for closing the gender gap at GCSE by 2019-20.

2.35 While gender differences can be identified within statistical analyses like those presented above, gender has rarely been used as a primary factor in policy or practice. Rather, research in Northern Ireland[37] has looked at the interplay between social class, deprivation, religion and gender.

### Achievement in Belfast continues to lag behind the rest of Northern Ireland

2.36 School leavers resident in Belfast North, Belfast East and Belfast West are less likely to achieve 5 GCSEs A*-C or equivalent including GCSE English and maths than those resident elsewhere. In 2010-11, of the four worst performing parliamentary constituencies at GCSE level, three were in Belfast (see Figure 9).

2.37 Similarly, pupils resident in the Belfast Board area perform less well than pupils resident in the other four Board areas. In 2010-11 only 52.3 per cent of pupils resident in the Belfast Board area obtained 5 GCSEs A*-C or equivalent including GCSE English and maths.

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36   *Boys underachievement,* T. Lloyd, Centre for Young Men's Studies, Ulster University, 2009

37   *Boys and Schooling in the Early Years,* P. Connolly, 2004, Routledge Falmer, London; *Educational Disadvantage and the Protestant Working Class. A call for action, 2011,* D. Purvis et al.

**Figure 9: Proportion of school leavers achieving at least 5+ GCSEs (inc equivalent) Grades A\* -C 2010-11**
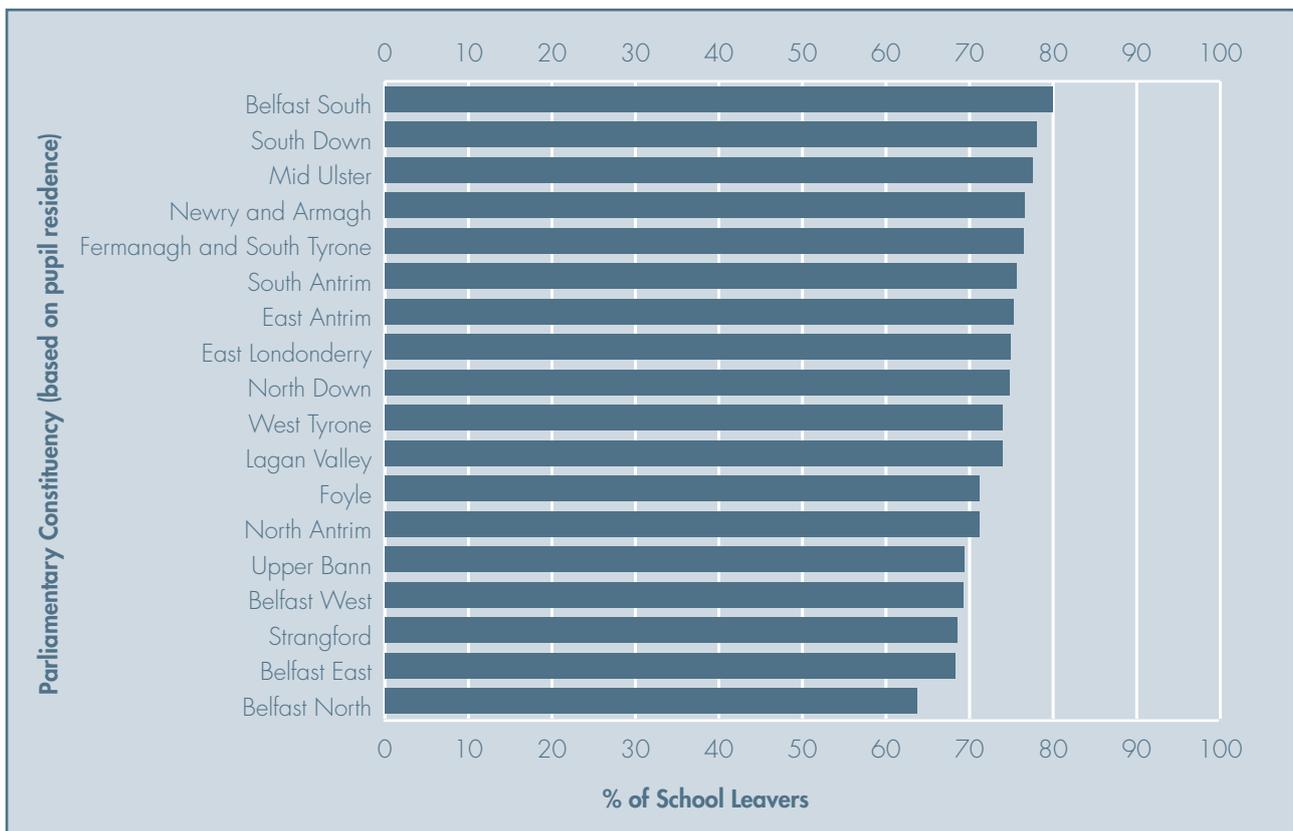


*Source: Department*

The percentage of pupils achieving this level of attainment in other Board areas ranged from 59.5 per cent in the North Eastern Board area to 63.1 per cent in the South Eastern Board area (see Figure 10).

2.38    We acknowledge that schools in Belfast with low levels of attainment are supported through the 'Achieving Belfast' programme (see paragraph 2.27). We also acknowledge that all schools, irrespective of management type and location, are subject to the regional targets set for each Key Stage in the school system.

**The mean scores in reading and mathematics for Northern Ireland are on a par with England and Scotland however its OECD positioning has fallen**

2.39    PISA is an international study that was launched by the OECD in 1997. It aims to evaluate education systems worldwide every three years by assessing 15-year-olds' competencies in the key subjects: reading, mathematics and science. Each PISA three year cycle has a focus whereby reading or mathematics is either a major or minor subject. Results were reported in 2000, 2003, 2006 and 2009.

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**Figure 10:  Qualifications of school leavers by pupil residence**
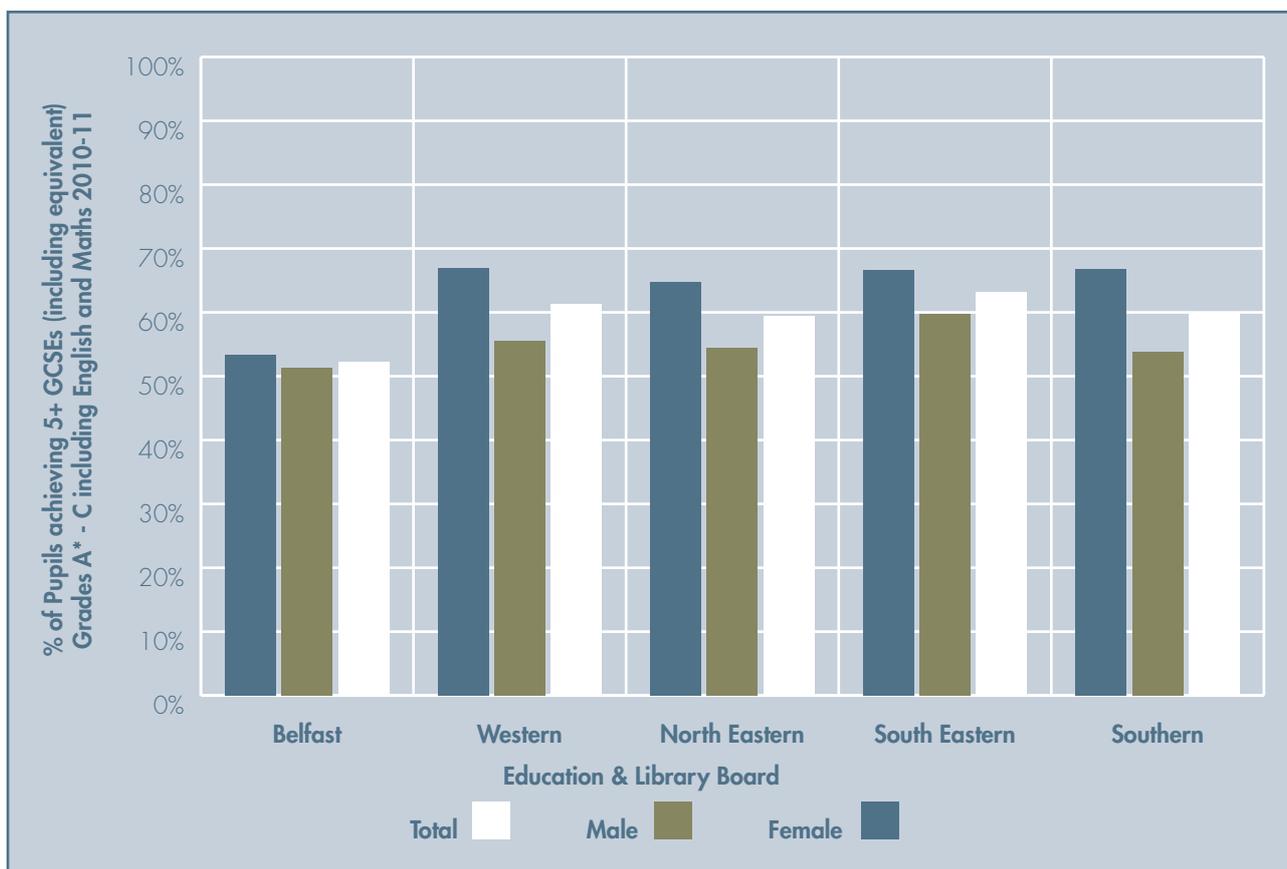


Source: Department

**Figure 11: PISA 2000 to 2009 results: Mean scores on the reading and mathematics scales**

| | 2000 | | 2003 | | 2006 | | 2009 | |
|---|---|---|---|---|---|---|---|---|
| | Reading | Mathematics | Reading | Mathematics | Reading | Mathematics | Reading | Mathematics |
| OECD Average | 500 | 500 | 494 | 500 | 492 | 498 | 493 | 496 |
| Northern Ireland | 519 | 524 | 517 | 515 | 495 | 494 | 499 | 493 |
| England | 523 | 529 | * | * | 496 | 495 | 495 | 492 |
| Scotland | Scotland did not participate in PISA | | 516 | 524 | 499 | 506 | 500 | 499 |
| Wales | Wales did not participate in PISA | | | | 481 | 484 | 476 | 472 |

\*    In 2003 the data for England did not comply with the response rate standards which OECD countries had established to ensure that PISA yields reliable and internationally comparable data.  England was, therefore, excluded from comparisons.

2.40    As outlined in Figure 11, Northern Ireland's mean scores for reading and mathematics are broadly comparable with those in England and Scotland.

