

# Learning from the Evaluation of DEIS

Emer Smyth, Selina McCoy, Gillian Kingston

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## The Authors

Emer Smyth is a Research Professor, Selina McCoy is an Associate Research Professor and Gillian Kingston is a Research Assistant at the Economic and Social Research Institute.

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## Glossary

ABC	Area Based Childhood Programme
BTC	Breaking the Cycle
C&AG	Comptroller and Auditor General
CPD	Continuous Professional Development
DAS	Disadvantaged Area Scheme
DCYA	Department of Children and Youth Affairs
DEIS	Delivering Equality of Opportunity in Schools
DES	Department of Education and Skills
DSP	Department of Social Protection
EAL	English as an Additional Language
EBD	Emotional and Behavioural Difficulties
ECCE	Early Childhood Care and Education Scheme
EDC	Educational Disadvantage Committee
EDF	Educational Disadvantage Forum
EMA	Educational Maintenance Allowance
ERC	Educational Research Centre
ETB	Education Training Board
GAM	General Allocation Model
GCEB	Giving Children an Even Break
GUI	<i>Growing Up in Ireland Study</i>
HCSL	Home School Community Liaison Scheme
JCSP	Junior Certificate School Programme
LCA	Leaving Certificate Applied
LCE	Leaving Certificate Established
LCVP	Leaving Certificate Vocational Programme
NA	National Assessment
NCSE	National Council for Special Education
OPS	Overall Performance Score
PDST	Professional Development Service for Teachers
SCP	School Completion Programme

SDPI	School Development Planning Initiative
SDPS	School Development Planning Support Service
SEN	Special Educational Needs
SFA	Success for All Programme
SPHE	Social and Personal Health Education
SSE	School Self Evaluation
SSP	School Support Programme (DEIS)
TY	Transition Year
ZEP	Zones d'Education Prioritaire Programme

## Executive Summary

### BACKGROUND TO THE STUDY

Since the 1990s, policy to address educational disadvantage in Ireland has centred on the targeting of additional resources and supports towards schools serving disadvantaged populations. The Delivering Equality of Opportunity in Schools (DEIS) programme was introduced in 2006 to bring together a number of earlier stand-alone schemes which addressed specific aspects of educational disadvantage. The rationale for this approach is the existence of a ‘multiplier effect’, whereby students attending a school with a concentration of students from disadvantaged backgrounds have poorer academic outcomes, even taking account of individual social background. DEIS provides additional funding, access to literacy and numeracy programmes, and assistance with school planning to 657 primary and 193 post-primary schools. Funding takes account of the relative level of disadvantage within schools. As part of the programme, the most disadvantaged urban primary schools have reduced class sizes. In addition, DEIS post-primary schools and urban primary schools have access to the Home School Community Liaison Scheme and the School Completion Programme.

### PURPOSE OF THE STUDY

This study has been commissioned by the Department of Education and Skills to provide an overview of available information on the impact of DEIS supports for disadvantaged schools. The study addresses three key questions:

1. To what extent has the stated aim of the DEIS programme (namely, to prioritise and address the educational needs of children and young people from disadvantaged communities) been achieved?
2. Which elements of the programme have worked well and which have not worked well?
3. What are the key lessons from the DEIS programme and related policy initiatives in relation to future policy and programmes on educational disadvantage, and in relation to education in schools generally?

It draws on existing evaluations of the DEIS programme along with international and Irish research on educational disadvantage to provide a holistic overview of programme outcomes, and to highlight the implications for future policy development.

## PROFILE OF DEIS SCHOOLS

Schools were identified for inclusion in DEIS on the basis of principal reports of the profile of their student population. Information from large-scale surveys, such as the *Growing Up in Ireland* study,<sup>1</sup> confirms that DEIS schools differ markedly from non-DEIS schools in terms of the social class background, parental education, household income and family structures of their students. Schools classified as DEIS urban Band 1 have a much higher concentration of disadvantage than other schools and also cater for more complex needs, with a greater prevalence of students from Traveller backgrounds, non-English speaking students and students with special educational needs.

## THE IMPACT OF THE DEIS PROGRAMME

Evaluation was built into the DEIS programme from the outset, with a number of studies conducted by the Educational Research Centre and the Inspectorate of the Department of Education and Skills. These evaluations have pointed to changes in school organisation and process as well as in student outcomes within DEIS schools. In terms of school process, DEIS schools have experienced an improvement in planning for teaching and learning, and in setting targets for achievement.

In looking at outcomes, evaluations have focused largely on the impact on student academic achievement, especially at primary level. Evaluation studies indicate a significant improvement over time in the literacy and numeracy test scores of students in DEIS primary schools, with greater increases for literacy than for numeracy. This contrasts with the findings of research on earlier interventions in the Irish context and on similar targeted interventions in parts of Europe, where no significant improvement has been found. However, evaluations of DEIS have not included a control group, making it difficult to compare like with like. The National Assessment 2014 can be used to provide information on trends in non-DEIS schools. These National Assessment data indicate an improvement for all primary schools, most likely reflecting the impact of the literacy and numeracy strategy. Using these data as a reference point for DEIS schools, the achievement gap between urban DEIS and non-DEIS schools does not show any marked improvement over time, albeit in the context of declining economic conditions for disadvantaged families over the recession.

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<sup>1</sup> The *Growing Up in Ireland* study is the first large-scale longitudinal study of children and young people in Ireland. It covers two cohorts: infants, surveyed at 9 months, 3 years and 5 years; and children, surveyed at 9 and 13 years of age. The study collects information from parents, school principals, teachers and children themselves.

The study findings point to variation among DEIS schools in student outcomes over the period 2007 to 2013. The most disadvantaged schools, urban Band 1 primary schools, are found to have much lower reading and mathematics scores on average as well as a higher concentration of students with very low test scores. Students attending rural DEIS schools have significantly higher achievement test scores than their counterparts in urban DEIS schools. Furthermore, differences are found in rates of improvement across individual schools. In particular, a significant proportion of individual schools had experienced a decrease rather than an increase in mathematics test scores over time.

At post-primary level, there has been a slight but significant narrowing of the gap in average Junior Certificate grades as well as in English grades between DEIS and non-DEIS schools over the period 2003 to 2011. However, no such improvement was evident in relation to Junior Certificate Mathematics. Information has not been published to date on differences in Leaving Certificate grades.

There is some available information on other student outcomes, such as attendance and retention. Attendance rates have improved in urban Band 1 primary schools but trends in attendance levels in second-level DEIS schools are less clear-cut, though with some improvement in the most recent years. DEIS post-primary schools have much lower rates of completion of junior and senior cycle than non-DEIS schools; 97.5 per cent of non-DEIS students complete junior cycle compared with 94.5 per cent of DEIS students while senior cycle completion is 92.5 per cent in non-DEIS schools and 82 per cent in DEIS schools. However, it is important to note that the gap in retention rates has narrowed significantly over time; from 22 per cent at senior cycle for the 1995 school entrant cohort to 10.5 per cent for the 2008 cohort.

The DEIS programme has involved the provision of additional funding and multi-faceted supports, making it difficult to disentangle which elements of the programme work best. It is likely that any effects reflect the comprehensive package of supports put in place.

### **ESRI RESEARCH ON DISADVANTAGED SCHOOLS**

Existing ESRI research on schools serving disadvantaged populations points to a number of differences in school organisation and process in DEIS and non-DEIS settings. DEIS schools are more likely to use rigid forms of ability grouping which our research has shown contribute to disengagement, underperformance and early school leaving among those allocated to lower stream classes. Streaming is

found to account for some of the difference in achievement between disadvantaged and non-disadvantaged groups of students. DEIS schools also have more challenging disciplinary climates and a greater prevalence of negative interaction between teachers and students. Such negative interactions are associated with lower rates of school retention and progression to post-school education and training.

## IMPLICATIONS FOR POLICY

### *Data Gaps*

Despite the large amount of information on DEIS, there remain some gaps in what we know about how the programme works and its effects on different groups of students. Without a control group, it is difficult to establish definitely whether any improvements are due to the programme or to improvements that are happening across all schools. Up to now, the focus of the evaluations has been on outcomes across all students within DEIS schools. However, the lack of data on the social profile of individual students makes it difficult to measure the achievement gap specifically for disadvantaged students, and to capture the additional effect of the concentration of disadvantage in a school on achievement (the so-called ‘multiplier effect’).

### *Potential For Further Research*

There is considerable potential to use the *Growing Up in Ireland* study data to analyse differences between DEIS and non-DEIS schools, taking account of individual student background. There is also scope to collect social background information, especially from older primary students, in the context of national assessments, for example. Existing evaluations point to variation among DEIS schools in student outcomes, and case-study research could provide insights into which school and teacher factors influence such variation. Finally, analyses to date have focused on reading and mathematics. Research in the United States has indicated that domains of knowledge subject to regular assessment can ‘squeeze out’ time spent on other curricular areas. Therefore it is important that engagement and achievement across the whole curriculum be systematically assessed.

### *Implications For Practice*

Our review of evaluations of the DEIS programme point to improvements in attendance levels in urban Band 1 schools, and in retention rates and overall Junior Certificate grades in post-primary schools. Literacy and numeracy levels have improved in DEIS primary schools, although the gap in achievement

between DEIS and non-DEIS schools has not narrowed over time. Planning for learning is seen to have improved in DEIS schools. These improvements contrast with the lack of significant impact found in evaluations of the schemes that preceded DEIS and in research on similar targeted interventions in countries such as France, Belgium and the Netherlands.

Our review points to the continuing concentration of disadvantage in DEIS schools, especially urban Band 1 schools, highlighting the need for continued supports in such schools. Schools serving disadvantaged populations are allocated additional funding under DEIS but are less likely to receive 'voluntary contributions' from parents, and families have substantially fewer economic, cultural and social resources than those in non-DEIS schools. However, there has been little discussion of whether the scale of additional DEIS funding is sufficient to bridge the gap in resources between disadvantaged and non-disadvantaged settings. Further research and policy debate is therefore merited on the appropriate scale of funding, especially for urban Band 1 schools which face a high concentration of disadvantage and greater complexity of need.

A further issue relates to the relatively sharp distinction between DEIS and non-DEIS schools, especially at post-primary level. This means that schools with relatively high levels of disadvantage may fall below the cut-off for additional support. Research indicates that a significant proportion of disadvantaged students attend non-DEIS schools. In this context, there would appear to be a case for a degree of tapering of funding for schools rather than a sharp withdrawal below the specified cut-off.

Findings from evaluations of DEIS point to continued challenges in the area of numeracy, suggesting the need to put renewed focus on this domain in future provision. Existing research points to a number of ways of further enhancing practice in DEIS schools, including a move away from rigid forms of ability grouping, improving the school climate (that is, the quality of day-to-day interaction between teachers and students) and fostering high expectations for all students.

# Chapter 1

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## Introduction

### 1.1 CONTEXT AND OBJECTIVES

Since the 1990s, a dominant feature of educational policy in Ireland has centred on the targeting of additional funding and supports towards schools serving disadvantaged populations, currently provided through the Delivering Equality of Opportunity in Schools (DEIS) programme. This policy concern is reflected in the Education Act of 1998, which defined educational disadvantage in terms of the ‘impediments to education arising from social or economic disadvantage which prevent students from deriving appropriate benefit from education in schools’. This study has been commissioned by the Department of Education and Skills to provide an overview of available information on the impact of DEIS supports for disadvantaged schools. In keeping with the study terms of reference, the aim of the project is to carry out a review of: published work to date in relation to the DEIS programme; other national and international research relating to educational disadvantage; national and international best practice in the delivery of programmes to combat educational disadvantage; and following this review, to provide recommendations for future policy development to tackle educational disadvantage.

The study addresses three key questions:

1. To what extent has the stated aim of the DEIS programme (namely, to prioritise and address the educational needs of children and young people from disadvantaged communities) been achieved?
2. Which elements of the programme have worked well and which have not worked well?
3. What are the key lessons from the DEIS programme and related policy initiatives in relation to future policy and programmes on educational disadvantage, and in relation to education in schools generally?

In addressing these questions, the study has involved two main components:

- A review of existing international research on policy and practice relating to educational disadvantage in order to highlight the lessons which can be learned from interventions elsewhere;



- A review of published work in relation to the DEIS programme, covering specific evaluations conducted by the Educational Research Centre (ERC) and the Department of Education and Skills (DES) Inspectorate as well as existing research which provides insights into the processes at play within DEIS schools.

The remainder of this chapter places the study findings in the context of previous research on the effects of the social composition of schools on student outcomes as well as outlining the historical development of provision for disadvantaged schools in Ireland.

## 1.2 THE EFFECTS OF SCHOOL SOCIAL MIX

The targeting of additional resources at schools serving disadvantaged populations has been motivated by the existence of a ‘multiplier effect’ where there are concentrations of disadvantage:

*Part of the rationale for programmes targeted at schools derives from a belief that the disadvantage associated with poverty is aggravated when large proportions of pupils in a school are from poor backgrounds (the “social context” effect).*

*(Educational Disadvantage Committee, 2003)*

Whether there is, in fact, such an effect from school social mix has been subject to a great deal of controversy internationally (Teddlie and Reynolds, 2000).