2.41    Although our PISA results are comparable with other regions of the UK, Northern Ireland's global educational positioning has fallen. The PISA[38] studies of 2000 and 2003 demonstrated that Northern Ireland students had, at that time, a score that was significantly higher than the OECD[39] average in both numeracy and literacy. Since then, in both 2006 and 2009, Northern Ireland student scores have slipped and their scores are now not statistically different to the OECD average. With the exception of the 2009 scores in English which reported a small increase, the mean score for pupils in Northern Ireland appear to have fallen over the last four cycles of PISA reports. Regardless of the reason for this decline, the most recent PISA results present a challenge for our education system to improve its global positioning.  Other English speaking countries with cultures similar to our own, such as Australia and New Zealand, had mean scores that were significantly above the OECD average in both reading and mathematics (see Appendix 5).  Improvements in our own educational performance should, therefore, be highly achievable.

2.42    A survey performed as part of the 2009 PISA study found that students in Northern Ireland had a more negative attitude to reading than their counterparts across OECD countries.  Positive attitudes towards reading have been shown to have a positive correlation with reading scores.[41]

**Figure 12:  Mean scores for Northern Ireland pupils in PISA studies**[40]

| | **Reading** | **OECD Average** | **Mathematics** | **OECD Average** |
|---|---|---|---|---|
| 2000 | **519** | ▲ | 524 | ▲ |
| 2003 | 517 | ▲ | **515** | ▲ |
| 2006 | 495 | – | 494 | – |
| 2009 | **499** | – | 492 | – |

*Source: PISA / Department*

▲    significantly above the OECD average
—    not significantly different  from the OECD average

38    See footnote 8
39    The Organisation for Economic Co-operation and Development (OECD) provides a forum in which governments can work together to share experiences and seek solutions to common problems. It works with governments to understand what drives economic, social and environmental change. It analyses and compares data to predict future trends.
40    Each PISA three year cycle has a focus whereby reading or mathematics is either a major or minor subject. The results in bold show that reading was a major subject in 2000 & 2009; mathematics was a major subject in 2003 (and will be again in 2012).

41    PISA 2009 p.38.

2.43    The PISA studies commented that Northern Ireland continues to have a relatively large difference between the scores of the lowest achieving pupils and the highest scoring pupils compared to other countries. The 2009 study also commented that *"socio-economic background has a larger effect in Northern Ireland than the average in OECD countries."* It notes that *"many pupils can overcome disadvantage and achieve scores higher than predicted by their background"*.

2.44    In 2011 local primary schools took part for the first time in two international comparative studies – Progress in International Reading Literacy Study (PIRLS) which looked at reading achievement at ages 9-10, and Trends in International Mathematics and Science Study (TIMSS), a parallel study of mathematics and science at ages 9-10. These studies reported very impressive performances by local primary schools:

- In reading, Northern Ireland pupils were ranked 5th out of the 45 participating countries. Pupils in Northern Ireland significantly outperformed pupils in 36 of the countries that participated in PIRLS 2011. Northern Ireland was the highest ranking English speaking country.

- Northern Ireland pupils were ranked 6th out of the 50 countries that participated in TIMSS 2011 mathematics. Northern Ireland pupils

significantly outperformed pupils in 44 other countries. Northern Ireland was the highest performing English speaking country in mathematics.

2.45    We welcome the Department's participation in international studies such as PISA, PIRLS and TIMSS. It is hoped that these studies will assist the Department in benchmarking achievement levels in Northern Ireland, identifying best practice and targeting areas for further improvement.

## Conclusion

2.46    Over the period since our report in 2006, efforts to improve levels of literacy and numeracy have been successful in raising overall levels of pupil performance across both the primary and the post-primary sectors in line with the targets set out in the Department's strategy, *Count, Read: Succeed*. However, notwithstanding such gains, the attainment levels since we last reported show continuing gaps in the outcomes for certain groupings of pupils compared with their more successful peers: i.e. those from less affluent backgrounds; boys; and socially disadvantaged pupils in the controlled schools sector. Despite efforts to close these gaps, they have shown little sign of diminishing.

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Raising Literacy and Numeracy Levels: building on the
experience of successful schools
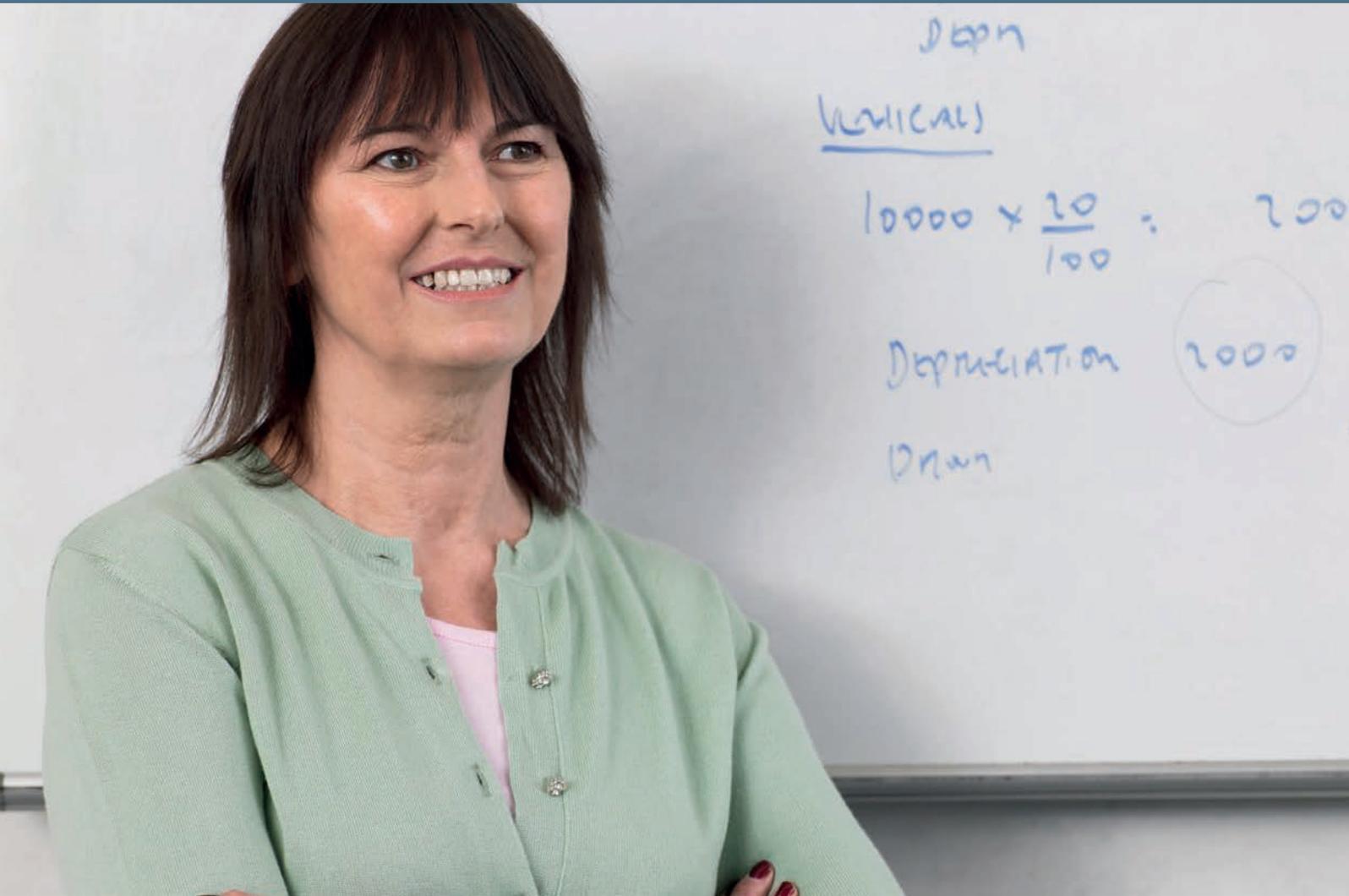
*"Many schools have achieved excellent outcomes despite challenging circumstances."*

# Part Three:
# Raising Literacy and Numeracy Levels: building on the experience of successful schools

## Many schools achieve excellent outcomes despite challenging circumstances

3.1 As discussed in Part 1, a series of non-school, socio-economic factors such as the educational attainment of parents and parental involvement mean that schools alone are unlikely to be able to fully close the achievement gap between pupils from affluent and disadvantaged backgrounds. However, the processes for management and governance which schools employ can have a significant bearing on the degree to which they can add value to the educational process.

3.2 This part of the report sets out observations made as a result of visits to ten primary and ten post-primary schools during the course of our review (see Appendix 4). Our observations are based on records of discussions with the school principals. The aim of our visits was to better understand how some schools, despite their challenging circumstances, are translating the theory of good practice into performance; and to observe how such schools are overcoming obstacles to improved pupil and school performances.

3.3 A number of common factors that appear to facilitate better pupil learning outcomes were noted in the schools visited. They include:

- consistent, quality teaching;

- excellent leadership;

- early intervention and targeted help for pupils at risk of not achieving;

- engagement with parents and the community;

- effective use of data and target setting; and

- seeking out and sharing good practice.

3.4 Not surprisingly, these factors tend to be consistent with the wider body of school improvement research. The Department informed us that they are also entirely consistent with the Department's school improvement policy, *Every School a Good School*. An Education and Training Inspectorate (ETI) evaluation[42] of 34 primary and post-primary schools in November 2007 and January 2008 found important common characteristics in the most successful schools. These factors contribute to overcoming barriers to learning that the pupils have experienced and, more importantly, the characteristics were found to be wholly or partly absent in the schools where pupils were continuing to under-achieve[43]. Characteristics were seen to have a positive effect despite significant levels of social and economic deprivation and irrespective of whether the school was single gender or co-educational.

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42 An Evaluation of Literacy and Numeracy in Primary and Post-Primary Schools: Characteristics that Determine Effective Provision (2008); ETI

43 An Evaluation of Literacy and Numeracy in Primary and Post-Primary Schools: Characteristics that Determine Effective Provision, (2008), page 2, para 1.5

## Successful schools have good quality, consistent teaching

3.5  In 2012, the Chief Inspector's Report[44] concluded that the quality of teaching in primary schools was very good or outstanding in one-half of the lessons her Inspectorate had observed. This very good or outstanding teaching was characterised by:

- highly effective planning (designed to meet the needs and abilities of all the learners);

- the sharing of the intended learning outcomes;

- practical and appropriately challenging activities;

- ensuring that all children, regardless of their ability, make good progress;

- the use of success criteria to provide integral reference points throughout the lesson;

- the effective consolidation of the learning at the end of the lesson; and

- using the outcomes and feedback from children to inform future planning and teaching[45].

3.6  High expectations for individual pupil learning are an important part of effective literacy and numeracy teaching. Effective teachers know their pupils well, are clear about the standards pupils are expected to meet and set high expectations for individual pupils based on their current stage of learning. Schools we visited voiced this in different ways – some expressed a zero tolerance for failure; other Principals told us they had a culture of "no excuses". All expected their pupils to succeed, regardless of background or circumstance. Whilst this is a simple step, evidence has suggested that the teacher's level of expectation has an effect on pupils' outcome.[46]

3.7  Another key aspect was instilling confidence and a love of learning amongst pupils. Schools told us that a positive atmosphere in the school contributed to learning and was a key to success. For example, one Principal places great importance on instilling pride in the school in her pupils - all pupils must know the school song and are aware of the history of the school. Schools also told us that celebrating pupil success was equally important. With these factors in place, schools told us that success bred success and high achievement became something of a self-fulfilling prophecy.

3.8  The Principals in many of the schools we visited told us that the key to success in the classroom was high quality, consistent teaching. In particular, they stressed the importance of ensuring that adequate differentiation was in place in all lessons. In their view, this not only ensures that those children who need additional help are not left behind

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44  Chief Inspector's Report 2010-2012, ETI, page 46, para 110

45  Chief Inspector's Report 2008-10, ETI, page 31, para 3.2.1  and Chief Inspector's Report 2010-2012, ETI, page 46, para 112

46  Crabtree, Steve. (2004, June 4). Teachers who care get most from kids. The Detroit News: Schools.

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and that more able pupils are properly challenged, but also that those pupils in the middle receive adequate challenge and support.   Pupils have less scope to 'coast' and are continually pushed to achieve.  Within the classroom, several teachers we visited provided evidence of their systematic identification of, and planning for, individual student needs.

### Case Study A – St Genevieve's High School, Belfast

**Tailored Teaching Materials**

St Genevieve's is a non selective girls' school with just over 1,000 pupils. Since his appointment in 2009, the Head of Department (HoD) in Maths has introduced innovative schemes of work which can be tailored to different levels of ability rather than using traditional text books.

Instead of relying on a commercial scheme the HoD makes all his own schemes based on an Australian resource 'Schools House Technologies (Maths Resource Studio)'.  This was introduced in the school as a pilot scheme three years ago but has been fully embedded since last year.

By developing its own teaching resources, the maths department has the flexibility to challenge all pupils regardless of their ability.  This has contributed to a sense of achievement for all pupils.  The flexibility for teachers has been further enhanced by the use of different exam boards and syllabi when

deemed more suitable.  This has a cost implication but the Principal is supportive of this approach.

3.9     Some principals told us they felt the experience of their staff was key to high levels of achievement.  Others stated that having a young, dynamic teaching staff meant that changes and improvements to how things were done in the classroom were more readily accepted. Others noted that a successful mix of teachers provided the best balance.  One Principal pointed out that teachers in Northern Ireland often did not appear to move between schools as often as, for example, in England.  As a result, this means of sharing successful practices between schools was not present.

3.10    Schools have to ensure that they prioritise and organise learning around the school day and minimise interruptions to teaching.  On the one hand, this involves trying to ensure that pupil attendance is as complete as it can be for academic success to have the most effective conditions to progress. Similarly, Principals also stressed to us the importance of teacher attendance as a means of providing for consistency and continuity in the classroom but also to ensure a normalised school community.  Principals in successful schools we visited noted that teachers often had exceptionally high levels of attendance.

3.11    Many schools provided us with examples of teachers who had a relentless focus on learning and were prepared to go 'the extra mile' to ensure

that students had the best opportunities for success – for example, holding a series of revision and 'catch-up' classes daily, after school (St John's, Dromore) or compulsory extra maths classes on Saturday mornings in the 10-12 weeks run up to the GCSEs for Year 12 pupils (St Genevieve's, Belfast). In another school, teachers took responsibility to act as mentors for a selection of students (St Eugene's, Roslea).

3.12    In schools visited there was a clear focus on high standards in literacy and numeracy and importance was placed on teaching having a cross-curricular focus throughout school.

## Case Study B – St Catherine's College, Armagh

### An integrated approach to literacy and numeracy

The school has worked with its entire staff to ensure that numeracy and literacy are promoted across the school. At a basic level, one clear aspect of this is to ensure that every teacher is positive about maths. The school has also worked hard at integrating the teaching of literacy and numeracy into every classroom. The curriculum committee has designed in-house resources that can be used in every classroom to teach numeracy and literacy and these have been included in the school's Virtual Learning Environment for access by all teachers. These resources have made use of the best practice found within the school and this has been

modelled across all subjects. This whole school approach aims to ensure that there is a degree of consistency across departments/subjects.

## Case Study C - Longtower Primary School, Derry

### Alternative methods for teaching mathematics

Emphasis is placed on engaging with pupils and building their confidence in maths. One key barrier that the school had identified was that of language – often pupils' difficulties with maths problems were not because they did not understand the maths issues being tested but simply because they did not understand the language used. As a result, the school focuses on talking and communicating about maths in Key Stage 1. A key focus is to develop mathematical language with the use of phrases such as "less than", "more than", "the number before" and "the number after". As children progress, the school emphasises the importance of talking about and discussing a variety of strategies that can be used to solve maths problems in class. Again, this is aimed at giving pupils confidence in expressing themselves using mathematical language and concepts amongst their peers.

A further means of increasing confidence amongst those pupils who have low confidence in their mathematical abilities is the Maths Club. The club aims to provide a safe and informal environment

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outside of the classroom for pupils to have fun with maths. The club is led by the Numeracy Co-ordinator who has the expertise to assist students with any numeracy problems and this is also a means of allowing the Co-ordinator to identify those pupils with problems across the school and any problems that are consistently occurring amongst several pupils.

3.13 Despite the importance of good quality teaching, the latest Chief Inspector's Report[47] still identified poor quality teaching in just under one-fifth of primary schools and in one quarter of post-primary schools. Teachers' own levels of subject knowledge and pedagogical content knowledge are key determinants of classroom teaching effectiveness. An evaluation by ETI[48] commented that, "*while initial teacher education provision prepares student teachers well to plan and teach lessons which meet the requirements of the curriculum and to begin to evaluate the effectiveness of their performance in the classroom, it also draws attention to weaknesses evident in some aspects of the teaching students' own personal literacy and numeracy*".

3.14 The final report of the Literacy and Numeracy Taskforce[49] identified as a priority that trainee teachers should have a more than satisfactory grasp of literacy and numeracy skills. Indeed the

Taskforce takes the view that the current entrance requirements of GCSE grade C in mathematics and English are too low and that "*this may impact on the effectiveness of the teaching profession here.*"

3.15 In our view, a key to raising pupil achievement levels is to ensure that all teachers are doing what the best teachers already do. In order to improve, underperforming schools need to find ways to change fundamentally what happens in the classroom. Individual teachers need to:

• become aware of specific weaknesses in their practices;

• gain an understanding of specific best practices; and

• be motivated to make the necessary improvements.

As well as meeting threshold levels of pedagogical content knowledge in literacy and numeracy, it is important that beginning teachers have sound knowledge themselves in these areas.

**Recommendation 3**

We recommend that all aspiring teachers be required to demonstrate through some process of testing or assessment that,

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47 Chief Inspector's Report 2010-12, ETI, page 46, para 110, and page 56, para 130
48 *The language of learning: how student teachers learn, through initial teacher education, to develop and promote literacy and numeracy for all learners,* ETI, May 2011
49 Report of the Literacy and Numeracy Taskforce 2010-11, May 2011, page 13, paragraph 5

as a condition of registration with the General Teaching Council, they meet threshold levels of knowledge about the teaching of literacy and numeracy and have sound levels of content knowledge in these areas.

## Successful schools have excellent leaders

3.16    A study by OECD in 2008[50] stated that a large body of research on school effectiveness and improvement from a wide range of countries and school contexts has consistently highlighted the pivotal role of school leadership in making schools more effective.  The Chief Inspector has echoed this sentiment by commenting on the close correlation between the effectiveness of leadership and management and the quality of overall provision in formal and informal educational settings[51].

3.17    In her most recent report, the Chief Inspector highlighted that 'the quality of leadership and management at all levels has improved' and is now good or better in 78 per cent of the primary schools inspected[52].  Just over one-half of Principals were considered to be providing very good or outstanding leadership.  These Principals placed a clear focus on raising achievements and standards, particularly in literacy and

numeracy, as well as self-evaluation and effective school development planning[53].

3.18    Although this is an improvement from the previous reporting cycle, the Chief Inspector concluded that *"leadership and management remains an area for improvement across most phases.  It is still not good enough in 22% of primary schools and in 39% of post-primary schools "*.  It is of concern that the Chief Inspector's Report highlighted weaknesses in the standard of leadership in a significant minority of post-primary schools and a minority of primary schools[54].

3.19    A striking feature of the schools visited as part of our review was the strength of school leadership.  In our view, these schools were led by committed, inspirational leaders who were determined to provide the best outcomes for their pupils.  Several of the schools were led by Principals who had previously been employed in roles that involved observing classroom teaching in a variety of schools – either as assessors or as field officers.  These roles appear to be particularly valuable as they allow Principals to expand their knowledge, observe good practice in other schools and introduce ideas into their own classrooms.

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50   *Improving school leadership: Volume 1 : Policy and practice*, B. Pont, D. Nusche and H. Moorman, 2008, Organisation for Economic Cooperation and Development, Paris

51   Chief Inspector's Report 2008-10, ETI, page 19, para 5.2

52   Chief Inspector's Report 2010-12, ETI, page 46, para 113

53   Chief Inspector's Report 2008-10, ETI, page 32, para 3.2.4 and Chief Inspector's Report 2010-12, ETI, page 46, para 113

54   Chief Inspector's Report 2010-12, ETI, page 10, para 16

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3.20    While high expectations for pupil performance were driven by the school Principal, we found that this approach was often supported by an equally committed senior leadership team. Principals emphasised the importance of middle management and leadership throughout the school – for example, the Principal of St Genevieve's High School, Belfast told us of the great support she receives from her Senior Management Team and her belief in the importance of delegating responsibility to staff in order to build their capacity for the future. This particular Principal also told us she found the mentoring she received as a new Principal from the Inspectorate as an invaluable support.