Some studies have shown that there is a clear impact of the average social class composition of the school on student outcomes, especially attainment, even controlling for individual social class background (see Brookover et al., 1979 in the US; Rutter, 1979 in England; Willms, 1986 in Scotland). In the Australian context, for example, Perry and McConney (2010) found an effect of mean school socio-economic status on PISA test scores; this effect was consistent across all individual social class groups (‘all students ... benefit strongly and relatively equally’). Other studies have found that more disadvantaged students benefit to a greater extent from a more socially advantaged peer group than their middle-class peers (Kahlenberg, 2001; Thrupp, 1995).

Other research studies have indicated a neutral, or at best, modest effect of school composition on achievement (Luyten et al., 2009; Mortimore et al., 1988). A number of researchers have pointed to the difficulties in measuring all of the relevant dimensions of individual social background, thus making it difficult to disentangle a school-level effect (Nash, 2003; Willms 2010). Indeed, many studies

have relied on the relatively limited measures of background, such as entitlement to free school meals, available through administrative records (Gorard, 2006).

In contrast, research in the Irish context has painted a clearer picture of the effects of school social mix. Research by the ERC found that students in primary schools with higher concentrations of families with a medical card had lower reading and mathematics achievement levels, controlling for their individual medical card status (Sofroniou et al., 2004). Analyses of data from the *Growing Up in Ireland* study indicate that nine-year-old students in urban DEIS schools have much lower levels of reading achievement (as measured by the Drumcondra reading test) than their peers in non-DEIS primary schools, even taking account of a range of social background characteristics, including parental education, social class, household income and family structure (McCoy et al., 2014b). Students in rural DEIS schools had lower average reading achievement levels than those in non-DEIS schools, though this difference disappeared when individual background was taken into account, indicating no 'multiplier effect' for these schools. In contrast, analyses of mathematics achievement among nine-year-olds indicate a net impact of school social mix only for students attending urban Band 1 schools (McCoy et al., 2014b). Both sets of findings were based on cross-sectional research and thus could not take account of the prior ability levels of the students concerned. A study of Irish primary schools allows us to compare performance in mathematics and science among students at the beginning and end of fourth class (McMahon et al., forthcoming). Schools with a concentration of disadvantaged pupils are found to have lower mathematics scores at the end of fourth class partly because of lower initial mathematics (or science) scores among the student cohort. However, a substantial net effect of school social mix remains, controlling for prior achievement. Thus, pupils attending schools with a concentration of disadvantaged peers make less *progress* in mathematics and science than those in schools with a higher socio-economic mix.

Research on post-primary student outcomes reveals similar patterns. Junior Certificate grades are found to be lower in schools with a concentration of students whose families have medical cards, a proxy for low income (Sofroniou et al., 2004). The average social class mix of the school is found to have significant effects on Junior and Leaving Certificate achievement, absenteeism rates and early school leaving levels, even controlling for a range of individual and school characteristics, including prior ability (Smyth, 1999). Attending a more middle-class school is also associated with lower stress levels at junior cycle level and more positive academic self-image at both junior and senior cycle levels (Smyth, 1999).

In summary, there appears to be a strong evidence base in the Irish context that the social class mix of a school matters, providing a rationale for providing supports to such schools. In the following section, we outline the development of provision for disadvantaged schools in Ireland.

### **1.3 HISTORICAL DEVELOPMENT OF PROVISION FOR DISADVANTAGED SCHOOLS**

There have been a number of different schemes designed to target additional resources on schools serving disadvantaged populations. The Disadvantaged Areas Scheme (DAS), introduced in 1984, was the first mainstream scheme in Ireland designed to address disadvantage in schools. Schools were assessed for participation in the programme on the basis of socio-economic and educational indicators, including the pupil-teacher ratio in a school. Initially DAS covered 33 schools in areas of high deprivation and provided additional teachers and grants on a whole-school basis.

From 1990 onwards the DAS scheme was expanded, and schools designated disadvantaged for the purpose of DAS were also included in a Home School Community Liaison (HSCCL) Scheme. The HSCCL scheme is still in place, and involves the provision of a school-based co-ordinator to liaise with parents and the community in primary and post-primary schools. The main aim of the scheme is to increase links between the school, the home and the wider community in order to promote educational engagement among students (DES, 2006). An initial evaluation of the programme indicated some positive effects, including improved parental involvement in the school and increased contact between parents and teachers (Ryan, 1994). Subsequent research indicated that the majority of principals and coordinators were positive about the scheme (Archer and Shortt, 2003). However, the scheme was seen as having had a greater impact on attitudes than behaviour, and less impact on students themselves (Ryan, 1999).

In 1994 the 'Early Start' programme was established in 40 primary schools in designated areas of urban disadvantage and this programme is still in place. The programme is a one-year intervention scheme to meet the needs of children who are at risk of not reaching their potential within the school system, with parental involvement being one of the core elements of the programme. The project was primarily designed to promote language and cognitive development (Kelly and Kellaghan, 1999), and involves an educational programme to enhance overall development, and offset the effects of social disadvantage (DES, 2014).

In 1996 a new initiative aimed at breaking the cycle of educational disadvantage was launched called 'Breaking the Cycle' (BTC); the scheme was launched in response to a study carried out jointly by the Combat Poverty Agency and the ERC, which reviewed approaches to identification of, and support for, pupils with disadvantaged backgrounds (Kellaghan et al., 1995; Comptroller and Auditor General, 2006). The main focus of the scheme was a reduction in class size in urban schools and the provision of grants for materials, equipment and local projects in both urban and rural schools (DES, 2006). In the case of urban schools, the focus was on schools which were already designated as disadvantaged; in the case of rural schools, a targeted programme of supports was made available to 25 clusters of selected schools with fewer than five teachers. Evaluations of the BTC scheme indicated that principals and teachers in designated disadvantaged schools were relatively positive about the scheme, citing increased individual attention to pupils, and easier identification of individual pupils' needs. However, there was no evidence of improved reading and mathematics scores among students in these schools, and variable results were evident in relation to other outcomes (such as student attitudes, attendance and behaviour) (Weir and Ryan, 2000; Weir, Milis and Ryan, 2002a, 2002b; Weir, 2003; Smyth and McCoy, 2009).

In 2001 the 'Giving Children an Even Break' (GCEB) programme was introduced; schools were identified for participation in GCEB based on their responses to a survey of educational disadvantage and early school leaving, administered by the ERC on behalf of the DES in 2000. This process resulted in a rank order of schools based on the socio-economic characteristics of families served (Weir, 2004; Weir et al., 2014). The difference from previous schemes was that additional funding was made available to almost all schools on the basis of a sliding scale related to the concentration of disadvantage. Additionally, unlike previous schemes, GCEB had a significant rural component modelled on Breaking the Cycle (rural), which involved the allocation of a shared post to clusters of local schools (Weir et al., 2011). Grants were targeted at individual pupils and a special per capita grant was payable in respect of pupils identified as disadvantaged. Additional teaching resources were allocated to the most disadvantaged schools, and schools already in receipt of resources under existing schemes retained those entitlements (Comptroller and Auditor General, 2006). In 2001 the *National Action Plan against Poverty and Social Exclusion 2001-2003* was introduced. This plan led to the establishment of the Educational Disadvantage Committee (EDC) to provide advice on policies and strategies to be adopted to identify and tackle educational disadvantage. An Educational Disadvantage Forum (EDF) was also set up to advise the Minister on broader issues relating to educational disadvantage and exclusion from the full benefits of education (Comptroller and Auditor General, 2006).

The School Completion Programme (SCP) was introduced in 2002; selected schools at primary and post-primary level with the highest proportions of at-risk students were invited to participate in the programme. This programme is still in existence, and aims to keep young people in the formal education system to completion of senior cycle or equivalent, and to improve the quality of participation and educational attainment. A review of the School Completion Programme is currently being undertaken by the ESRI.

In 2003 the Educational Disadvantage Committee undertook an examination of the wide range of government programmes in place to tackle educational disadvantage. The outcome of the review stressed the need to improve methods of identification of schools and targeting of resources, with a greater emphasis on more flexible, planned and integrated responses, and the need for enhanced supports for teachers and schools. The advice provided by the Educational Disadvantage Committee and the Educational Disadvantage Forum was central to the later development of the DEIS action plan (Educational Disadvantage Committee, 2003a, 2003b; DES, 2005).

In 2005 staff of the Office of the Comptroller and Auditor General undertook a Value for Money examination covering all disadvantage initiatives operated at primary school level, namely, DAS, HSCL, GCEB and SCP. The examination specifically set out to evaluate how resources for these programmes were targeted, allocated and applied; to identify opportunities for improved practice, and to assess the arrangements for evaluation of effectiveness. The examination involved interviews with staff from the DES and other relevant organisations, along with reviews at 20 randomly selected primary schools participating in all of the initiatives. An advisory board comprising experts in the area of educational disadvantage assisted in the analysis. The C&AG examination found that schemes to tackle disadvantage had evolved to a stage where there were a variety of schemes based on different eligibility criteria. Concerns were raised about the equitability of the allocation of funds and the accuracy of the data used to calculate disadvantage levels. Further concerns included the lack of target setting by schools, and the low levels of literacy and numeracy among students in the selected schools where these initiatives were in operation. Overall the review highlighted a need for greater coordination and cohesive approaches among the agencies and personnel involved in addressing disadvantage. In addition, the study recommended that priority should be given to the development of a comprehensive primary schools database to facilitate the improved allocation of funds and the tracking of performance (Comptroller and Auditor General, 2006).

In 2005, the Department of Education and Skills published DEIS - *Delivering Equality of Opportunity in Schools: an action plan for educational inclusion* and the programme was introduced in the academic year 2006/7. The plan brought a number of programmes aimed at tackling educational disadvantage together under the framework of the Delivering Equality of Opportunity in Schools (DEIS) programme and its design responded to some concerns raised by the Educational Disadvantage Committee and by the Office of the Comptroller and Auditor General. The fact that 'rates of educational underachievement and early school leaving remain much higher for pupils from disadvantaged communities than for other pupils' (DES, 2005, p. 8) was the rationale for subsuming existing schemes, along with new elements, for disadvantaged primary and second-level schools into the DEIS School Support Programme (SSP). Furthermore, existing provision had been criticised for its fragmented nature, and the varied criteria used for targeting schools (Educational Disadvantage Forum, 2003; Educational Disadvantage Committee, 2003; Comptroller and Auditor General, 2006). This was to be addressed by 'streamlining' provision under the auspices of DEIS.

The process of identifying schools to be involved in the DEIS programme was managed by the ERC on behalf of the DES. Primary schools were identified for participation in the programme based on a survey of principals about the socio-economic characteristics of their pupils. The variables used included indicators of unemployment, proportion housed in local authority accommodation, and the proportions of lone parents, Travellers, large families (five or more children) and pupils eligible for free books (Archer and Sofroniou, 2008). Post-primary schools were identified using data provided to the ERC from the Post-Primary Pupil and State Examinations Commission databases. Schools were ranked on an index on the basis of levels of disadvantage, defined in terms of both learning outcomes and social and economic factors. The final index was based on combining the percentage of medical cards at junior cycle, the percentage of students that dropped out prior to completing junior cycle, the percentage retention rate to the end of junior cycle, Overall Performance Score (OPS) at Junior Certificate, and the percentage retention rate to the end of senior cycle (Weir, 2006; Weir et al., 2014).

#### **1.4 CURRENT STRUCTURE OF DEIS**

The DEIS Action Plan provided for an integrated School Support Programme (SSP) which is in place in 850 primary and post-primary schools with the highest levels of disadvantage. At primary level, a distinction is made between urban and rural DEIS schools, with urban schools further sub-divided into Urban Band 1 (the most disadvantaged), Urban Band 2 and Rural DEIS. Post-primary schools in the programme are not categorised. In the academic year 2014/15 there are 336

urban primary schools, 321 rural primary schools, and 193 post-primary schools accessing resources under the programme. The programme thus includes 19 per cent of all primary schools and 26 per cent of all post-primary schools. Overall, the DEIS programme is available to 167,201 pupils; this incorporates 100,999 pupils at primary, and 66,202 pupils at post-primary level (DES, personal communication). Programme participants are entitled to a range of supports including access to additional funding, access to literacy and numeracy programmes, and assistance with school planning. Additionally, interventions such as the Home School Community Liaison Scheme (HCSL) and the School Completion Programme (SCP) are available to DEIS urban primary schools, and to DEIS post-primary schools. Some supports are restricted to schools in Band 1 (such as reduced class size), as these schools are assessed as having greater concentrations of disadvantage than Band 2 and rural schools.

The School Support Programme under DEIS provides:

- Reduced class size (urban Band 1 schools only)
- Additional funding
- Access to planning supports
- Access to literacy/numeracy programmes and professional support in their implementation
- Access to the Home School Community Liaison (HSCL) Scheme
- Access to a range of supports under the School Completion Programme (SCP)
- Access to the School Meals programme
- Additional funding under the School Books Grant Scheme
- Access to a range of professional development supports.