### Case Study D – St Joseph's High School, Crossmaglen

**Leadership**

The Principal of St Joseph's told us that he considers strong and effective leadership to be vital in driving up standards in schools. He told us that he sought to imbue a culture of achievement, improvement and ambition – with clear expectations that all pupils can and will achieve to the best of their ability. This message was cascaded throughout the school. A very capable Senior Management Team willing to promote change has contributed greatly to creating the vision that any child can succeed.

Good pupil behaviour is essential. Effective interventions and support are in place to meet the additional and other needs of some pupils, and to help them overcome barriers to learning. The school is well connected to the local community. There are excellent relationships that facilitate engagement and communication between the school, its parents and the wider South Armagh community. This local community actively supports the work of the school. More teachers now send their own children to the school.

The latest Inspection report has recognised the *"strong leadership provided by the Principal through which he, with the support of the Senior Management Team, has effected significant improvements in the behaviour and attainment of the pupils."*

3.21    After classroom teaching, school leadership is a feature of schooling which has a very important influence on pupil attainment. In our view, there will not be a "one size fits all" solution to how school leadership will drive improvement in literacy and numeracy performance. Rather, our visits to a selection of schools demonstrated that it is the organisational ethos which will be fundamental to the process. In this regard, the proposed establishment of a new Education and Skills Authority (see Appendix 3) and structural changes such as area-based planning, provide the opportunity to develop a

programme aimed at re-invigorating school leadership. Towards this end we consider that it will be important for all the education partners to examine such elements as different leadership models and how investment in developing leadership capacity can be made most effective.

## Successful schools identify problems early and seek to address them

3.22  Unsurprisingly, there is powerful research support for addressing pupils' learning needs as early as possible in the schooling process. As we have shown in Part 2, the evidence is that literacy and numeracy difficulties begin early and require early intervention to treat them effectively. It is important for schools to stop the gap widening as pupils progress through the school system. As pupils progress from primary to post-primary, the levels of pupils reaching the expected standard declines. This suggests that children who are unable to achieve satisfactorily at primary school are unlikely to catch up by post-primary (see paragraphs 2.6 & 2.12). Early intervention represents a potential solution to this problem.

3.23  Successful schools have procedures in place that identify students at risk of not achieving, enabling teachers to put in place adequate measures to address these problems. In the schools we visited, there was evidence of a wide

range of support mechanisms put in place by schools to address problems that pupils exhibited, both educational and non-educational. For example, the Literacy Support Teacher at Kilcooley Primary School (Bangor) has used Extended Schools Funding[55] to launch the *Catapult Literacy Programme* which targets low achieving boys. As boys can often be motivated by computers, it is a literacy programme based on laptops and led by trained classroom assistants. Analysis has indicated that these boys are making progress in achieving their full potential.

3.24  Many schools partnered with external agencies to highlight those in need of additional help and to identify the most appropriate means of providing that support. Whilst these actions are largely outside of the traditional role of a school, it is vital that children are given the best support from whatever source possible. In one school a psychotherapist was employed to address the emotional needs of some pupils and their families. This was seen as an effective means of ensuring that pupils were ready to learn. We consider the importance of parental support further on paragraph 3.28.

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55  Launched in May 2006, £60 million of funding has been provided through the Extended Schools programme over the last 6 years, allowing those schools serving areas of the highest social deprivation to provide for a wide range of services or activities outside of the normal school day to help meet the needs of pupils, their families and local comunities.

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### Case Study E - St Colman's High School, Ballynahinch

**Early Intervention**

This small, non-selective [56] school has a wide range of abilities amongst pupils – from children with high averages to children with moderate learning difficulties. Based on good contact with its feeder primary schools, St Colman's baselines pupils at the end of P7 using National Foundation for Educational Research (NFER) tests. At this point the school can identify the type of support required by individual pupils, for example:

- teacher support in the classroom may be sufficient;

- support from an educational psychologist via the South Eastern Education and Library Board (SEELB);

- peripatetic support whereby a SEELB funded teacher comes into the school for 1-2 hrs a week; or

- use of a paired reading scheme in the school whereby a 6th former helps in a reading buddy scheme, three times a week for 10 weeks.

3.25    A number of primary schools we visited had set up nurture centres/developmental centres for children with behavioural problems, emotional difficulties (e.g. selective mutism) or difficulties accessing the curriculum. They provide a home environment with a structured routine and are staffed by teachers and classroom assistants. The main aims of a nurture centre are to identify and deal with problems early on and to focus on literacy and numeracy. Children are tested on entry to primary school and can be referred to the nurture centre on the basis of a low Boxall[57] score. Usually the children stay in the nurture centre for two terms and then integrate back into the primary school. Originally these accommodated children in Key Stage 1 but in some schools this has been extended to Key Stage 2. A number of the schools we visited shared the view that this is a cost effective resource.

3.26    Traditionally nurture centres were not funded by the Department. They were established by the schools either from within their own resources or with funding from the Department for Social Development. However in October 2012 the First Minister and Deputy First Minister announced plans for six signature projects worth £26 million in the Education sector. The plans include funding to set up 20 new nurture units in addition to seven already being rolled out across all areas.

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56    A selective school is a school that admits students on the basis of some sort of selection criteria, usually academic. A non-selective school accepts all students, regardless of aptitude.

57    The Boxall Profile is a framework for the precise assessment of children who are failing in school and helps teachers to plan focused intervention. It is usually carried out by staff who know the child in class, using a two part checklist.

## Case Study F – St Brigid's Primary School, Carnhill

**Nurture Centres**

A Nurture Centre was established at St Brigid's, a primary school in the Carnhill estate, Derry, in 2000. Prior to this, the Principal had established a positive behaviour programme for the school. Whilst this was successful, there were a small percentage of children for whom this did not work. Those children were judged to require additional support and care to address various emotional and social needs.

The Nurture Centre works with both children and their parents/carers to address various problems the child may have. Parents are invited into the centre to work with their child – work which often has a real, tangible output giving both parent and child a sense of achievement that neither may have previously obtained from school.

The Principal stressed that the Nurture Centre had been fully embedded within the life of the school and reflected the positive ethos and system of pastoral care within St Brigid's. The Principal had allowed teachers from within the school to observe the teaching in the Nurture Centre and bring this good practice back to the 'mainstream classes.'

The results of the Nurture Centre have been extremely positive. Students in the Centre receive individual help and attention to address issues they may have and this is a more productive and positive approach than many have previously experienced. The Principal also told us the Centre helped lessen interruptions in mainstream classes and improved the quality of learning there. The Principal has tracked the outcomes of pupils who have progressed through the Nurture Centre over the previous eight years and only one has failed to complete post-primary school.

## Successful schools engage with parents and the community

3.27   There is a difference between parents being interested in seeing their child safe and happy at school and parental engagement with the school. The Department's current Strategy, *Count, Read: Succeed*, reflects international research that engaging the parents and families of pupils helps support children throughout their education and can lead to improved outcomes. When engagement happens, it provides a significant boost not only to pupil outcomes but also to a positive school culture[58]. Encouraging parents to support their child's education is also a highly cost-effective way of increasing standards.

3.28   Increased family involvement in schools has been linked to increased achievement in literacy for low income families[59]. Family involvement in school

58   Saulwick Muller Social Research, *Family-School Partnerships Project: A Qualitative and Quantitative Study*, Canberra: Department of Education, Science and Training, 2006

59   Literacy: A route to addressing child poverty?, National Literacy Trust Research Review, October 2011

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matters most for children whose mothers have less education[60]. Analysis of PISA data has also demonstrated that having parents who spend time talking and reading with their children when they are young has beneficial effects on reading performance.[61] This simple interaction with parents has been shown to be particularly effective in the case of boys who are struggling with literacy.[62]

3.29 Many of the schools we visited placed a special emphasis on engaging with the parents of their pupils and the local community. Schools told us that parents are almost universally keen to help their children but often do not know the best way to do this. Schools can help parents by giving them the confidence and the practical tools to help their children. For example, St Brigid's, Carnhill, provides reading materials in 'Literacy Sacks' to encourage parents to read with their children and share and discuss stories. The aim of providing supporting materials is to offer parents guidance and support on how to make the most of reading together. The parents who participated in this programme were awarded certificates from the local Further Education College.

### Case Study G – St John's Business and Enterprise College, Dromore

**Homework**

A report published by the Joseph Rowntree Foundation highlighted several key areas where children from affluent areas exhibited greater confidence in literacy. This confidence was derived from:

- routine support for homework;

- parental role models;

- favourable environments for reading and writing;

- absence of distractions; and

- opportunities to talk about literacy.

St John's has developed a 'Student Academic Target Review Booklet' which aims to target several of these factors. The weekly booklet includes a section under which parents must state:

- how many hours students spent on their homework per night;

- where the homework was done;

- whether they received parental help; and

- what distractions there were whilst the student was doing their homework.

60  Dearing, Kreider, Simpkins and Weiss 2006
61  PISA in focus, What can parents do to help their children succeed in school? 2011/11 (November)
62  OFSTED (Office of Standards in Education, UK). (2003). *Yes he can: Schools where boys write well. Norwich*

Parents are then required to sign this declaration and return it to the class teacher. This process has been seen as a key to ensuring that children have the opportunities to study in the correct environment and avail of parental support when they need it, and reinforcing the notion to parents that their children are required to spend adequate time on homework and need to have an appropriate place to do it. The school told us that the booklet was a simple and cost effective way of improving standards and ensuring that pupils were both progressing and making appropriate efforts.

3.30 Other methods used in schools included the establishment of a grandparents club in Holy Family Primary, Derry. Another school, St Mary's High School, Newry, produces specific resources for parents to help them become involved in the education of their children. St Bernadette's, Belfast uses the IMPACT[63] programme which involves parents in their children's literacy and numeracy homework on a regular basis.

3.31 Research[64] conducted on behalf of the Department highlighted that parental involvement was recognised by schools serving disadvantaged areas as a key factor in raising attainment. Whilst there are obvious challenges for schools in seeking to effectively engage with parents, it is clear that many schools have made important strides in engaging with and assisting parents to support their child's education and attempting to overcome some of the negative effects associated with students from less affluent backgrounds.

3.32 In addition to promoting parental engagement many of the schools we visited placed an importance on engaging with the local community. A Northern Ireland Assembly report highlighted that engagement with parents and the wider community can play an important part in supporting children's education.[65] Forging strong links between schools and their community was an issue of particular importance to the Literacy and Numeracy Taskforce[66] and was highlighted in the most recent Chief Inspector's Report as a means of effectively addressing the cycle of under-achievement[67].

3.33 It is clear that greater co-operation with the community can lead to higher levels of community support for the school and a greater appreciation of the value of education. We note that the Literacy and Numeracy Taskforce recommended that *'a great deal of urgent work needs to be done in this area … to introduce strategies which "blur the edges" where traditional schools stop and where outside communities begin.'*[68]

3.34 Parents' involvement in their own literacy skills and their understanding of the hugely important role they play in developing their children's education

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63 IMPACT – Involving Mathematics for Parents, Children and Teachers
64 See footnote 32

65 Successful Post-Primary Schools Serving Disadvantaged Communities, Northern Ireland Assembly Research and Library Service, Research Paper 601, December 2010
66 Report of the Literacy and Numeracy Taskforce 2010-11, May 2011, page 15, para 12
67 Chief Inspector's Report 2010-12, ETI, page 49, para 118
68 Report of the Literacy and Numeracy Taskforce 2010-11, May 2011, page 14, para 11

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and outcomes are crucial in breaking the cycle of poverty[69]. We found several schools offering strong examples of how to achieve this. Many schools offered courses for the local community on site. Kilcooley Primary School, Bangor has a Women's Centre on site which has 400 learning places per week, with around 250 women taking classes – the courses range from aromatherapy to mathematics GCSE. Another school, St Luke's Primary School, ran a parents' centre via the Lisburn campus of the South Eastern Regional College offering Essential Skills courses in English, mathematics and ICT for parents. This school also has a nominated teacher to act as a Parental Link Officer.

3.35 The importance given to parental involvement within the Department's *Count, Read: Succeed* policy can help to give status to literacy and numeracy locally. In our view, the strategy provides capacity and motivation to local schools to engage with wider community partners and to focus on a range of activities, such as those we identified on our school visits, in order to engage families on a larger scale than at present.

3.36 Although the strategy provides the key drivers for systemic improvement, in our view, it is school leadership which will be needed to adapt them to particular and individual schools. School leaders will have to reach beyond their own schools to create networks and collaborative arrangements that, not only add richness and excellence to pupils' learning but also act as agents of educational transformation in terms of family involvement as well.

### Case Study H - St Bernadette's Primary School, Belfast

**Parental involvement**

St Bernadette's Primary school is situated in Ballymurphy, a deprived area of west Belfast. It has a current enrolment of 140 students and around 89 per cent of these pupils are entitled to Free School Meals. Around 56 per cent of pupils are on the Special Educational Needs register[70].

The school participated in a 'Families and Schools Together' project (FAST), an initiative initially sponsored by Save the Children. FAST is a voluntary programme that seeks to provide early intervention and family support; its aims include improving parent/child relationships, enhancing support for families and increasing parental confidence in dealing with school.

Families meet in school for one afternoon a week for eight weeks where they play together, share together, eat together and have fun together. At the end of the eight week programme, families graduate in a celebratory event. After this, Save the Children provide financial and practical support for those families to continue meeting.

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69 Literacy: A route to addressing child poverty?, National Literacy Trust Research Review, October 2011

70 A Special Educational Needs Register is a list of pupils maintained by a school. Among other information, this register contains details of the stage at which any particular pupil with special educational needs is registered.

A UK-wide FAST evaluation has pointed to significant positive outcomes:

- pupils' reading and maths skills rated by teachers showed fewer children underachieving;

- children are behaving better in class and participating more in lessons; and

- 88 per cent of parents reported that they are now more able to support their child's education.

In addition to FAST, the school has appointed a parent facilitator whose sole job is to engage with parents. The school enjoys a strong connection with the local community through classes held in school such as Essential Skills, personal development and job assistance.

## Successful schools make effective use of data and target setting

3.37 At any point in a pupil's literacy and numeracy learning it is important that teachers have a good understanding of a pupil's capabilities, including an understanding of their strengths and weaknesses, so that needs can be addressed and learning opportunities provided. Such monitoring depends on the effective collection and analysis of data as this allows early intervention for pupils of any age who are at risk of under-achievement. Systematic data

collection is also crucial for managing and assessing the performance of individual teachers and the school as a whole. The schools we visited made extensive efforts to collect and analyse data.

3.38 Whilst different schools approached the recording of data in different ways, several common features were evident. Firstly, a wide range of sources was used to collect data on pupils' achievement. These were both qualitative and quantitative, but formed an overall picture of pupils' progress. Data was constantly analysed and shared amongst teachers to ensure that any problems with either pupils or teaching were identified early and dealt with promptly.

3.39 The establishment of a comprehensive system of data collection and analysis has been a key recommendation emanating from the reports prepared by the Literacy and Numeracy Taskforce. We welcome the Department's recent publication of updated benchmarking guidance for Governors in post-primary schools (issued April 2012). This should give all stakeholders in education a clearer picture of how well a school is performing relative to others and what actions need to be taken to address under-achievement.

3.40 Likewise, Chapter 5 of the current *'Count, Read: Succeed'* strategy outlines the steps teachers should take to address emerging under-achievement, including which data to collect. The Department is, therefore, confident that

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schools are aware of what data is to be collected. At present, the Department collects individual school data then sends schools back its own information but with information on other schools so it can benchmark. The Department also believes that C2k[71] School Information Management System (SIMS) is a powerful tool for data collection in schools.

3.41    The Chief Inspector's Report[72] highlighted that *'inclusive and critical self-evaluation with good use of data has been key to improvements in the primary sector and is a factor in the best performing post-primary schools'*. She recommended that these schools need to develop further the use of quantitative assessment evidence to enable principals, teachers and co-ordinators to monitor progress, to evaluate their own effectiveness and to raise standards in teaching. We endorse this recommendation.

3.42    Clarity about pupils' progress can be lost at transition points between the years of school, between phases of schooling, and when pupils move from one school to another. Both primary and post-primary schools told us that only by being proactive did schools acquire what should be standard information about their prospective pupils. The Department informed us that when a pupil leaves a school and becomes a pupil at another, there is a legal requirement to provide a formal record of the pupil's academic achievements, other skills and abilities, and academic

progress. This must be transferred within 15 school days. The Department is currently strengthening the requirement via revised Regulations which will specify the minimum information that must transfer with a pupil, along with a core of further information which must be provided on request.

3.43    We view this data as indispensible if duplication is to be avoided and effective planning for children's future education is to be undertaken. The Chief Inspector also highlighted the improvement of transitional arrangements as a key challenge for all leaders as it is *'imperative that all organisations are able to correlate each learner's achievements with their potential and that, where necessary, interventions are applied swiftly and appropriately to combat both low achievement and underachievement'[73]*.

3.44    The post-primary schools we visited have invested significant time and resources in understanding the curriculum that their future pupils had studied prior to transition. By interacting with 'feeder' schools, an exchange of information – and good practice – was developed to the benefit of both schools and pupils.

3.45    In our view, mutual understanding of learning methods can only benefit all schools and their pupils. We note that in a report that focused on 'Transition in Mathematics: Primary to Post-Primary'[74] the Inspectorate recommended that there is a *'need to improve the transfer of relevant mathematics and numeracy*

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71   The C2k project provides the infrastructure and services to support the enhanced use of ICT in schools in Northern Ireland

72   Chief Inspector's Report 2010-12, ETI, page 11, para 22

73   Chief Inspector's Report 2010-12, ETI, page 10, para 18

74   Issues from Inspection: Transition in Mathematics: Primary to Post-Primary, March 2010, Education and Training Inspectorate

*performance data between primary and post-primary schools to enable the post-primary mathematics teachers to meet more effectively the needs of the pupils.'*

## Case Study I – St Mary's High School, Newry

**Data and target setting**

**Assessment and Monitoring**

St Mary's High School use 'Assessment Manager' on C2k to record all assessment data. At the beginning of each school year, the relevant teacher sets a target grade for each student in each subject. Targets are designed to be aspirational but also achievable. Targets are shared with both pupils and parents in the homework diary and act as encouragement for the year ahead. Students then plot the results of assessments in a specially designed page in their homework diary and each assessment is graded as either above or below the target grade. This system is designed to be clear, unambiguous, and informative. Initially targets were set without involving pupils – this was changed when it was felt that involving pupils would ensure that they had bought in to the targets and help in motivating them and identifying any potential problems. Children now are aware of their targets and record their own progress, which the school has told us gives them ownership of the assessment.

**Raising Standards on a 'whole school' basis**

Data from assessment is also provided to the school's Raising Standards team. The team is led by a Raising Standards Co-ordinator, who is part of the Senior Management Team and comprises the Literacy and Numeracy Co-ordinators and Special Educational Needs Co-ordinator (SENCO). Data from assessment is collated and provided to the Raising Standards team who have a responsibility for tracking results, identifying those who are not adequately progressing and suggesting strategies to remedy the situation. This additional focus allows the school to ensure that no pupil 'slips through the net' and ensures that the issue of raised standards is given prominence within the school. The level of focus also ensures that any problems are identified early and appropriate measures can be put in place.

One of the strategies the Raising Standards team employs is the use of afterschool booster classes. These classes are provided for students in both KS3 and KS4. In addition, the school also uses its data to ensure that pupils who are gifted / talented in areas are offered additional classes to ensure they are fully challenged.

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### Case Study J – St Catherine's College, Armagh

**Transition arrangements**

The school has invested considerable effort in managing its arrangements for the transition of pupils from primary school, with the aim of ensuring that pupils are able to build on their previous educational achievements and that teaching and learning within the college is appropriate to address their needs.

The school has a dedicated Primary School Links Co-ordinator who is responsible for managing the links with the College's feeder primary schools. Before St Catherine's open night the Co-ordinator, the Head of Key Stage 3 and the Principal visit the primary schools.

The close links that have been developed with primary schools assists the school in garnering information about their future pupils. The College obtains both academic and non-academic information which enables them to build a profile not only of individual pupils but also of the year group as a whole. Academic information relates to tests undertaken in primary schools such as PIE, PIMS, CAATS, NINA and NILA,[1] etc. In addition, the College asks for non-academic information about their future pupils, such as friendships, extra-curricular interests, any additional learning support that pupils had received and any pupils who may be gifted or talented in particular areas.