The SCP and the HCSL are key integral supports of the DEIS programme. Currently the SCP operates in 470 primary schools and 224 post-primary schools, and includes DEIS and non-DEIS schools. Schools are grouped into 124 clusters, each of which is led by a management committee comprising school principals, HSCL co-ordinators, parents, and voluntary and statutory agencies.<sup>2</sup> The focus of the programme is on students at risk of early school leaving (DES, 2006). The SCP incorporates the learning, experience and best practice derived from previous early school leaving initiatives, namely, the 8-15 year-old Early School Leaver Initiative (ESLI), and the Stay-in-School Retention Initiative at post-primary level

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<sup>2</sup> <http://www.tusla.ie/services/educational-welfare-services/school-support-services-under-the-deis-initiative/school-completion-programme>.

(SSRI). Each project is provided with funds to develop appropriate intervention strategies including in-school, after-school and holiday time interventions, to targeted children and young people through linkages with relevant community, youth and statutory agencies.

All DEIS urban primary and DEIS post-primary schools are currently included in the HSCL Scheme. Under the *National Recovery Plan 2011-2014*, rural DEIS schools were withdrawn from the Rural Coordinator service under HSCL in September 2011. The main focus of the HSCL scheme is preventative, ensuring that interventions are put in place that will impact positively on parents and children in order to improve educational outcomes. Specifically, the programme targets children at risk of not reaching their potential in the educational system because of family-based issues, which adversely affect pupil attainment and school retention. The HSCL focuses directly on the significant adults in children's lives and seeks direct benefits for the children themselves (DES, 2014c). The SCP and HSCL both work to prevent early school leaving and ensure that intervention and prevention happen at the earliest stages.

Access to the School Meals Programme is also available to DEIS schools. The School Meals Programme is operated by the Department of Social Protection (DSP), and provides funding towards provision of food services for disadvantaged school children through two schemes. The statutory Urban School Meals Scheme for primary schools is operated by Local Authorities and part-financed by the DSP. The non-statutory School Meals Local Projects Scheme provides funding directly from the DSP to primary schools, post-primary schools and local groups and voluntary organisations which operate their own school meals projects. Priority for funding for the School Meals Local Projects Scheme is currently given to DEIS schools. However, there is no automatic entitlement to funding and all applications are considered in light of the available budget for the Scheme.<sup>3</sup>

Additional teaching resources for children with higher incidence of special educational needs (SEN) (e.g. mild general learning disability) are assigned to DEIS and non-DEIS schools through the General Allocation Model (GAM). The GAM has been in place for primary schools since 2005, and post-primary schools since 2012, and provides additional permanent teaching resources on the basis of enrolment. The GAM replaced the previous requirement for schools to apply for additional teaching resources on a pupil-by-pupil basis (DES, 2012b). Further teaching resources are allocated to schools through GAM to meet the needs of

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<sup>3</sup> For more information see <http://www.welfare.ie/en/Pages/School-Meals-Programme.aspx>.



pupils learning English as an Additional Language (EAL); these resources are additional to the other supports and funding provided for schools. Under the teacher allocation reforms introduced for the 2012/13 school year, the combined resources available for GAM and EAL were used to create a single simplified allocation process for all primary schools to cover both the GAM and language support (DES, 2014a).

All DEIS Band 1 schools are allocated additional teaching resources under the GAM/EAL scheme. Band 1 schools with an enrolment of less than 200 pupils are given an additional base allocation of five hours per week (0.2 of a post), or an additional base allocation of ten hours per week (0.4 of a post) if the school has 200 or more pupils (DES, 2014a). For non-DEIS primary schools, additional teaching resources are based on the school's total enrolment, gender, and social mix of the student body in respect of the numbers of students with high incidence of

special educational needs.

Currently, both the GAM and the DEIS schemes provide additional teaching resources to schools. In a review of the GAM for primary schools (DES, 2012b), it was suggested that one overall model of teacher allocation support for DEIS schools should be considered, rather than additional teaching hours provided through a combination of DEIS, low incidence and GAM schemes (DES, 2012b). Analysis of the effective targeting of the GAM by Frawley et al. (2014) found that overall the GAM model is effectively targeting those most in need in terms of gender mix and socio-economic disadvantage. However, the analysis found a need for greater differentiation in the allocation of funding, with urban Band 1 DEIS schools in need of enhanced funding above the level that is required for other schools (Frawley et al., 2014).

Recently proposals have been made to completely revise the current method of funding allocation for SEN. The National Council for Special Education (NCSE) report, *'Delivery for students with special educational needs - a better and more equitable way'*, proposes a new model for allocating teacher resources for students with SEN. It is suggested that this model would replace the current GAM structure of funding. Under the proposed model, Resource Teachers would be allocated based on two criteria: school educational profile; and a baseline component provided to every mainstream school to support inclusion, prevention of learning difficulties, and early intervention. The school educational profile would be composed of three elements: students with complex special educational needs, percentages of students performing below a certain threshold

on standardised test results, and the social context of a school (including the proportion of boys, given their higher incidence of SEN). It is proposed that robust data on educational disadvantage would be gathered through a survey of all primary schools and post-primary schools, and weighting would be applied based on order of needs. The proposed model is designed to address fundamental flaws identified in the current system by tailoring resources allocated to schools on the basis of their educational profiles, by breaking the link that makes diagnosis a prerequisite for resource allocation and by placing greater emphasis on monitoring educational outcomes.

Funding for the DEIS programme is provided by the Department of Education and Skills; external input is also provided for additional programmes by Tusla and the Department of Social Protection (DSP). Table 1.1 shows the funding allocated under the DEIS programme in the 2014/15 academic year.

**TABLE 1.1** Funding Allocated Under the DEIS Programme, Academic Year 2014/15

Funding Type and Source	Amount (€)
Grants to primary schools (based on enrolment and relative level of disadvantage):	€10.8m
Grants to post-primary schools (based on enrolment and relative level of disadvantage):	€3.5m
Evaluation	€0.08m
Book Grant - Primary	€1.0m
Book Grant – Post-Primary	€1.0m
Teacher Continuous Professional Development (CPD)	€4.2m
Literacy and Numeracy Initiatives	€5.6m
HSCL Teacher Pay	€24.8m
<b>External Input</b>	
Tusla - School Completion Programme (SCP)	€25.0m
DSP - School Meals	€20.3m
Total	€96.3m

Source: DES Personal Communication.

DEIS schools have also received targeted additional funding under the ICT Grant Scheme launched by the Department of Communications, Energy and Natural Resources in 2008. This scheme was available as part of Ireland's Digital Strategy, which enabled high speed internet to be rolled out across all post-primary schools by the end of 2014. Additional funding was provided to assist DEIS post-primary schools, and up to 100 DEIS primary schools to achieve digital status.<sup>4</sup>

<sup>4</sup> For more information see <http://www.education.ie/en/Press-Events/Press-Releases/2008-Press-Releases/PR10-07-08.html#sthash.Dc4xS4Ng.dpuf>.

This additional funding should place DEIS schools in a better position to maximise the use of ICT in education (Devitt et al., 2014; Hyland et al., forthcoming, 2015).

DEIS funding was largely ring-fenced during the reductions in public expenditure that have taken place since 2008, although levels of funding fell for the School Completion Programme. However, other changes in educational policy have impacted, sometimes disproportionately, on disadvantaged schools. Such changes include the removal of the ex quota allowance for guidance counsellors, a reduction in the allocation for language support, and the withdrawal of the Visiting Teacher Service and Resource Teachers for Travellers. The phasing out of segregated Traveller provision is in keeping with the recommendations of the *Report and Recommendations for a Traveller Education Strategy (2006)*, which promotes the inclusion of Traveller children in mainstream education. A further separate service, Resource Teachers for Travellers (RTTS), has also been phased out and the teaching resources absorbed into the mainstream system on a phased basis, although a number of alleviation posts remain in the system. Alleviation posts have been allocated to DEIS post-primary schools through a lower pupil-teacher ratio of 18.25:1 (compared to the norm of 19:1) to compensate for the removal of ex quota guidance posts.

Given the greater reliance of working-class young people on formal guidance within the school (see Chapter Four), the withdrawal of the ex quota allocation for guidance will have had particularly serious implications for young people in DEIS schools (McCoy et al., 2014c). Furthermore, many DEIS schools had previously been in receipt of additional guidance resources through the Guidance Enhancement Initiative; its abolition is likely to lead to even greater difficulties in combining the educational guidance and personal counselling elements of the guidance counsellor role in the context of reduced resources. The greater concentration of immigrant and Traveller students in disadvantaged schools (see Chapter Four) means that the withdrawal of dedicated supports for these groups of children and young people will have a greater impact. The recession has also resulted in changed living conditions for students and their families. *Growing Up in Ireland* data indicate that a significant proportion of children and their families have been seriously affected by the recession, with a substantial increase in the proportion who can be considered economically vulnerable (Watson et al., 2014). Over the course of the recession there has been an increase in medical card holders, an indicator of low income, of about 10 per cent at school level for all DEIS and non-DEIS post-primary schools (Weir et al., 2014). Furthermore, the bottom (and top) of the income distributions have experienced the greatest fall in income over the recession, with obvious consequences for the families of children attending DEIS schools (Keane et al., 2014).

## **1.5 OUTLINE OF THE REPORT**

The aim of this report is to draw on existing research to provide a review of the evaluation of the DEIS programme. Over the following chapters we will highlight what is known about the impact of the DEIS programme, and will indicate potential directions for future research and policy development. More specifically, Chapter Two looks at policy initiatives regarding educational disadvantage while Chapter Three highlights outcomes of the DEIS evaluations that have been conducted by the Educational Research Centre and the Inspectorate of the Department of Education and Skills. Chapter Four outlines the evidence from other research on educational disadvantage in Ireland. Finally, Chapter Five presents the study conclusions and policy implications.

# Chapter 2

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## International Research on Policy to Combat Educational Disadvantage

### 2.1 INTRODUCTION

This section outlines international research on policy and practice relating to educational disadvantage. Such policies fall broadly into three categories: intensive programmes in early childhood education, measures designed to boost academic achievement (such as class size reduction and literacy programmes) and compensatory/targeted funding for disadvantaged schools and areas.

### 2.2 EARLY CHILDHOOD EDUCATION

There is a consistent emphasis in research on educational disadvantage on the importance of early intervention, and the strong effects of intensive early intervention on medium and long-term outcomes (Heckman, 2011). A focus on the potential of early childhood education to counter disadvantage dates back to the US 'war on poverty' in the 1960s. A number of programmes in the US have targeted disadvantaged groups, providing intensive education in small groups and fostering parental involvement (Levin, 2009). Such interventions have been found to have both short-term and long-term positive effects on the children taking part in them (Melhuish, 2004; Barnett, 1995; Temple and Reynolds, 2007; Kilburn and Karoly, 2008).

There have been a number of early childhood initiatives in the US context, including the Abecedarian programme, the High Scope/Perry project and the Chicago Parent-Child Centers. These initiatives differ somewhat in nature but all focus on intensive supports for young children and place an emphasis on parental involvement. Findings from evaluations of the Abecedarian programme indicate that full-time centre-based intervention from infancy to age five was associated with participants attaining more years of education by young adulthood, with an increased likelihood of obtaining education beyond high school, and an increased likelihood of attending higher education (Campbell et al., 2002, 2008; Masse and Barnett 2002). Economic benefits of the programme included improved maternal employment rates facilitated by the availability of childcare, decreased schooling costs because of the

reduction in the need for additional learning supports and lower levels of grade retention, increased lifetime earnings and decreased costs related to smoking (Barnett and Masse, 2007).

Another study on the High/Scope Perry programme found that 70 per cent of the socio-economically disadvantaged group that had received high-quality childcare planned to graduate from college, compared to 36 per cent of those who had not (Schweinhart et al., 2005; Guerin, 2014). Reynolds et al. (2007) found significant differences between participants and non-participants in terms of high school graduation, highest grade attained, and college attendance. The Perry Preschool follow-up also found significantly higher school completion rates among participants (Schweinhart et al., 2005). Similarly, participants in the Child-Parent Centers in Chicago had lower rates of early school leaving along with lower juvenile crime rates than their peers (Reynolds and Wolfe, 1997; Bryant and Maxwell, 1996; Reynolds et al., 2001). Thus participating children from disadvantaged backgrounds achieve better educational outcomes in terms of test scores, grade retention and high school graduation, as well as reduced crime and delinquency (Wössman and Schütz, 2006).

In general, the positive effects of early childhood education are found to increase with length of time in, and earlier entry to, the programme (Barnett, 1995); the benefits of high quality pre-school education are particularly evident for disadvantaged and minority groups. Systematic evaluation of US early childhood programmes indicates that they are the most cost-effective way of reducing educational inequality (Levin, 2009; Temple and Reynolds, 2007; Heckman, 2006). Cross-national analyses have also indicated that children in countries with higher levels of pre-school expenditure tend to have higher mathematics and science test scores and that the gains are greatest for those from lower resource homes (Waldfogel and Zhai, 2008).

In the UK, a large-scale study of early years provision has shown the way high quality pre-school education enhances the cognitive and behavioural development of children measured on entry to school and subsequently within primary education up to age 11 (Sylva et al., 2004). Quality was found to reflect not only the training of managers and staff but also the extent to which there were warm relationships between staff and children. High quality pre-school education was found to have particularly positive benefits for children from disadvantaged backgrounds as well as

for boys and students with special educational needs (Sylva et al., 2008). The effects of pre-school on cognitive, behavioural and socio-emotional outcomes were still evident at the age of 16, even taking account of school experiences at primary and post-primary level (Sylva et al., 2014). A related study focusing on Northern Ireland found a similar impact of pre-school education on cognitive and social development, particularly among children from disadvantaged backgrounds. These effects were evident over the first four years of primary school (Melhuish et al., 2006).