When the list of pupils for the following year is confirmed, the College organises an 'intake test' which aims to baseline all pupils in English, maths and science. These test results, alongside information obtained from primary schools, are used to inform the planning of the curriculum for the next year. This process allows the curriculum to be designed according to the ability of the intake. This is one means of ensuring that lessons can be personalised and tailored to pupils' specific needs. This process also highlights significant aspects or difficulties that may require additional focus and ensures that lessons can be planned with a sense of progression to ensure that there is no 'stagnation'.

1   Progress in English, Progress in Mathematics, Cognitive ability tests, Northern Ireland Numeracy Assessment and Northern Ireland Literacy Assessment.

### Recommendation 4

Whilst successful schools make good use of data, we are concerned that the collection and use of data is neither systematic nor consistent across the school system and between school phases. In our view, some schools may experience difficulties with using data to evaluate their performance and guide their improvement activities. It is crucial that schools facing such difficulties are provided with guidance and support on the systematic and structured use of data for monitoring and evaluating

progress. We recommend that the Department, Boards and CCMS ensure that adequate and appropriate training opportunities in data interpretation and analysis are made available to Principals and teachers in those schools where such participation needs to be further encouraged.

## Recommendation 5

The transfer to post-primary schooling is a time of special significance in the lives of pupils. Our school visits convinced us of the importance of the closest possible dialogue and exchange of data between both primary and post-primary sectors. We recommend that this approach is strongly supported by the Department, Boards, CCMS and in the future ESA. In our view, this will involve encouraging contacts, information and training by teachers in order to understand better the differences between systems. This will enable teachers at both levels of education to listen to each other and to develop strategies so that pupils and their families (particularly those at risk of failure) can be involved and supported academically, socially and emotionally throughout the transfer.

## Successful schools seek out and share good practice

3.46    The schools we visited had a focus on continuous improvement. Despite high levels of achievement, Principals told us that their schools demonstrated a commitment to improvement. To do this, schools constantly seek out good practice, both inside and outside of the school, and identify means to share and disseminate this to all teachers within the school.

### Case study K – St Mary's College, Derry

#### Sharing good practice

St Mary's College is a non-selective secondary school which is situated in a new building on the Northland Road in Derry, having moved from its old site in the Creggan area of Derry. The school caters for girls aged 11-18. The school has consistently been over-subscribed and has a current enrolment of 871 pupils. The percentage of pupils entitled to FSM is currently around 46 per cent - this represents a slight decrease on previous levels which may be due to the relocation of the school. The school has consistently been the 8th most deprived school in Northern Ireland and traditionally has recruited students from those girls who did not get into local grammar schools. Increasingly, the school is now accepting pupils who could have got into grammar schools.

St Mary's College was awarded specialist status in Science in 2006 and is also a member of the Microsoft IT Academy programme. These partnerships have given St Mary's access to a wide range of local and international educational expertise which

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the school has utilised to share and disseminate good practice. The Principal told us that the school's staff development programme has a relentless focus on improving Teaching and Learning, mostly through sharing what works/good practice. The school's dissemination of good practice has several aspects:

**Within the school**

St Mary's has shared good practice identified within school both formally through classroom observation and informally at departmental meetings. Good practice has been disseminated throughout all departments at designated sessions of all whole school training days.

**Within the local educational community**

The school is active within the Foyle Learning Community. In addition, the school has engaged with its feeder primary schools and in doing so has highlighted the good practice it found in lesson planning. The specialism has allowed the school to engage more deeply – at a curriculum level – with other schools and this has had a positive impact.

**Within the Northern Ireland education community**

The college, in association with the Regional Training Unit and Investors in People, has held an annual 'Learning Conference' in which schools are invited to attend and consider one aspect of innovation or best practice in teaching. Attendees represent a wide range of schools from all sectors – including primary and post-primary, secondary, grammar and special schools. Last year the conference was based on thinking skills. As a result of the conference, St Mary's staff presented papers at the International Thinking Skills Conference held at QUB.

**Internationally**

The school is a Microsoft mentor school and this places it in a worldwide consortium on good practice within the classroom. Teachers from St Mary's have attended courses in Cape Town and Washington. In addition, the school is part of the North European Microsoft Learning Forum and participates in regular video conference calls sharing best practice and discussing innovative ways of teaching.

3.47    Good practice is also shared effectively through cluster groups of schools. There are well established Area Learning Networks in the post–primary sector and 'cluster' groups which have grown organically amongst primary schools. Other 'clusters' have grown from initiatives such as:

- 'Achieving Belfast' schools (18 in Belfast);

- 'Bright Future' schools;

- 'Closing the Gap' schools;

- Primary schools with Nurture Centres; and

- There is a 'cluster' dimension to Extended Schools [75].

## Case Study L - Dunclug Primary School and Principal Cluster groups

**Sharing good practice**

Several Principals we talked to had previously worked in roles that involved observing classroom practice in other schools. Several were associate inspectors with ETI; another had been seconded to an Education and Library Board as a Primary field officer. These experiences were all seen as extremely beneficial to both the Principal and the school as it exposed them to a wide range of good practice that could be evaluated and where deemed appropriate, brought back to the Principal's 'own' school.

The Principal in Dunclug Primary School has continued this approach by utilising many of the contacts that were built up previously. A 'cluster' of five local Principals meet at least once a term. They have a general discussion regarding issues affecting local primary schools and learning. The Principal told us that there is an onus to come along with good ideas and there is a clear focus on principal's own initiatives. The school has had a two way swop of teachers with another local primary

school to assist in the introduction and implementation of a phonics programme. This was seen as one clear way to ensure good practice was properly disseminated.

3.48 In addition to these informal networks, good practice is currently shared through ESAGS.tv (Every School a Good School). To appear on this new online resource, a school must have achieved 'outstanding' or 'very good' in its Inspection. This is a credible resource as teachers respect those who are sharing their good practice. Since ESAGS.tv was launched on 1 March 2011, there have been just over 63,000 hits on the website (to 31 December 2012).

3.49 We found many examples of proactive schools where Principal and staff are not afraid to ask for help, both internally from colleagues and externally from their relevant Board or CCMS. For example, some primary school principals identified weakness in maths and applied for 'Time to Count' support from Business in the Community. Schools also made use of local resources such as public libraries and librarians to encourage children to enjoy reading.

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75  Extended Schools Programme – Cluster Groups:
Schools can join in a cluster with two or more schools to access 15 per cent additional resources on top of their core allocation, as part of a network allowance. This incentive is designed in order to realise the benefits from sharing resources and facilities which can potentially provide a greater range of opportunities for pupils.

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### Case Study M – St Rose's Dominican College, Belfast

**Seeking support**

St Rose's is a non selective girls' school with 405 pupils. Its FSM entitlement in 2009-10 was 58 per cent, one of the highest of the schools visited. Despite this, 79 per cent of its pupils achieved Level 5 or above in English in 2009-10. However, only 29 per cent of pupils achieve the same level in maths. The Principal has recognised that this is a weaker area and she is focussing on maths, seeking support from CCMS and BELB. As part of the Action Plan to improve, the Head of Department has visited other centres of good practice including St Mary's High School in Newry (a fellow girls' school with a specialism in maths) and, with her colleagues in the Maths Department, is looking at a complete revision of teaching and learning in the classroom. An ETI Inspection in March 2012 designated the Maths Department in St Rose's as 'Very Good' and more details are available on ESAGS.tv

### Case Study N – Ballycastle High School

**Seeking support**

Ballycastle High School is a small non-selective co-educational school with strong English results – in 2009-10, 93 per cent of pupils achieved Level 5 or

above in English. External support has made a difference in this school as the Head of English has made extensive use of the support of the Literacy Co-ordinator in North Eastern Education and Library Board (NEELB). For example, with NEELB support, new testing on Literacy in Year 8 was introduced and this has produced additional data in specific areas. Teaching can be more tailored as a result. As well, the Head of English is currently redrafting the school's Literacy Policy with NEELB support.

### Recommendation 6

The Literacy and Numeracy Taskforce has concluded that the 'development of a "shared good practice" culture across all schools is essential and inexpensive but as yet there appears to be no clear strategy or desire to introduce a systematic in-service programme to make this happen'.

We share the Taskforce's concerns. It is important, therefore, that the full range of expertise and capacity that exists within the schools system is utilised to best effect to drive through innovation and change. While we acknowledge that the Department, Boards and CCMS work closely to assist schools, we recommend that even greater attention is given to encouraging and supporting local experimentation, collaboration and innovation and to systematically identify and scale-up effective models of teacher and school practice.

3.50 Ensuring that every pupil leaves school with the literacy and numeracy skills required for advancing into work or further education or training is a huge challenge. While there are many forms available, there is no assurance that all vulnerable pupils will receive the intervention they need. Effective intervention is dependent on schools knowing what is available and correctly identifying what is required. The practices identified during our school visits have been implemented at school level by proactive Principals demonstrating a determination to do all that they can to ensure that their pupils achieve the best possible outcomes. The measures have been implemented using the funding allocated from the aggregated schools budget (see paragraph 1.6) with no additional funding from the Department. In order to ensure that examples of good practice are promulgated to all schools, education partners in school provision have a role to play in catalysing and supporting innovative practices to promote literacy and numeracy learning in schools and to ensure that effective solutions are identified, disseminated and taken up more widely.

## Alternative Approaches

3.51 As outlined in Part 2 of this report, improvements in literacy and numeracy attainment in our schools have been slow and statistics indicate that progress has levelled off in recent years. Furthermore, Northern Ireland's PISA scores in reading and mathematics are no longer significantly different to the OECD average (see paragraph 2.41). If the Department is to tackle the stubborn tail of under-achievement in our schools it may need to consider the evidence of new and alternative approaches.

3.52 China's performance in the highly influential PISA assessments is remarkable as they show the resilience of pupils to succeed despite challenging backgrounds[76]. In China, the best teachers are employed in the most challenging schools. Such approaches are radical but may need to be considered by the Department to halt the increasing gap in achievement.

3.53 PISA 2009 results show that *'the socio-economic background of students and schools and the learning environment are closely interrelated, and that both factors link to performance in important ways'*. The report reflects that, *'school systems need to look at how they can influence the learning climate in schools with large proportions of socio-economically disadvantaged students. This may be approached either through measures that change the social mix of students in some schools or by a change in attitudes and practices among teachers, students and parents in order to weaken the association between socio-economic disadvantage and a less favourable school climate'*.

3.54 PISA's observations are particularly concerning given that in the United Kingdom the impact of socio-economic background on educational attainment is well above the OECD average[77].

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76 Andreas Schleicher (OECD's educational adviser), May 2012
77 PISA – Viewing the United Kingdom school system through the prism of PISA

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Improving the social mix in our schools is a contentious issue and one which would undoubtedly take time to implement, however it is hard to ignore given the overwhelming evidence to suggest that it boosts the performance of disadvantaged students without any apparent negative effect on overall performance. A recent study carried out by the OECD in collaboration with the Hoover Institute at Stanford University suggests that a modest goal of having the UK boost its average PISA scores by 25 points over the next 20 years could imply a gain of £6 trillion US dollars for the UK economy over the lifetime of a generation born in 2010.

# Appendices

# Appendix 1
## The Department of Education's Targets for Improving Educational Outcomes in Literacy and Numeracy

| | Actual Performance | | | | Milestones | | Long Term Target |
|---|---|---|---|---|---|---|---|
| | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2011-12 | 2014-15 | 2019-20 |
| Key Stage 2 – Communication in English (% of pupils at level 4) | 78.0% | 78.0% | 78.8% | 80.1% | 83% | 86% | 90%+ |
| Key Stage 2 – Communication in Irish (% of pupils at level 4) | 77.7% | 83.1% | 80.7% | 82.0% | 84% | 86% | 90%+ |
| Key Stage 2 – Maths (% of pupils at level 4) | 80.0% | 79.5% | 80.6% | 81.3% | 84% | 86% | 90%+ |
| Key Stage 3 – Communication in English (% of pupils at level 5) | 76.6% | 78.2% | 79.2% | 78.9% | 81% | 83% | 85%+ |
| Key Stage 3 – Communication in Irish (% of pupils at level 5) | 86.1% | 93.3% | 88.1% | 92.1% | 85% | 85%+ | 85%+ |
| Key Stage 3 – Maths (% of pupils at level 5) | 72.9% | 74.4% | 74.1% | 77.3% | 80% | 82% | 85%+ |
| School leavers with at least 5 GCSEs A*-C incl English & Maths | 52.6% | 54.2% | 56.3% | 58.4% | 61% | 66% | 70%+ |
| School leavers with at least 5 GCSEs A*-C incl English & Maths – Girls | 58.4% | 59.6% | 62.6% | 63.7% | 65% | 70%+ | 70%+ |
| School leavers with at least 5 GCSEs A*-C incl English & Maths – Boys | 47.0% | 49.0% | 50.2% | 53.1% | 56% | 62% | 70%+ |
| School leavers with at least 5 GCSEs A*-C incl English & Maths – FSM pupils only | 26.3% | 27.1% | 27.7% | 29.7% | 39% | 49% | 65%+ |
| School leavers with at least 5 GCSEs A*-C incl Gaeilge, English & Maths – pupils educated through the medium of Irish | Validated Gaeilge data have not been collected as part of the School Leavers Survey. A process for collecting and validating these data will be established for results in the 2009/10 academic year. | | | | To be confirmed | To be confirmed | 70%+ |

*Source: Count, Read: Succeed, page 49*

# Appendix 1
## The Department of Education's Targets for Improving Educational Outcomes in Literacy and Numeracy

The Department has agreed 'expected levels' (the levels which it expects most children and young people to be able to reach) in all three cross-curricular skills (communication, using mathematics and using ICT) with a clear expectation that individual pupils should progress at least one level between each Key Stage. This allows for progression to be shown and ensures that there is a clear focus not simply on achievement at or above the expected levels but also, importantly, on measuring the progress made by pupils, bearing in mind their different starting points, in line with the Department's wider commitment to introduce a meaningful focus on added value.

The expected levels in all three cross-curricular skills are:

- End of Key Stage 1 – Level 2

- End of Key Stage 2 – Level 4

- End of Key Stage 3 – Level 5

# Appendix 2
## PAC Recommendations

**PAC Report 8 December 2006 HC 108 – Improving literacy and numeracy in schools (Northern Ireland)**

**1. The importance of developing competency and confidence in the key skills of literacy and numeracy at an early age is reflected in the worrying statistics which show that the skills deficit among pupils in Northern Ireland schools increases as they progress through primary education and into the secondary sector.**

The Committee expects the Department of Education to take urgent steps to improve the teaching of literacy and numeracy within schools. This is essential if we are to ensure that deficiencies in literacy and numeracy do not continue to be a major handicap for future generations of young adults after they leave school.

**2. In our view, schools which are well managed and have proactive leadership are much better placed than others to enable all children, even those most at risk of failing, to succeed.**

Unless the teaching of literacy and numeracy is well-led, schools will not provide the best educational experience nor the highest standards for their pupils. In order to raise standards we look to the Department to ensure that support is focused on schools where the leadership and management of literacy and numeracy efforts is weak.

**3. Under-achievement among boys constitutes a cultural challenge.**

We expect the Department to help meet that challenge by seeking to draw together research on best practice so that it can develop both preventative and remedial programmes to help boys who are struggling with literacy and numeracy from falling further behind each year. The Committee urges the Department to give particular attention to the very worrying position of boys in the Belfast Board area.

**4. It is clear from the evidence presented to the Committee that, among socially deprived communities in Belfast, significant differences between Protestant and Roman Catholic children exist in GCSE English and Mathematics. This raises a concern that children in Protestant working-class areas may not be enjoying equal educational opportunities.**

There is a noticeable difference between Belfast and Glasgow. The data provided by the Department shows that, whereas there is a reasonable degree of consistency between the performance of Catholic and nondenominational schools in Glasgow in English and Mathematics at GCSE/Scottish National Qualification level, this is certainly not the case in Belfast. Here, schools with 40% or more pupils entitled to free school meals do disturbingly less well than their Catholic counterparts, as well as much less well than their counterparts in Glasgow. Differences in performance by pupils from different religious backgrounds is a sensitive topic but we suggest that

# Appendix 2
## PAC Recommendations

if real improvements are to be made the issues involved must be addressed. This requires thorough research and rigorous analysis so that evidenced-based actions can be put in place to overcome the difficulties. In its response to our Report, we would like the Department to explain in detail how it is tackling this issue which must be one of the major challenges Northern Ireland faces.

**5. The Department has a pressing responsibility to take the lead in identifying and championing best practice in literacy and numeracy teaching in schools.**

It needs to provide a clear direction and impetus to the promotion of literacy and numeracy performance. The Committee will be interested to learn what steps the Department takes to address the issue.

**6. We are extremely disappointed that literacy and numeracy targets have been frequently adjusted since the introduction of the Strategy.**

We recognise that it is sometimes necessary to adjust targets. However, the Department's record on literacy and numeracy suggests to us that it has lacked commitment to and confidence in its target setting. If targets are to serve as useful and meaningful tools of accountability and retain credibility, they have to become a consistent element in the process of setting literacy and numeracy objectives for schools and for assessing and reporting on attainment levels. We expect the Department's current review of the Strategy to establish an approach to target setting which will communicate a clear message around which schools can mobilize resources in tackling under-achievement in literacy and numeracy. We also expect the Department to maintain a consistent approach to targets rather than adjust them when results are falling short.

**7. Central to the accountability for literacy and numeracy improvement programmes is the establishment of processes to ensure that data collected on attainment levels is analysed and used for planning and continuous improvement.**

We recommend that the Department ensures that this data is used to identify any aspects of the design and delivery of literacy and numeracy programmes that can be enhanced and to inform effective targeting of improvement programmes to groups of pupils whose performance is not satisfactory.

**8. The lack of benchmarking by the Department against comparable cities in the United Kingdom has been a missed opportunity to identify good practice in literacy and numeracy teaching, to learn from others and improve performance.**

Benchmarking provides a means of testing achievements and processes in literacy and numeracy against those of other organizations. The Department should make greater use of its liaison arrangements with its equivalent organizations in England, Wales and Scotland to examine whether the approaches adopted in similar cities are proving to be more effective in delivering better literacy and numeracy outcomes. In particular, the results from Glasgow and Liverpool need to be followed up promptly to see what lessons can be learned.

# Appendix 2
## PAC Recommendations

**9. Teacher quality is an important catalyst for improvement in literacy and numeracy attainment levels.**

We consider it important, therefore, that the Department's review of the Strategy satisfies itself that the training provided to teachers ensures that they develop a thorough understanding of the relevant literacy and numeracy initiatives and are committed to them as a way of achieving improvement.

**10. Parental involvement can have an important impact on the educational attainment of children.**

Huge gains can be made in literacy and numeracy attainment levels if parents received more encouragement to work with schools in support of their children's education and opportunities were taken to engage parents to provide educational development in the home. However, the greater involvement of parents must not lose sight of the fact that children from deprived backgrounds are likely to have limited access to educational resources compared to their more affluent peers.

**11. To date, the Strategy has failed to narrow the long standing gap between the best and lowest literacy and numeracy performers in Northern Ireland schools.**

The wide variation in achievement levels between pupils suggests to us that problems exist, either in the implementation of the current Strategy or inherently in the methodologies it promotes. The Department cannot continue with an approach to literacy and numeracy that, despite good intentions, appears to set up a significant number of children for failure. It has to be a priority of the utmost importance for the Department's current review of its Strategy to ensure that this gap is closed. It will be vitally important, therefore, to determine whether current prescriptions and approaches are the best available methodologies for teaching literacy and numeracy in schools. In our view, further comparative research on the best ways of teaching will be necessary to establish which interventions can lead to the most effective use of taxpayers' money. As part of this process, we also expect the Department to have regard to whatever wider research is available in Great Britain or elsewhere.

# Appendix 3
## Types of Schools in Northern Ireland

The education system in Northern Ireland consists of different types of schools under the control of management committees who are also the employers of teachers.

- Controlled (nursery, primary, special, secondary and grammar schools) are under the management of the schools' Board of Governors and the Employing Authorites are the five Education and Library Boards.

- Catholic Maintained (nursery, primary, special and secondary) are under the management of the Board of Governors and the Employing Authority is the Council for Catholic Maintained Schools (CCMS).

- Other Maintained (primary, special and secondary).

- Voluntary (grammar), Integrated (primary and secondary) each school is under the management of a Board of Governors.

There are currently five Education and Library Boards:

- Belfast Education and Library Board, (BELB);

- North Eastern Education and Library Board, (NEELB);

- South Eastern Education and Library Board, (SEELB);

- Southern Education and Library Board, (SELB); and

- Western Education and Library Board, (WELB).

A Review of Public Administration (RPA) in education proposed that a new Education and Skills Authority (ESA) should be established.  The ESA Implementation Team (ESAIT) was formed in 2006 to take forward the creation of ESA.  ESA will be a single organisation that subsumes the functions, assets and liabilities of the five Education and Library Boards, the Council for Catholic Maintained Schools, the Staff Commission and the Youth Council.