The High/Scope Perry programme inspired the development of a similar project in the Irish context, the Rutland Street project. The Rutland Street project was found to have short-term benefits for participants in terms of school readiness but also longer term benefits in increased retention to the Leaving Certificate level (Kellaghan, 1977; Kellaghan and Greaney, 1993). In contrast, the outcomes for children who have taken part in the more recent Early Start programme have been more mixed (see Chapter 3).

### **2.3 INTERVENTIONS TO PROMOTE ACHIEVEMENT**

Measures to promote academic achievement among less advantaged children have generally fallen into two categories: class size reduction and programmes to promote literacy and numeracy.

The impact of class size on student outcomes has been an extremely controversial topic, not least because of the difficulties in separating out the effects of class size from other factors such as student profile. This is particularly complex in systems where students with special educational needs and/or those from disadvantaged backgrounds are deliberately placed in small classes. One way to systematically assess the effect of small classes is to randomly allocate students to small and larger classes. Project STAR, conducted between 1989 and 1994 in Tennessee, took this approach and is the best-known longitudinal class size reduction experiment. Project STAR set out to assess whether students attending small classes (with 13-17 students) in the early years of school had higher academic achievement than their peers in larger classes (with 22-25 students). The results of evaluations of Project STAR have consistently demonstrated that being in small classes in early grades leads to higher student achievement on average (Konstantopoulos, 2008). Research has found that small class sizes particularly benefit minority students, students who are eligible to receive free or reduced-price lunches, or attend urban schools in low income districts (Nye et al., 2000;

Konstantopoulos, 2008; Schanzenbach, 2006). Findings on the success of the project place emphasis on the length of time spent in the project; evaluators suggested that small class size might be most effective for younger students, and small class size is more effective when pupils spend more than one year in them (Finn et al., 2001). Benefits did not last through middle school for students who spent one year in a small class; however, students who spent three years in small classes were on average four or more months ahead of their peers academically (Finn et al., 2001). The effects of reduced class size were found to be long-term in nature with participating students achieving higher graduation rates, higher test scores, and being more likely to pursue tertiary education (Faubert, 2012).

Some later US studies exploring the impact of 'real life' variation across schools in class sizes have failed to replicate the findings of Project STAR. However, Milesi and Gamoran (2006) suggest that 'rather than contradicting Project STAR, our results highlight that the schooling conditions under which class-size reduction occurs are relevant for the student outcomes we are interested in improving' (p. 309). In other words, class size reduction will only be effective if smaller classes are systematically used to enhance teaching and learning. Two longitudinal UK studies looking at the impact of actual variation in class size across schools suggest gains to reading achievement from being in a smaller class (Iacovou, 2002; Blatchford, 2003; see also Fredriksson and Ockert, 2008, on the Swedish context). As with Project STAR, effects are found to be greater for children in the early years of primary school. Smaller classes are found to facilitate enhanced teacher task time with students, teacher support for learning and classroom management (Blatchford, 2003).

Other interventions have focused on the provision of intensive literacy and numeracy programmes to foster academic achievement. Intensive 'Reading Recovery' programmes in the US have generally yielded positive outcomes in performance terms (D'Agostino and Murphy, 2004). Similarly, the 'literacy hour' intervention in the UK resulted in gains in achievement at primary level, which persisted to age 16; these gains were greatest for those with initially lower levels of reading achievement (Machin and McNally, 2007). Reading programmes with cooperative learning at their core tend to be more successful in yielding positive outcomes for children (Slavin et al., 2008).



Other research has highlighted the importance of whole-school interventions rather than stand-alone programmes for enhancing educational equity. An overview of interventions designed to reduce early school leaving in Australia indicates that a strong supportive school culture is key to the success of any programmes adopted (Lamb and Rice, 2008). The Success for All (SFA) programme in the US adopts a multi-dimensional approach, which includes providing extensive professional development, effective teaching strategies, emphasising co-operative learning, and school-wide structures focusing on school leadership, parental involvement, and attendance (see Slavin et al., 2008 for a complete description). Participation significantly boosted reading performance and resulted in lower incidence in being 'kept back' a year because of educational failure as well as higher achievement levels at age 14 (Slavin and Madden, 1999; Borman and Hewes 2002). The SFA programme began to be used in the UK in 1997. One previous small-scale study found positive effects of SFA in the UK (Hopkins, Youngman, Harris and Wordsworth, 1999), although another study found positive outcomes in Year 1, but mixed outcomes in Year 2 (Tymms and Merrell, 2001). The most recent review of SFA in the UK by Tracey et al. (2014) revealed a significant positive school-level effect for SFA schools compared with control schools on standardized reading measures of word-level and decoding skills.

The overall effectiveness of the school has been found to make a particular difference to children from disadvantaged backgrounds. Attending a more academically effective primary school, even for just a single year, has been found to partially mitigate the effects of multiple disadvantage on outcomes such as academic attainment and self-regulation at the age of six. In addition, more academically effective primary schools significantly lessened the extent to which earlier abilities in reading, writing, and self-regulation predicted these same abilities at age 11. Thus, although attending a more academically effective primary school does not eliminate the adverse impacts of multiple disadvantage experienced at a younger age, it can mitigate them by promoting better academic attainment and self-regulation up to age 11 for children who had experienced more disadvantages (Sammons et al., 2012).

#### **2.4 INTERVENTIONS TARGETING DISADVANTAGED AREAS AND SCHOOLS**

A number of interventions have targeted additional resources on schools serving disadvantaged and/or immigrant communities or schools located in disadvantaged areas. Examples include the educational priority policies

in Belgium (Flanders) and the Netherlands, the Zones d'Education Prioritaire (ZEP) in France, the Title I program in the US and the Disadvantaged Schools programme in Australia. A similar approach has been adopted in Ireland and the results of research on the Irish context will be discussed in Chapters 3 and 4. The use of such an approach has not been without controversy, with commentators emphasising the lack of a simple mapping between individual disadvantage and school/area-based disadvantage (Connelly et al., 2014; Tunstall and Lupton, 2003) and the way in which the context of disadvantaged schools varies significantly, with implications for the kinds of interventions which are appropriate (Thrupp, 2006).

Funding with additional weights for disadvantaged students was adopted in the Netherlands for all primary schools in 1985. Schools with substantial numbers of weighted students receive more funds, and thus have more teachers and support staff and additional resources for computers per student (Ladd and Fiske, 2009). However, research has failed to find consistent positive effects of this additional funding on student outcomes (Leuven et al., 2007; Mulder and van der Werf, 1997). In the same way, the implementation of educational priority policies in Belgium (Flanders) has had mixed results, with variable effects on student outcomes (Bernardo and Nicaise, 2000).

Similarly, it has proven hard to find a significant effect of the policy of education priority zones in France, which channel additional resources to disadvantaged schools. A long term evaluation of the ZEP program by Bénabou et al. (2009) found that participation in the programme had no discernible effect on students' academic achievement; measures assessed included obtaining at least one qualification by the end of schooling, reaching the 8th or 10th grade, and success at the Baccalauréat. The lack of an effect has been attributed to the failure of policy-makers to indicate the types of measures to be used by schools in combating educational disadvantage (Rochex, 2012).

In the United States, the Title I program financed supplementary educational services in reading and mathematics in disadvantaged schools. Research has indicated very mixed results regarding the project impact, with some studies pointing to improved student achievement, albeit without closing the achievement gap between high- and low-income students (see, for example, Borman et al., 1998; Puma et al., 1997), and others pointing to a neutral, if not negative, effect (Van Der

Klauuw, 2008). Evaluations of the Chicago Parent-Child Centers, a more comprehensive intervention funded through Title I, analysed the outcomes of former participants at the ages of 21 and 26, and used these as the basis for a cost-benefit analysis of the programme (Reynolds et al., 2002, 2011). Programme participation was found to be significantly associated with greater school achievement, higher rates of high school completion, and with significantly lower rates of remedial education services, juvenile delinquency, and child maltreatment (see Section 2.2). The economic benefits were found to significantly exceed the costs involved.

In England, the 'London Challenge', which involved the provision of additional resources to promote out-of-school learning, leadership, and teacher retention in disadvantaged schools, was found to lead to performance among low-income students which increased at a faster rate than the national average (Hutchings et al., 2012). This initiative was extended to other urban areas in the form of Excellence in Cities which found some positive effects on achievement and attendance (Kendall et al., 2005). More recently, a slightly different approach has been adopted in England with the Pupil Premium, whereby schools are allocated additional resources according to their number of disadvantaged students (those who are eligible for free school meals on the basis of low income and those who have been in State care). This approach means that a much larger number of schools receive some level of funding for educational disadvantage.

The Pupil Premium has only recently been implemented so it is too early to assess the outcomes systematically. Evidence from inspection reports by Ofsted (2013) in 151 schools has found that 'good' schools in the programme devise interventions on the basis of research evidence, and have robust monitoring and evaluation systems in place to establish what is making a difference and what is not. These successful schools monitor achievement data, ensuring that they target pupils' specific needs accurately and promptly so that low attainment can be dealt with at the very earliest stage (Ofsted, 2013). The inspection found that a common weakness in the 'bad' schools was insufficient analysis of the learning needs of pupils or monitoring and evaluation (Ofsted, 2013). A separate independent study (Carpenter et al., 2013) looked at how schools spent the premium, their perceptions of the Pupil Premium, and how it has influenced the support provided to pupils. The research found that the most common resource schools used when deciding how to spend the Pupil Premium was their own experience of what works (used by over 90

per cent of schools surveyed). The case studies suggest that this evidence often included careful monitoring of the impacts of support on these pupils (Carpenter et al., 2013). Almost all surveyed schools considered the types of support they were offering to be effective, but the type of support most consistently likely to be considered very effective was additional staff: around three-quarters (75 per cent) or more of surveyed schools using additional staff to support disadvantaged pupils thought this was very effective.

Few interventions have focused on providing additional economic resources to individual students and/or families. However, the Educational Maintenance Allowance (EMA) scheme provides means-tested weekly payments to 16-18 year olds in post-compulsory education in selected areas, in an effort to improve levels of educational participation.<sup>5</sup> The scheme was found to increase the likelihood of remaining in education in the English pilot areas, with the strongest effects found for those from the lower income groups (Dearden et al., 2005). Research in Scotland also pointed to significant increases in attainment and participation in pilot EMA areas compared to control areas (Croxford and Ozga, 2005). Free school meals can also be seen as providing additional resources to students. An evaluation of a pilot programme in England indicated that providing free school meals to students resulted in a gain in achievement, especially among those from disadvantaged backgrounds and those with lower achievement levels (Kitchen et al., 2013).

## 2.5 CONCLUSIONS

This chapter has presented a brief overview of international research on policies designed to counter educational disadvantage. There is consistent evidence that early intervention in the form of intensive early childhood education programmes has a very significant effect on the short- and long-term educational and social outcomes of participants. There is more mixed evidence regarding interventions designed to promote achievement but small class sizes, especially in the early years of primary school, and specific literacy/numeracy programmes have been found to enhance learning. The effectiveness of schemes designed to target disadvantaged schools and/or areas has been the subject of much greater controversy. While some area-based interventions have had positive outcomes in England, findings in France, the Netherlands and

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<sup>5</sup> The scheme has been discontinued in England but is still provided in Scotland, Wales and Northern Ireland.

Belgium show, at best, neutral impact. The lack of such an effect has been attributed to the scale of additional funding not bridging the resource gap between advantaged and disadvantaged settings, the failure to link additional funding to empirically-based interventions at the school level, and the variation in context across disadvantaged areas. The following chapter looks at the results of evaluations of a targeted approach to educational disadvantage in the Irish context, the DEIS programme.

# Chapter 3

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## Outcomes of DEIS Evaluations

### 3.1 INTRODUCTION

A wide range of measures to address educational disadvantage have been introduced in Ireland, beginning with the 'Disadvantaged Areas Scheme' (DAS) introduced in 1984. The DEIS programme features some elements of predecessor programmes, including 'Breaking the Cycle' (BTC), along with new elements designed to build upon what was learned from evaluations of earlier programmes addressing educational disadvantage. Overall, evaluations of previous programmes found that they were well received by school principals and staff. However, with the exception of the follow-up study of the Home School Community Liaison (HSCL) scheme (Ryan, 1999), there is little evidence that these programmes had an impact on achievement as measured by standardised tests (Weir and Ryan, 2000; Weir and Archer, 2005). The structure of the DEIS School Support Programme (SSP) has attempted to address some of the shortcomings of previous interventions (see Archer and Weir, 2005). The DEIS programme has a specific focus on literacy and numeracy, provides for the professional development of teachers, and requires schools to engage in a school planning process (Weir et al., 2011).

This chapter provides a review of the findings emerging from the evaluations of the DEIS programme, and assesses the extent to which the stated aims of the DEIS programme have been achieved. Ongoing evaluation was built into the design of the DEIS programme from the outset. Several reviews of the DEIS programme have been undertaken by the ERC to date. Further evaluations of elements of the programme have also been undertaken by the Inspectorate of the Department of Education and Skills (DES). These evaluations are outlined in Table 3.1.