The Northern Ireland Executive initially announced 1 January 2010 as the date for the creation of ESA, however persistent delays in agreeing legislation have significantly delayed its implementation. The Executive has now agreed that ESA should become operational in 2013. An Education Bill was introduced to the Assembly on 2 October 2012 to give effect to that decision.  The Bill completed its second reading stage on 15 October and is currently at Committee Stage.

# Appendix 4
## School Visits

During our review we visited a sample of 10 primary and 10 post-primary schools. Key stage outcomes (based on teacher assessments) of these schools are outlined below.

| Primary Key Stage 2 English | | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 |
|---|---|---|---|---|---|---|---|
| School Reference Number | School Name | Percentage achieving level 4 or above in English | Percentage achieving level 4 or above in English | Percentage achieving level 4 or above in English | Percentage achieving level 4 or above in English | Percentage achieving level 4 or above in English | Percentage achieving level 4 or above in English |
| 1030194 | Holy Cross Boys' Primary School | 42.3 | 45.9 | 73.1 | 76.9 | 78.4 | 68.0 |
| 1030317 | St Bernadette's Primary School | 82.1 | 78.4 | 80.7 | 87.1 | 83.8 | 88.5 |
| 1036620 | St Peter's Primary School | 84.8 | 77.2 | 88.7 | 86.5 | 81.0 | 84.8 |
| 2036142 | St Brigid's Primary School | 63.6 | 64.4 | 66.7 | 68.6 | 85.7 | 92.1 |
| 2036449 | Christ the King Primary School | 85.7 | 82.6 | 76.9 | 81.3 | 84.2 | 76.2 |
| 2036472 | Holy Family Primary School | 71.2 | 78.6 | 73.5 | 69.2 | 92.7 | 74.1 |
| 2036475 | Longtower Primary School | 67.4 | 76.6 | 80.0 | 78.3 | 80.0 | 80.0 |
| 3016063 | Dunclug Primary School | 68.4 | 53.3 | 52.2 | 82.1 | 85.7 | 66.7 |
| 4016002 | Kilcooley Primary School | 64.3 | 83.3 | 68.8 | 93.3 | 100.0 | 58.8 |
| 4036081 | St Luke's Primary School | 70.0 | 37.5 | 68.3 | 83.9 | 62.1 | 60.0 |
| | NI Average | 78.0 | 78.0 | 78.8 | 80.1 | 81.4 | 82.4 |

*Source: Department*

# Appendix 4
## School Visits

| School Reference Number | School Name | 2005-06 Percentage achieving level 4 or above in Maths | 2006-07 Percentage achieving level 4 or above in Maths | 2007-08 Percentage achieving level 4 or above in Maths | 2008-09 Percentage achieving level 4 or above in Maths | 2009-10 Percentage achieving level 4 or above in Maths | 2010-11 Percentage achieving level 4 or above in Maths |
|---|---|---|---|---|---|---|---|
| 1030194 | Holy Cross Boys' Primary School | 48.1 | 63.9 | 80.8 | 75.0 | 84.3 | 72.0 |
| 1030317 | St Bernadette's Primary School | 67.9 | 78.4 | 77.4 | 71.0 | 94.6 | 84.6 |
| 1036620 | St Peter's Primary School | 89.8 | 79.0 | 85.5 | 86.5 | 83.3 | 84.8 |
| 2036142 | St Brigid's Primary School | 70.5 | 71.1 | 64.7 | 58.8 | 83.7 | 89.5 |
| 2036449 | Christ the King Primary School | 85.7 | 95.7 | 84.6 | 87.5 | 100.0 | 85.7 |
| 2036472 | Holy Family Primary School | 66.7 | 76.8 | 69.4 | 72.3 | 82.9 | 74.1 |
| 2036475 | Longtower Primary School | 67.4 | 80.9 | 68.3 | 71.7 | 75.6 | 80.0 |
| 3016063 | Dunclug Primary School | 73.7 | 66.7 | 56.5 | 82.1 | 92.9 | 66.7 |
| 4016002 | Kilcooley Primary School | 78.6 | 91.7 | 87.5 | 100.0 | 80.0 | 52.9 |
| 4036081 | St Luke's Primary School | 70.0 | 41.7 | 75.6 | 80.7 | 86.2 | 60.0 |
|  | NI Average | 80.0 | 79.5 | 80.6 | 81.3 | 82.5 | 82.9 |

Primary Key Stage 2 Maths

*Source: Department*

# Appendix 4
## School Visits

| Post-Primary Key Stage 3 English | | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 |
|---|---|---|---|---|---|---|---|
| School Reference Number | School Name | Percentage achieving level 5 or above in English | Percentage achieving level 5 or above in English | Percentage achieving level 5 or above in English | Percentage achieving level 5 or above in English | Percentage achieving level 5 or above in English | Percentage achieving level 5 or above in English |
| 1230130 | St Rose's Dominican College | 67.0 | 60.2 | 69.6 | 61.7 | 78.5 | 62.3 |
| 1230155 | St Genevieve's High School | 73.2 | 68.4 | 79.1 | 69.8 | 81.3 | 81.1 |
| 2230081 | St Mary's College | 63.9 | 64.2 | 74.5 | 64.4 | 87.6 | 82.4 |
| 2230148 | St John's Business & Enterprise College | 47.2 | 59.5 | 62.5 | 65.2 | 54.8 | 80.7 |
| 2230180 | St Eugene's College | 89.3 | 76.1 | 71.4 | 90.0 | 74.4 | 76.7 |
| 3210124 | Ballycastle High School | 63.3 | 92.3 | 82.8 | 56.9 | 93.1 | 80.0 |
| 4230161 | St Colman's High School | 79.0 | 73.0 | 66.0 | 88.6 | 87.8 | 82.1 |
| 5230108 | St Mary's High School | 86.7 | 73.0 | 89.9 | 83.5 | 83.9 | 67.4 |
| 5230167 | St Joseph's High School | 84.1 | 98.9 | 64.6 | 93.6 | 97.7 | 66.7 |
| 5230218 | St Catherine's College | 93.3 | 93.7 | 91.3 | 97.1 | 97.5 | 96.1 |
| | NI Non Grammar Average | 64.1 | 66.0 | 66.9 | 66.3 | 66.9 | 67.5 |
| | **NI Average** | **76.6** | **78.2** | **79.2** | **78.9** | **79.4** | **79.2** |

*Source: Department*

# Appendix 4
## School Visits

| Post-Primary Key Stage 3 Maths | | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 |
|---|---|---|---|---|---|---|---|
| School Reference Number | School Name | Percentage achieving level 5 or above in Maths | Percentage achieving level 5 or above in Maths | Percentage achieving level 5 or above in Maths | Percentage achieving level 5 or above in Maths | Percentage achieving level 5 or above in Maths | Percentage achieving level 5 or above in Maths |
| 1230130 | St Rose's Dominican College | 26.4 | 40.8 | 43.5 | 41.7 | 29.1 | 39.1 |
| 1230155 | St Genevieve's High School | 59.2 | 63.9 | 61.4 | 56.0 | 78.8 | 77.9 |
| 2230081 | St Mary's College | 60.4 | 44.4 | 62.5 | 56.3 | 45.3 | 59.9 |
| 2230148 | St John's Business & Enterprise College | 69.4 | 59.5 | 62.5 | 47.8 | 74.2 | 71.0 |
| 2230180 | St Eugene's College | 94.6 | 80.4 | 71.4 | 93.3 | 92.3 | 70.0 |
| 3210124 | Ballycastle High School | 71.4 | 76.9 | 69.5 | 74.1 | 51.7 | 78.3 |
| 4230161 | St Colman's High School | 51.6 | 71.4 | 68.1 | 77.3 | 68.3 | 80.4 |
| 5230108 | St Mary's High School | 72.4 | 57.3 | 57.0 | 69.2 | 60.9 | 60.6 |
| 5230167 | St Joseph's High School | 47.7 | 50.0 | 52.6 | 74.5 | 63.0 | 65.0 |
| 5230218 | St Catherine's College | 84.9 | 74.8 | 82.7 | 92.9 | 81.6 | 81.0 |
| | NI Non Grammar Average | 58.4 | 59.9 | 58.9 | 63.7 | 62.6 | 64.4 |
| | **NI Average** | **72.9** | **74.4** | **74.1** | **77.3** | **76.7** | **77.3** |

*Source: Department*

# Appendix 5
## PISA Results 2009

### PISA results 2009: Reading

**9 countries outperforming Northern Ireland in Reading**

- Shanghai - China
- Korea
- Finland
- Hong Kong - China
- Singapore
- Canada
- New Zealand
- Japan
- Australia

**16 countries not significantly different from Northern Ireland in Reading**

- Netherlands
- Belgium
- Norway
- Estonia
- Sweden
- Germany

Iceland
United States
Liechtenstein
Denmark
Hungary
**England**

Republic of Ireland
France
Chinese Taipei
Switzerland
Poland
**Scotland**

**39 countries significantly below Northern Ireland in Reading**

- Portugal
- Macao-China
- Italy
- Latvia
- Slovenia
- Greece
- Spain
- Czech Republic

Slovak Republic
Croatia
Russian Federation
Luxembourg
Austria
Lithuania
Turkey
plus 17 other countries

Israel
Chile
Serbia
Bulgaria
Mexico
Romania
Dubai (UAE)
**Wales**

# Appendix 5
# PISA Results 2009

## PISA results 2009: Mathematics

**20 countries outperforming Northern Ireland in Maths**

- Shanghai-China
- Singapore
- Hong Kong-China
- Korea
- Chinese Taipei
- Finland
- Liechtenstein
- Switzerland
- Japan
- Canada

Netherlands
Macao-China
New Zealand
Belgium
Australia
Germany
Estonia
Iceland
Denmark
Slovenia

**12 countries not significantly different from Northern Ireland in Maths**

- Norway
- France
- Hungary
- Slovak Republic
- Austria
- Poland
- Sweden
- Czech Republic

**England**
**Scotland**
Luxembourg
United States
Republic of Ireland
Portugal

**32 countries significantly below Northern Ireland in Maths**

- Spain
- Italy
- Latvia
- Lithuania
- Russian Federation
- Greece
- Croatia
- Dubai (UAE)
- Israel

Turkey
Serbia
Azerbaijan
Bulgaria
Romania
Chile
Mexico
**Wales**
plus 16 other countries

*Source: PISA page 22 & 23, Tables 4.2, 4.3 & 4.4*

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