**TABLE 3.1** Evaluations Conducted on the DEIS programme

<b><i>Evaluations at Primary Level</i></b>
Analysis of English Reading and Mathematics Achievement in Schools in the Rural Dimension of the School Support Programme (ERC, 2009)
Effective Literacy and Numeracy Processes in DEIS Schools (DES, 2009)
An Evaluation of Planning Processes in DEIS Primary Schools (DES, 2011)
A Report on the First Phase of the Evaluation of DEIS (ERC, 2011)
The Impact of DEIS on Class Size in Primary Schools (ERC, 2012)
The Evaluation of the School Support Programme under DEIS: Changes in Pupil Achievement in Urban Primary Schools between 2007 and 2013 (ERC, 2013)
The Achievements and Characteristics of Pupils Attending Rural Schools Participating in DEIS (ERC, 2013)
Looking at Action Planning for Improvement in DEIS Primary Schools (DES, 2015)
<b><i>Evaluations at Post-Primary Level</i></b>
An Evaluation of Planning Processes in DEIS Post-Primary Schools (DES, 2011)
A Report on the Evaluation of DEIS at the Second Level (ERC, 2014)
Looking at Action Planning for Improvement in DEIS Post-Primary Schools (DES, 2015)
<b><i>Evaluation of the DEIS Dormant Account Programme</i></b>
Report of Dormant Accounts Funded Scheme to Enable DEIS Schools in Limerick City to Maximise Community Use of Premises and Facilities (OSCAILT, 2013)
<b><i>Evaluations of the DEIS Early Start Programme</i></b>
Early Start Preschool Programme: Final Evaluation Report (ERC, 1998)
Further Evaluation of Early Start. Progress Report (ERC, 2002)
Early Start Evaluation: Report on Observation Visits to Schools (ERC, 2003)
Focussed Policy Assessment- Early Start Programme, Early Years Education Policy Unit (DES, 2015)

### 3.2 MAIN FINDINGS FROM THE EVALUATION OF URBAN DEIS SCHOOLS AT PRIMARY LEVEL

This section provides an overview of the main findings of the first and subsequent ERC evaluations of the DEIS programme among urban primary schools, focusing in particular on headline results. As part of the ongoing evaluation, reading and mathematics test data were collected from students in second, third, and sixth class in 120 selected urban schools in May 2007. Students in second, third, fifth and sixth class were tested again in May 2010 and in 2013. This allows a comparison of achievement from a baseline (the end of the first school year in which DEIS was operating) with achievement levels three and six years later. The evaluations outlined in this section focus on presenting the patterns across urban DEIS schools and do not allow for a comparison with non-DEIS schools.

The central focus of the first phase of evaluation was the monitoring of changes in achievement over the period 2006/7 to 2009/10. Results from

the first evaluation of comparisons of reading and mathematics scores in 2007 and 2010 found evidence that achievement in the schools sampled was higher in 2010 than in 2007. The difference found was small but statistically significant, and was found at all grade levels (Weir et al., 2011).

Table 3.2 displays results from a cross-sectional comparison of reading results of students in urban DEIS primary schools. Results demonstrate that there was an increase in raw reading scores at all class levels between 2007 and 2010. Improvements were greatest at lower grade levels, with the largest gains being noted among pupils in second class. In 2007 second class pupils achieved an average of 22.8 out of 40 reading items correct; by 2010 this had increased to 24.3 items. While this represents a significant increase, it can be noted that it is still well below that of the then existing norm group average for second class of 29 items correct (Weir et al., 2011).<sup>6</sup> The review also compared results between Band 1 and Band 2 schools; Band 1 schools are those experiencing higher levels of disadvantage. Average reading achievement was poorer among pupils in schools in Band 1 than those in Band 2 at each class level; however, the improvements over time were more marked among pupils in Band 1 schools.

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<sup>6</sup> Later in this section we draw on results from the National Assessment 2014 to highlight changes in the test scores of students in non-DEIS schools.



**TABLE 3.2** The Reading Achievements (Raw Score, Standard Score, and Percentages Scoring At Or Above the 90<sup>th</sup> Percentile and At Or Below the 90<sup>th</sup> Percentile) of Pupils in Urban DEIS Schools in 2007 and 2010 by Grade Level

Year and number of pupils	2nd		3rd		6th	
	2007	2010	2007	2010	2007	2010
	(N=3,236)	(N=3,467)	(N=4,063)	(N=4,316)	(N=3,919)	(N=4,138)
Mean Raw Score	22.8	24.3	22.1	22.7	18	18.4
Mean Standard Score	92.4	94.6	90.7	91.6	90.4	91.2
At or below 10th percentile	22.0%	15.9%	26.4%	23.0%	28.0%	25.6%
At or above the 90th percentile	2.2%	2.2%	1.6%	1.1%	2.3%	2.5%

Source: Data extracted from Weir et al. (2011).

Table 3.3 shows the results of a comparison of cross-sectional mathematics scores in Band 1 schools in 2007 and 2010. The results show that there was a significant increase in test scores in 2010 compared with 2007. As was demonstrated with reading scores, the increase in average score was greatest at second class level.

**TABLE 3.3** The Mathematic Achievements (Raw Score, Standard Score, and Percentages Scoring At or Above the 90<sup>th</sup> Percentile and At or Below the 90<sup>th</sup> Percentile) of Pupils in Urban DEIS Schools in 2007 and 2010 by Grade Level

Year and number of pupils	2nd		3rd		6th	
	2007	2010	2007	2010	2007	2010
	(N=3,234)	(N=3,480)	(N=4,056)	(N=4,319)	(N=3,908)	(N=4,146)
Mean Raw Score	13.8	15	11.6	12.2	10.9	11.4
Mean Standard Score	91.5	93.9	91.1	92.6	89.7	91.2
At or below 10th percentile	21.8%	16.8%	24.1%	21.0%	31.1%	28.3%
At or above the 90th percentile	2.8%	4.5%	5.4%	7.3%	4.1%	5.5%

Source: Data extracted from Weir et al. (2011).

While cross-sectional analysis cannot account for cohort differences, longitudinal data allow for the analysis of achievements both at the group and the individual level. Table 3.4 presents the results of longitudinal analysis of reading and mathematics scores in 2007 and 2010. While results from the cross-sectional analysis show that the percentage of students at or below the 10<sup>th</sup> percentile decreased between 2007 and 2010, results of the longitudinal analysis show that a slightly greater percentage of pupils in both cohorts had mathematics scores that were

at or below the 10<sup>th</sup> percentile in 2010 than had been the case in 2007. In other words, some of the cross-sectional trends appear to be driven by changes in the profile of students rather than improvements in the scores of individual students.

**TABLE 3.4** Longitudinal Analysis of Reading and Mathematics Scoring

	Reading		Mathematics	
	2007	2010	2007	2010
	%	%	%	%
At or below 10th	20.0	16.6	20.0	22.8
11th to 25th	21.5	20.3	25.8	21.4
26th to 50th	28.8	29.7	29.9	23.7
51st to 75th	19.8	21.0	14.7	20.4
76th to 89th	7.5	8.7	7.1	6.1
At or above 90th	2.5	3.8	2.6	5.6

Source: Data extracted from Weir et al. (2011).

The evaluation also looked at differences in reading and mathematics achievement at school level. Overall results demonstrated evidence of positive change. In 2010, 70.3 per cent of schools showed an increase in the average raw reading score of their second class pupils since 2007. At third and sixth class level, the average raw score of almost 60 per cent of schools increased between 2007 and 2010. It should be noted that reports of increases and decreases do not provide information on the magnitude of the change; therefore it is difficult to assess how much progress has been made at the school level. Additionally the results were less positive at school level for mathematics achievement; only a slightly greater percentage of schools had sustained an increase, as opposed to a decrease, in their average scores in mathematics (Weir et al., 2011). Analysis of the effect of school participation in previous programmes found evidence of greater improvements among pupils attending schools that were involved in schemes for disadvantage prior to the introduction of DEIS (Weir et al., 2011).

Findings from a longitudinal perspective provide a more comprehensive overview of individual and cohort progress. Results relating to the two longitudinal cohorts of pupils were broadly consistent with the outcomes of cross-sectional comparisons. However, while pupils in fifth class in 2010 improved significantly on their second class achievements in

reading and mathematics, significant improvement at sixth class level was confined to reading (Weir et al., 2011).

Analysis of gender differences in achievement found that overall girls outperform boys in the junior grades, although the difference disappeared with increasing grade level (Weir et al., 2011). Analysis of differences in achievement between students whose main language was English/Irish at home, and pupils who spoke another language at home, found that pupils from homes where English or Irish was the main language spoken significantly outperformed speakers of other languages in reading at all grade levels in both 2007 and 2010. However, whilst there were no significant differences between the average mathematics scores of pupils from homes where English or Irish is the main language spoken and speakers of other languages in 2007, somewhat surprisingly, in 2010 pupils whose home language was neither English nor Irish significantly outperformed English/Irish-speaking pupils in 2010 at all three grade levels. This may reflect differences between immigrant and native-Irish groups in their levels of parental education, but it is not possible to identify the effects of DEIS interventions by the individual social background of pupils. Comparisons of achievement for pupils from a Traveller background found that in 2007 and 2010, the average test scores of pupils from the Traveller community were significantly below those of non-Travellers at every grade level in both reading and mathematics, and the magnitude of the difference between the scores of the two groups was large in every case.

In 2013 initial results were published by the ERC on the second phase of evaluation of DEIS urban primary schools. Again differences in mathematics and literacy scores were compared over time. The overall results of the evaluation indicated that there were further improvements in reading and mathematics scores between 2010 and 2013 (Weir and Denner, 2013). Table 3.5 provides an overview of results in relation to cross-sectional average reading scores; the results demonstrate that across all class levels and school bands, the average reading score increased between 2007 and 2013. As found in the previous round of assessments, the average raw scores of pupils in Band 1 were lower than those of pupils in Band 2.

**TABLE 3.5** Average Reading Raw Score,<sup>7</sup> and Percentages (in Brackets) of Pupils in Urban Band 1 and Band 2 Schools Scoring at or Below the 10<sup>th</sup> Percentile at Each Grade Level In 2007, 2010 and 2013

Grade Level	2007		2010		2013		Norm Group Average
	Band 1	Band 2	Band 1	Band 2	Band 1	Band 2	
<b>2nd Class</b>	21.6	24.3	23.3	25.5	25.3	26.9	29.0
	(26%)	(17.0%)	(18.6%)	(12.9%)	(13.2%)	(8.5%)	(10.0%)
<b>3rd Class</b>	20.5	23.9	21.6	24.0	23.6	26.2	29.0
	(31.6%)	(20.6%)	(26.6%)	(18.9%)	(19.5%)	(13.6%)	(10%)
<b>5th Class</b>	-	-	18.1	21.0	19.6	22.4	23.5
			(25.5%)	(14.5%)	(17.1%)	(9.4%)	(10.0%)
<b>6th Class</b>	16.2	19.9	16.9	20.1	18.4	21.0	24.0
	(36.0%)	(19.1%)	(31.1%)	(19.4%)	(25.3%)	(14.4%)	(10.0%)

Source: Weir and Denner (2013).

Table 3.6 illustrates the cross-sectional results of the average mathematics raw scores of pupils across Band 1 and 2 schools between 2007 and 2013. The average raw score increased across all bands and class levels in the time frame. Again, the average raw scores of pupils in Band 1 are lower than those of pupils in Band 2 at all grade levels. The same pattern is evident for low-scoring pupils, with much greater percentages of such pupils being found in Band 1 than in Band 2 schools (Weir and Denner, 2013).

<sup>7</sup> The raw score is the number of items correct out of a total of 40 items.

**TABLE 3.6** Average Mathematics Raw Score,<sup>8</sup> and Percentages (In Brackets) of Pupils in Urban Band 1 and Band 2 Schools Scoring At Or Below the 10<sup>th</sup> Percentile at Each Grade Level in 2007, 2010 and 2013

Grade Level	2007		2010		2013		Norm Group Average
	Band 1	Band 2	Band 1	Band 2	Band 1	Band 2	
2nd Class	12.9	15.0	14.1	16.0	15.3	17.1	18.0
	(26.9%)	(15.5%)	(19.6%)	(13.6%)	(15.8%)	(9.2%)	(10.0%)
3rd Class	10.1	13.2	11.2	13.3	13.3	14.8	15.5
	(31.4%)	(15.9%)	(25.8%)	(15.7%)	(16.7%)	(10.5%)	(10.0%)
5th Class	-	-	10.6	13.1	12.1	14.6	16.0
			(31.4%)	(17.3%)	(23.3%)	(13.6%)	(10.0%)
6th Class	9.3	12.6	9.7	13.3	11.4	13.7	15.5
	(39.2%)	(22.1%)	(37.3%)	(18.1%)	(28.6%)	(15.9%)	(10%)

Source: Weir and Denner (2013).

Table 3.7 shows the longitudinal results of student achievement in reading scores between 2010 and 2013. Longitudinal data provide a more comprehensive overview of group differences and achievements, and are therefore more likely to unpack the effects of a programme, and account for changes in the progress made by the cohort of students. The longitudinal data indicated that pupils who had participated in the testing in 2010 improved their scores significantly when retested in 2013. Reading scores increased in both groups and the difference is statistically significant; nevertheless the difference is small, and reading scores were still well below the then existing norm group average (Weir and Denner, 2013).

**TABLE 3.7** Reading Standard Scores of Second Class Pupils in 2010 and Their Follow-Up Scores in 5th Class in 2013, and Reading Standard Scores of Third Class Pupils in 2010 and Their Follow-Up Scores in Sixth Class In 2013

Cohort	Reading		Norm Group Average
	2010	2013	
2nd - 5th (N=2,586)	95.4	96.7	100
3rd - 6th (N=3,492)	92.3	93.8	100

Source: Weir and Denner (2013).

<sup>8</sup> As with reading, the raw score is the number of items correct out of a total of 40 items.

Table 3.8 illustrates the longitudinal results for mathematics; the results indicate that pupils who had participated in the testing in 2010 improved their scores significantly when retested in 2013.

**TABLE 3.8** Mathematics Standard Scores of Second Class Pupils in 2010 and their Follow-Up Scores in 5th Class in 2013, and Mathematics Standard Scores of Third Class Pupils in 2010 and their Follow-Up Scores in Sixth Class in 2013

Cohort	Mathematics		Norm Group Average
	2010	2013	
2nd - 5th (N=2,597)	94.2	97.2	100
3rd - 6th (N=3,495)	93.4	94.1	100

Source: Weir and Denner (2013).

This section has outlined the results of the evaluations for urban primary schools in the DEIS programme. Overall the results show evidence of increases in reading and mathematics achievement scores. However, without a control group against which to compare results, it is difficult to ascertain whether these increases are a direct outcome of the DEIS programme. Results from the National Assessment 2014 can, however, be used as a basis for comparing test score trends in DEIS and non-DEIS schools. In the following section, we present recently published findings from this round of assessment.

### 3.3 FINDINGS FROM THE NATIONAL ASSESSMENT

The 2014 National Assessments (NA) of English Reading and Mathematics were administered to a representative sample of over 8,000 primary pupils in second and sixth classes. As part of the assessment pupils completed tests in English reading and mathematics; additionally their principal teachers, their class teachers and their parents completed questionnaires. The 2014 National Assessments represent the first opportunity to examine trends in performance in English reading and mathematics in DEIS schools in comparison with progress in other schools. This section will provide an overview of a comparison of results from the National Assessments in 2009 and 2014, across all school types. Findings related to the performance of pupils in schools in the DEIS programme, particularly those for rural DEIS schools, should be treated

with caution, as they are based on small sample sizes;<sup>9</sup> therefore results have large standard errors associated with estimates such as mean scores and differences (Shiel et al., 2014). The authors of the assessment report acknowledge that whilst the sample size is small, findings from the assessments act as a key platform from which we can compare the achievements of pupils from DEIS schools to non-DEIS schools.

Overall results from the NA 2014 showed significant increases in the average performance of all schools on overall English reading and mathematics in second and sixth classes between NA 2009 and NA 2014, most likely reflecting the impact of the literacy and numeracy strategy. These are 'substantively important' effect sizes observed in the context of the whole education system (Shiel et al., 2014). English reading and mathematics mean scores were significantly higher in NA 2014 than in NA 2009 for urban non-DEIS schools at both grade levels. However, results were not as uniformly positive for DEIS schools; whilst results increased across the domains and classes, not all increases were statistically significant, and increases were in the context of an increase in national performance.

Table 3.9 displays the results for mean overall mathematics scores for second and sixth class pupils from the NA in 2009 and 2014; results demonstrate that there is an overall increase in mean mathematics scores in all schools between 2009 and 2014. There was a significant increase in results between 2009 and 2014 for urban Band 2 schools and urban non-DEIS schools. The data for mathematics results in DEIS schools indicate that there is still considerable scope for improvement, and overall scores of DEIS Band 1 and Band 2 schools are much lower than national standards, particularly for Band 1 schools. The gap in mathematics achievement between urban Band 1 and non-DEIS schools remained stable over the period 2009 to 2014. In NA 2014, second class pupils in Band 1 schools scored significantly lower on the overall mathematics scale than pupils in all other school types. There was an overall difference of 39 points in mean mathematics scores of second class students between students in urban Band 1 DEIS schools (231) and urban non-DEIS schools (270). The results also demonstrate that in 2014, at second class level, mathematics scores for rural DEIS schools matched

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<sup>9</sup> The sample for NA 2014 is comprised of 150 primary schools nationally, meaning that findings for DEIS schools relate to around 30 individual schools.

those of urban non-DEIS schools, and were higher than those of rural non-DEIS schools.

**TABLE 3.9** Mean Scale Scores on the Overall Mathematics Scale, by DEIS Status and Year, Second and Sixth Class

	Second Class			Sixth Class		
	NA 2009	NA 2014	d	NA 2009	NA 2014	d
Urban Band 1 (Ref)	218	231	0.28	219	233	0.29
Urban Band 2	230	<b>259*</b>	0.62	231	241	0.21
Urban, non-DEIS	251*	<b>270*</b>	0.39	254*	<b>264*</b>	0.21
Rural DEIS	266*	270*	0.10	245	<b>281*</b>	0.77
Rural, non-DEIS	259*	263*	0.08	256*	268*	0.24

*Note:* NA 2014 scores in bold are significantly different from the corresponding NA 2009 mean scores. NA 2014 scores marked with an asterisk are significantly different from the mean score of the reference group.

*Source:* Shiel et al. (2014).

At sixth class level there was an overall improvement in mathematics achievement scores for all school types between 2009 and 2014. A significant increase in mean scores between 2009 and 2014 was found for urban non-DEIS schools and rural DEIS schools in sixth class mathematics mean scores. Again the results demonstrate that there is a sizeable gap in achievement between urban DEIS schools and other schools. As at second-class level, the gap in mathematics achievement between urban Band 1 and urban non-DEIS schools has remained stable over time. At sixth class, the Band 1 mean mathematics score is significantly lower than the mean scores for all other school types, except Band 2 schools (Shiel et al., 2014). In 2014 there was an overall difference of 31 points in mean mathematics scores between sixth class students in urban Band 1 DEIS schools (233) and urban non-DEIS schools (264). Here, surprisingly, there is an even more marked difference between sixth class level rural DEIS school scores and other schools; rural DEIS schools pupils achieved a mean score of 281 points which is 17 points higher than urban non-DEIS schools (264), and is also 13 points higher than rural non-DEIS schools (268).

Table 3.10 displays the mean scale scores on the overall English reading scale by DEIS status for second and sixth class students; again the results demonstrate that there was an overall increase for all school types between the 2009 and 2014 assessments. In the NA 2014 the second class mean scores on the overall reading scale (shown), the vocabulary subscale (not shown), and the comprehension subscale (not shown) were



significantly higher than NA 2009 scores for all school types except rural DEIS schools, where performance was already high in the NA 2009 (Shiel et al., 2014). However, again, there was marked differences in scores at second class level; urban Band 1 students scored significantly lower on the overall reading, comprehension, and vocabulary scales than pupils in all other school types, with a 36 point difference between the urban Band 1 mean score (232) and the Urban non-DEIS score (268). As with mathematics achievement, the gap between urban Band 1 and urban non-DEIS did not decrease over time.

**TABLE 3.10** Mean Scale Scores on the Overall English Reading Scale by DEIS Status for Second and Sixth Class Students

	Second Class			Sixth Class		
	NA 2009	NA 2014	d	NA 2009	NA 2014	d
Urban Band 1 (Ref)	218	<b>232</b>	0.35	220	233	0.29
Urban Band 2	228	<b>255*</b>	0.60	232	<b>246*</b>	0.29
Urban, non-DEIS	253*	<b>268*</b>	0.32	254*	<b>267*</b>	0.27
Rural DEIS	262*	267*	0.11	255	272*	0.34
Rural, non-DEIS	258*	<b>268*</b>	0.22	252*	<b>268*</b>	0.32

*Note:* NA 2014 scores in bold are significantly different from the corresponding NA 2009 mean scores. NA 2014 scores marked with an asterisk are significantly different from the mean score of the reference group.

*Source:* Shiel et al. (2014).

In relation to the results of the mean score on the overall English reading scale for sixth class students, again results increased for all schools between the 2009 and 2014 assessments. A significant increase in results was found for urban Band 2 schools, urban non-DEIS schools and rural non-DEIS schools in sixth class mean English scores. The results show that there is a marked difference in performance between types of school; urban Band 1 schools had a significantly lower mean score than all other schools in this time frame. There was a 34 point difference between mean scores in urban Band 1 schools (233) and urban non-DEIS schools, and a 39 point difference between urban Band 1 and rural DEIS schools (272). Again there is a marked difference in the results of rural DEIS schools in sixth class level reading, who score higher than all other schools in this time frame.

Whilst there have been marked improvements in mathematics across all schools, there are still noticeable differences in results across schools. With the exception of students in Band 2 schools, improvements in

performance have only risen at the same level as schools in general, and performance is still well below national standards (Shiel et al., 2014). Moreover, a large percentage of pupils perform at or below level 1 in mathematics. At second class level, 52 per cent in DEIS Band 1 schools performed at level 1 in mathematics, and 27 per cent of pupils in Band 2 schools performed at the same level. In sixth class 50 per cent of pupils performed at or below level 1 in mathematics in 2014, while 42 per cent of Band 2 students were at or below level 1 in mathematics. Nationally, the estimates for second and sixth class were 26 per cent and 27 per cent respectively (Shiel et al., 2014).

In relation to reading scores, again while increases have been found in all levels across all schools, there are still sizeable differences in mean scores between schools. Overall there has been a decrease in the number of second and sixth class pupils performing at or below level 1 between 2009 and 2014, and an increase in pupils performing at level 4. Whilst there have been marked reductions in the proportions of pupils performing at or below level 1, there are still large proportions of pupils performing at these levels, especially in Band 1 schools. For example, in reading at second class level, 44 per cent of pupils in DEIS Band 1 schools performed at or below level 1, while 28 per cent of students in Band 2 schools performed at or below level 1. Mean reading scores at sixth class level show that 47 per cent of students in sixth class in Band 1 schools performed at or below level 1 in the 2014 NA, and 38 per cent of students in sixth class performed at or below level 1. Nationally, the estimates for second and sixth class on overall reading were 22 per cent and 25 per cent, respectively. The effect sizes for overall reading gains suggest that, while improvements have been made in reading literacy in DEIS schools since NA 2009, there has been no real reduction in the gap between pupils in DEIS urban schools and in other school types, except at second class in Band 2 schools (Shiel et al., 2014).

Results from the NA 2014 demonstrate that there have been improvements in reading and mathematics mean scores at second and sixth class level across all types of school between 2009 and 2014. However there are still sizeable differences between the scores of pupils in urban Band 1 schools and other pupils across all grades and domains. Additionally there is a marked difference in results between Band 1 and Band 2 schools, and results in rural DEIS schools and all other schools. Whilst results from the NA 2009 showed no significant differences between Band 1 and Band 2 mean scores in reading or mathematics at

either class level, in the NA 2014, Band 2 pupils significantly outperformed Band 1 pupils in English reading at both grade levels, and in mathematics at second class.

### **3.4 FINDINGS FROM EVALUATION OF THE EARLY START PROGRAMME**

Chapter 2 highlighted the strong emphasis on intensive early childhood education as way of addressing educational disadvantage internationally. The Early Start Programme is a one-year early intervention scheme to meet the needs of children of pre-school age who are at risk of not reaching their potential within the school system. The programme was established in 1994 in 40 primary schools in designated areas of urban disadvantage, and is targeted specifically at children who experience socio-economic disadvantage. The project was primarily designed to promote language and cognitive development results, to enhance overall development, and to offset the effects of social disadvantage (DES, 2014b; Kelly and Kellaghan, 1999). Initial evaluations of the programme did not find evidence of differences in achievement between children who participated in the Early Start programme compared to children who had not attended pre-school, or who had attended an alternative form of pre-school (ERC, 1998; Kelly and Kellaghan, 1999). However subsequent small-scale evaluation studies indicated progress in dealing with some of the issues found in previous evaluations, and findings indicated that significant change had taken place in practice since the earlier evaluations were completed (Lewis and Archer, 2002; Lewis and Archer, 2003). Findings from a study by Lewis et al. (2011) were drawn from a context of improved implementation of Early Start programme, and demonstrated that pupils who had attended Early Start received higher ratings from their teachers on language and cognitive skills than pupils who had not (Lewis et al., 2011).

A policy assessment of the Early Start Programme was undertaken by the Early Years Education Policy Unit (part of the DES) in 2013/14, and aimed to measure inputs and outputs of the programme including costs, attendance and completion rates. The review was informed by research literature, policy documents, and by the results of a survey of school principals who have responsibility for Early Start units. The review found many strengths of the programme, in terms of targeting children from disadvantaged backgrounds, promoting their social, cognitive and emotional development, and in encouraging parents' engagement in their children's education. The report indicated that principals considered

Early Start children to be either significantly or somewhat more competent/developed than their peers that had attended another pre-school (DES, 2014b). The analysis has also identified some challenges in the current operation of Early Start, in particular a significant decline in enrolment in the programme in recent years. A reduction in enrolment in the scheme can be partially, if not wholly, attributed to the introduction of the universal Early Childhood Care and Education (ECCE) Scheme, which provides a free year of early childhood care and education for children of pre-school age. The roll-out of the free pre-school year has resulted in high levels of take-up of pre-school places among families. In interviews, principals stated that the longer duration of the ECCE session, coupled with a revised age criteria, made it more attractive to parents than Early Start. No information is currently available on the quality of early childhood education accessed through ECCE by children from disadvantaged backgrounds (DES, 2014b).

### **3.5 FINDINGS FROM THE EVALUATION OF THE DEIS DORMANT ACCOUNT PROGRAMME**

In March 2008, the Government approved funding measures under the fourth round of the Dormant Accounts Educational Disadvantage Programme. This included the approval of a proposal submitted by the DES to provide grant-aid of up to €1.694 million for Limerick City DEIS schools to maximise community use of their premises and facilities from 2010-2012. The scheme was initiated by the Department of Education and Skills in response to the Fitzgerald report (2007), which recommended that the DES 'should be requested to identify how local schools can be supported, not only in developing their facilities, but also in providing a comprehensive range of services to pupils both during and outside school hours'. Schools had the opportunity to apply for grants of up to €77,000 to cover capital expenditure and the operating costs of after-school programmes and activities for children and adults in their local communities over two years. Schools used the capital fund to renovate buildings, buy equipment, develop facilities, install safety and security equipment, and to run programmes for children and adults. A network OSCAILT was created, consisting of school principals, members of DES, and members from the 'Transforming education through dialogue' (TED) group in Mary Immaculate College. The OSCAILT network provides a forum to share good practice, and build cohesion and shared aims. In 2013 the network published a review of the scheme, based on reports submitted to the DES during the operation of the scheme, and findings from focus groups with children, parents, adult learners and school-based personnel. The reported benefits of the scheme were many

and varied; in particular, the review found that the scheme had a ‘major positive impact on the quality of life and learning for children, parents and adult learners, positively influenced school culture and built community pride’ (OSCAILT, 2013 p.87). It should be noted, however, that this report focused on perceived benefits and did not collect data on changes in objective outcomes over time.

A key recommendation from the report was the development of national policy to support strategic development of after-school services for children. Moreover it was suggested that the DES and schools should utilise existing opportunities to deliver after-school programmes in schools, through the School Completion Programme (SCP), the use of DEIS funding, the work of volunteers, and the Home School Community Liaison (HSCL) scheme. Further recommendations included that the resources and programmes available through the local Education Training Boards (ETB) should be further developed and extended, and that the OSCAILT forum, as a model of good practice of support, should continue to operate as a support to Limerick DEIS school principals and teachers.

### **3.6 MAIN FINDINGS FROM THE EVALUATIONS OF POST-PRIMARY DEIS PROVISION**

At post-primary level, the ERC has been monitoring achievement outcomes using centrally available data on retention levels and performance in public examinations; additionally the evaluation has involved the collection of a variety of data from schools, teachers, and students covering the period 2007-2013. All participating schools were asked to facilitate a survey of all students in first year and third year in 2007/8. The questionnaire covered a number of issues, including students’ experiences of transition from primary to post-primary school, their attitudes to school, their leisure activities, and their educational aspirations (Weir et al., 2014).

This section examines trends over time in relation to academic achievement and retention levels in DEIS second-level schools. Academic achievement is measured using the Junior Certificate Overall Performance Score, Junior Certificate English and Junior Certificate Mathematics scores. Retention is analysed using data on rates of retention to Junior Certificate and retention to Leaving Certificate. Research has indicated a strong link between prior absenteeism levels

and early school leaving (Byrne and Smyth, 2010); attendance at both primary and post-primary levels is discussed in Section 3.7.

### 3.6.1 Junior Certificate Performance

Table 3.11 presents the average Junior Certificate overall performance scores (OPS) and the magnitude of the change in scores, by DEIS status, over 2002-2011, spanning the period before and after the introduction of DEIS. The OPS scale involves the allocation of numerical values to the alphabetical grades awarded to candidates, allowing for whether the subject was taken at higher, ordinary or foundation level, and is based on a student's performance in the seven subjects in which he or she performed best. The maximum possible OPS score is 84 (which is achieved by a student who is awarded seven 'A' grades on Higher Level papers), while the lowest possible OPS score is 0 (where a student fails to achieve at least a grade 'F') (Kellaghan and Dwan, 1995; Weir et al., 2014).

**TABLE 3.11** Average Junior Certificate OPS Scores and Difference in Scores From 2002 to 2011 for DEIS and Non-DEIS Schools

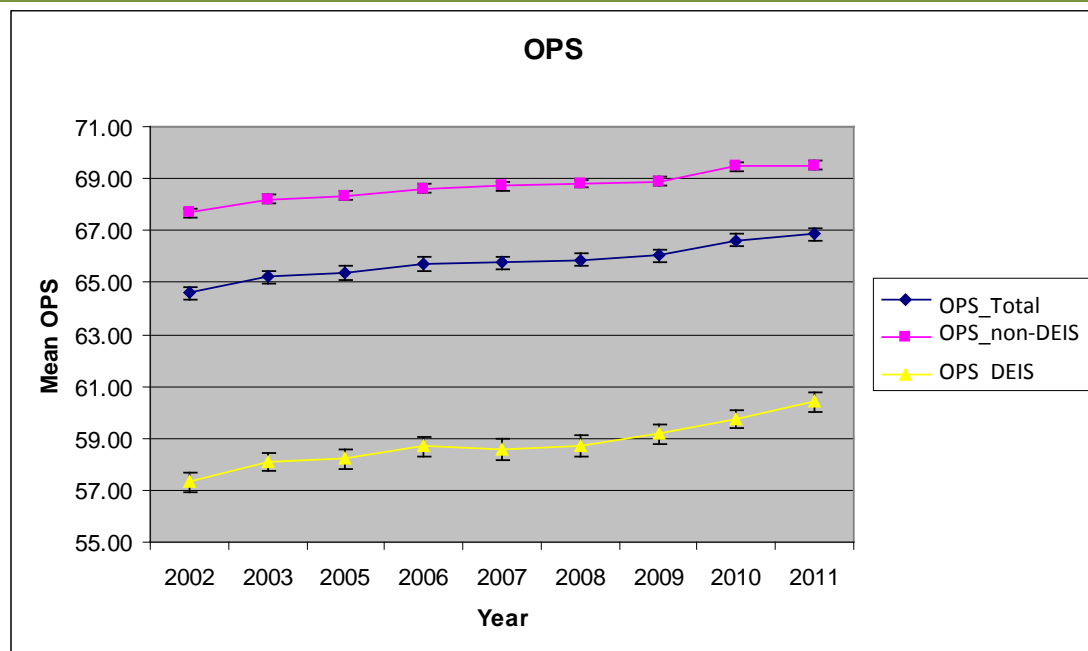
	DEIS		Non-DEIS	
	Mean	Change	Mean	Change
<b>2002</b>	57.33	-	67.68	-
<b>2003</b>	58.07	0.74	68.19	0.51
<b>2005</b>	58.21	0.14	68.34	0.15
<b>2006</b>	58.69	0.48	68.62	0.28
<b>2007</b>	58.57	-0.12	68.72	0.10
<b>2008</b>	58.71	0.14	68.80	0.08
<b>2009</b>	59.16	0.45	68.89	0.09
<b>2010</b>	59.75	0.59	69.47	0.58
<b>2011</b>	60.41	0.66	69.52	0.05

Source: Weir et al. (2014).

The results show that in non-DEIS schools average OPS scores increased annually. In DEIS schools the Junior Certificate OPS increased every year apart from 2007, the first year of the introduction of the DEIS programme. The magnitude of these increases is small; whilst they appear slightly greater for the DEIS group, there is still a marked difference in results between the two groups (Weir et al., 2014). Figure 3.1 also depicts mean Overall Performance Scores (OPS) in the Junior Certificate examination from 2002 to 2011. Separate lines represent

average scores for all schools in the sample, DEIS schools and non-DEIS schools.

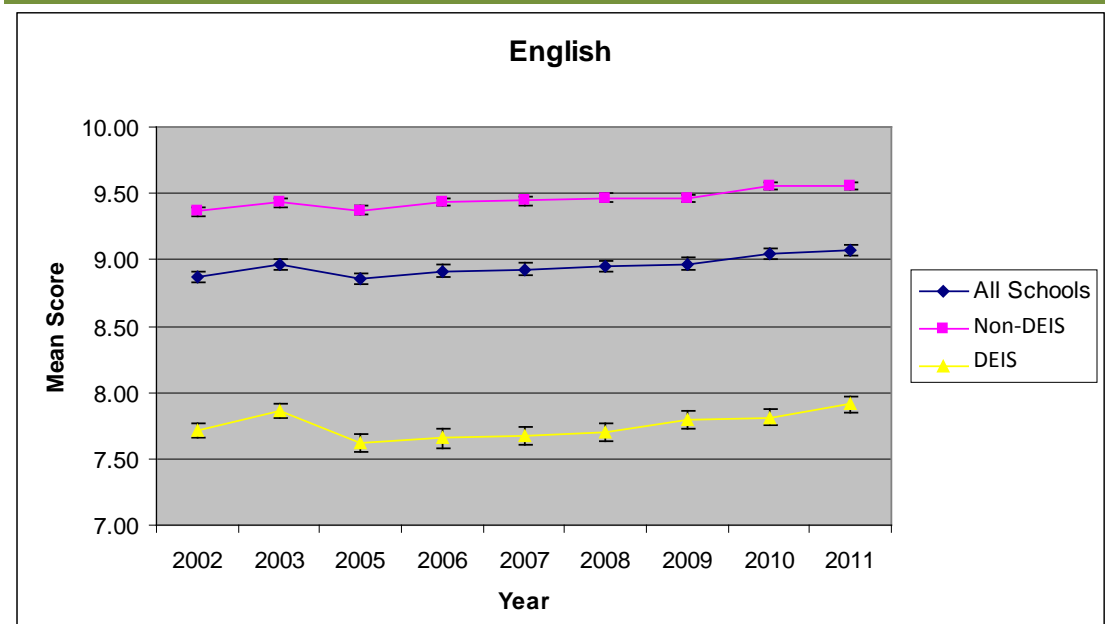
**FIGURE 3.1** Mean Junior Certificate OPS from 2002 to 2011 for All Schools, DEIS Schools and Non-DEIS Schools



Source: Weir et al. (2014).

The figure demonstrates that overall Junior Certificate performance scores increased for all schools in this timeframe. The OPS for all schools increased on average by 0.24 points per year between 2002 and 2011. Non-DEIS schools have significantly higher performance than DEIS schools across all years. However, the increase in OPS each year was significantly greater for DEIS than for non-DEIS schools (by 0.12 points). Furthermore, the increasing trend in OPS was significantly higher during the years following the introduction of DEIS. Specifically, this analysis suggests that between 2002 and 2007, OPS increased by an average of 0.3 points per year and that this increased to an average of 0.57 points per year from 2008 onwards (Weir et al., 2014). Nevertheless this is in the context of an overall increase in Junior Certificate performance scores in DEIS and non-DEIS schools.

**FIGURE 3.2** Mean Junior Certificate English Scores from 2002 to 2011 For All Schools, DEIS Schools and Non-DEIS Schools

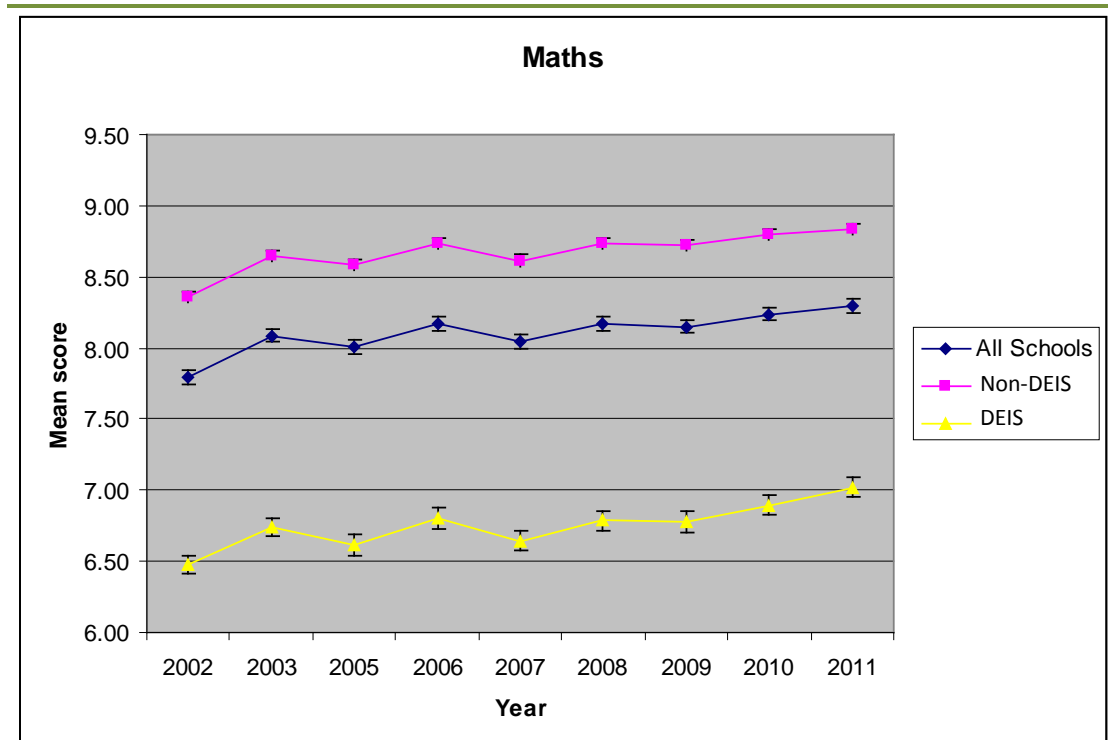


Source: Weir et al. (2014).

Figure 3.2 presents the mean English scores for all schools, DEIS schools and non-DEIS schools for the years 2002 to 2011. Overall the average English score for all schools in the sample increased by 0.02 points each year, with a significant gap between the English scores of DEIS and non-DEIS schools. Statistical analysis indicated a significant increase in the performance of DEIS schools after the introduction of DEIS resources, and no significant differences for non-DEIS schools (Weir et al., 2014).

Figure 3.3 shows the average OPS in Mathematics in the Junior Certificate examination. Mathematics scores for non-DEIS schools were found to be significantly higher than scores for DEIS schools; the average mathematics scores for non-DEIS schools exceeded those of DEIS schools by 1.94 points in 2002, but with a marked gap in scores still evident in 2011. Results show no evidence for a change in trends over time; the introduction of DEIS resources during the period of 2008 to 2011 did not coincide with a significant increase in Mathematics performance (Weir et al., 2014).



**FIGURE 3.3** Mean Junior Certificate Mathematics Scores From 2002 to 2011 For All Schools, DEIS Schools and Non-DEIS Schools

Source: Weir et al. (2014).

Overall, results from the analysis of the Junior Certificate exam results indicate that the Overall Performance Scores improved for students in all schools between 2002 and 2011. The results suggest that the improvement in OPS was of significantly greater magnitude in DEIS schools than non-DEIS schools in the years after the DEIS programme had been introduced. In terms of English scores, the results also suggest a significant effect of the introduction of DEIS resources on changes in average scores over time for DEIS schools. In contrast, there was no change in the gap in performance in Mathematics between DEIS and non-DEIS schools over time. While increases in performance have been found, there is still a marked difference between OPS, English and Mathematics scores of DEIS and non-DEIS schools, with non-DEIS schools reporting significantly higher levels of performance than DEIS schools.

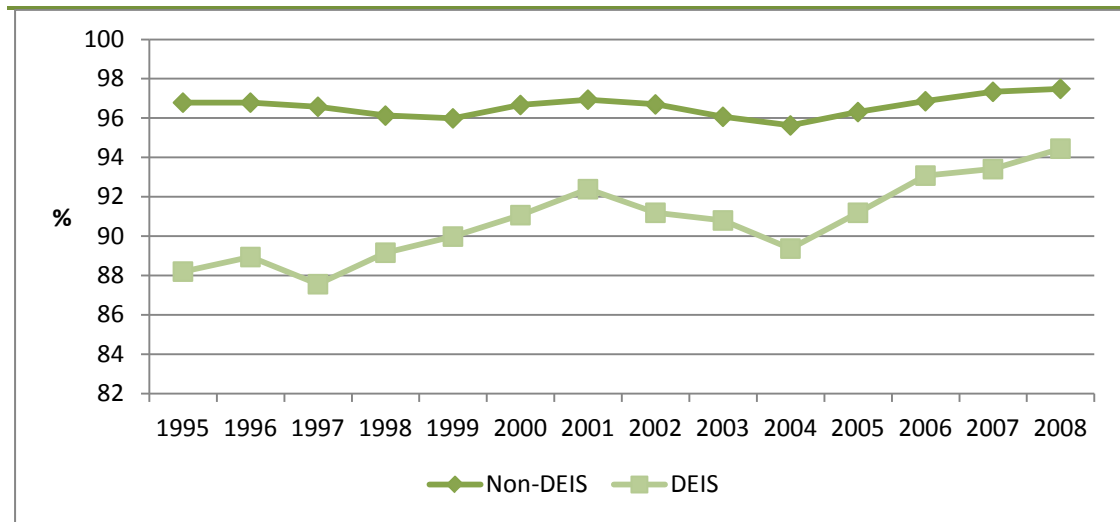
No analyses of differences in Leaving Certificate performance between DEIS and non-DEIS schools have yet been undertaken.

### 3.6.2 Retention

Retention levels at junior and senior cycle were among the educational indicators used to identify schools for participation in DEIS, and planning for retention is seen as a pivotal aspect of the programme. Retention plans are put in place at a local level and are overseen by a designated co-ordinator (Weir et al., 2011). Education in Ireland is compulsory until the age of sixteen (or after completing three years of second-level education, whichever comes later), and it is primarily the responsibility of schools (backed up by the Educational Welfare Service of Tusla) to retain students until completion of the compulsory phase. Schools are also required to encourage as many students as possible to remain in full-time education until they complete one of the three Leaving Certificate programmes, the established Leaving Certificate (LCE), the Leaving Certificate Applied (LCA) and the Leaving Certificate Vocational Programme (LCVP) (DES, 2011d).

Figure 3.4 shows the average percentage retention rate to Junior Certificate for DEIS and non-DEIS schools for the cohorts of young people entering second-level education over the period 1995 to 2008. The improvement in DEIS schools' retention rates in recent years has been significantly higher than the overall improvement nationally. The difference in junior cycle retention between DEIS and non-DEIS schools has reduced from 8 per cent for the 1995 to 3 per cent for the 2008 cohort. Whilst the increase in retention rates coincides with the introduction of the DEIS programme, it is difficult to attribute the improvement in retention directly to the introduction of the programme, as it occurs in the context of a generally increasing trend for cohorts up to 2001, followed by a short-lived negative trend up to the 2004 cohort. Moreover, non-DEIS schools also experienced an increase in retention rates in this time frame (Weir et al., 2014).

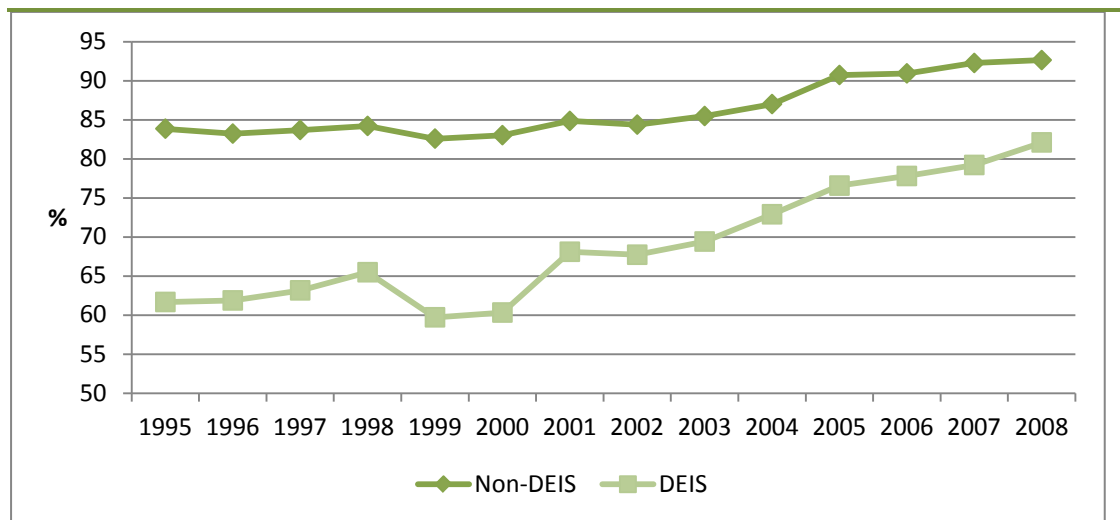
**FIGURE 3.4** Average Percentage Retention to Junior Certificate for the 1995-2007 Cohorts in DEIS and Non-DEIS Schools



Source: Weir et al. (2014); DES (2015).

Figure 3.5 illustrates the average percentage retention to Leaving Certificate level for the 1995 to 2008 cohorts. The analyses indicate that Leaving Certificate retention rates have been increasing at a high rate in both DEIS and non-DEIS schools, making it unlikely that the upward trend in recent years for DEIS schools is wholly due to the introduction of DEIS resources (Weir et al., 2014). However, it is worth noting that the gap in retention rates between DEIS and non-DEIS schools has narrowed over time, from 22 per cent in 1995 to 10.5 per cent for the 2008 cohort.

**FIGURE 3.5** Average Percentage Retention to Leaving Certificate for the 1995-2007 Cohorts in DEIS and Non-DEIS schools



Source: Weir et al. (2014); DES (2015).

Overall the analysis of retention data reveals significant differences in retention levels of DEIS and non-DEIS schools; non-DEIS schools have significantly higher retention levels to Junior Certificate and Leaving Certificate (Weir et al., 2014; DES, 2015c). Whilst positive trends of a significantly greater magnitude were identified for DEIS schools in relation to both Junior Certificate and Leaving Certificate retention, there is still a large gap between retention levels for the two types of schools. Increases in retention rates cannot be ascribed as a direct outcome of the introduction of the DEIS programme as retention rates have also increased in non-DEIS schools in this time frame. Moreover, it is likely that other factors may have influenced retention rates, particularly the collapse in the construction industry and employment in general due to the economic recession from 2008 onwards. There is also a marked difference between DEIS and non-DEIS schools in progression to third-level education. Findings on progression to third level of school leavers in DEIS schools in 2010 shows that some 24 per cent of school completers in DEIS schools went on to higher education, compared to 49 per cent from non-DEIS schools (DES, 2013).

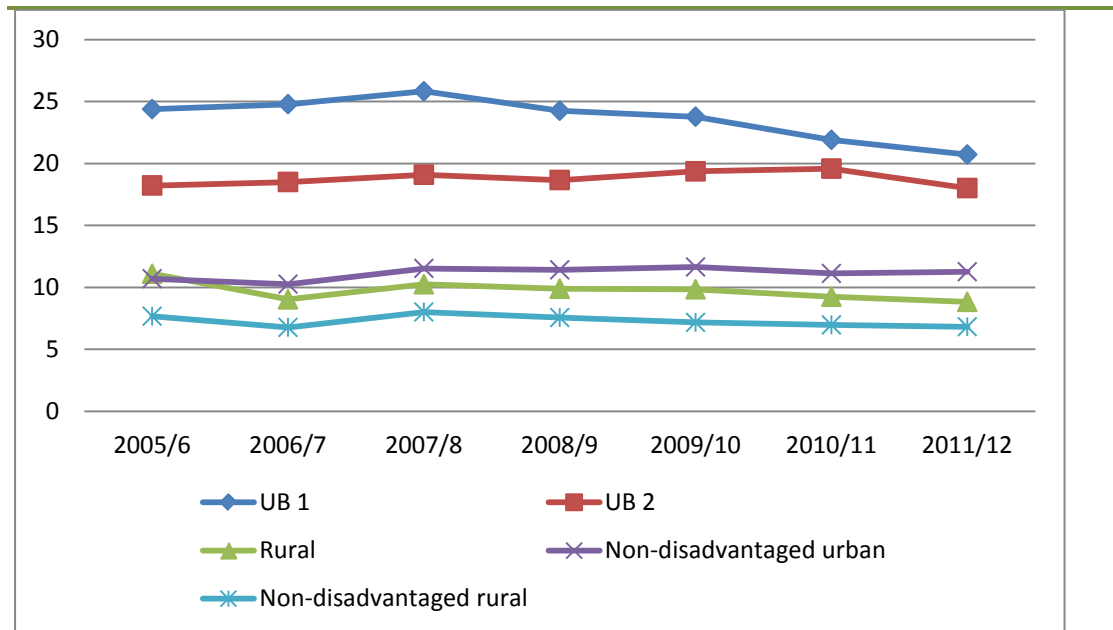
### 3.6.3 Attendance

The improvement of attendance rates is seen as a pivotal part of the DEIS programme. The DEIS planning process requires schools to set targets for improved attendance rates and to devise and implement strategies to achieve these targets. Many of the resources and services available to DEIS schools, such as the School Completion Programme, relate in some way to attendance (DES, 2015c). Schools are required to produce quarterly reports outlining pupil attendance and absence from school. These data are collated in a regular attendance report published by Tusla.

Figure 3.6 shows non-attendance figures for DEIS and non-DEIS primary schools between the academic years 2005/6 and 2011/12. The lines show the percentage of students in the school who missed 20 days or more in the school year. The data indicate that there is a marked difference in the attendance rates of urban Band 1, urban Band 2 schools and all other schools. Overall twenty-day absences are higher in DEIS and non-DEIS urban schools, than in rural DEIS and non-DEIS schools (Millar, 2015). In particular, students in urban Band 1 schools report the largest non-attendance rate; data indicate that just under 21 per cent of pupils in DEIS Band 1 schools were absent for twenty days or more in 2011/12. Nevertheless there has been a decrease in non-attendance for this group

between the academic years 2005/6 and 2011/12. There has also been a slight decrease in non-attendance for urban Band 2 schools in the most recent time-point. Attendance levels have remained lower and stable for all other schools in this time frame.

**FIGURE 3.6** Non-Attendance Figures for DEIS and Non-DEIS Primary Schools Between the Academic Years 2005/6 and 2011/12



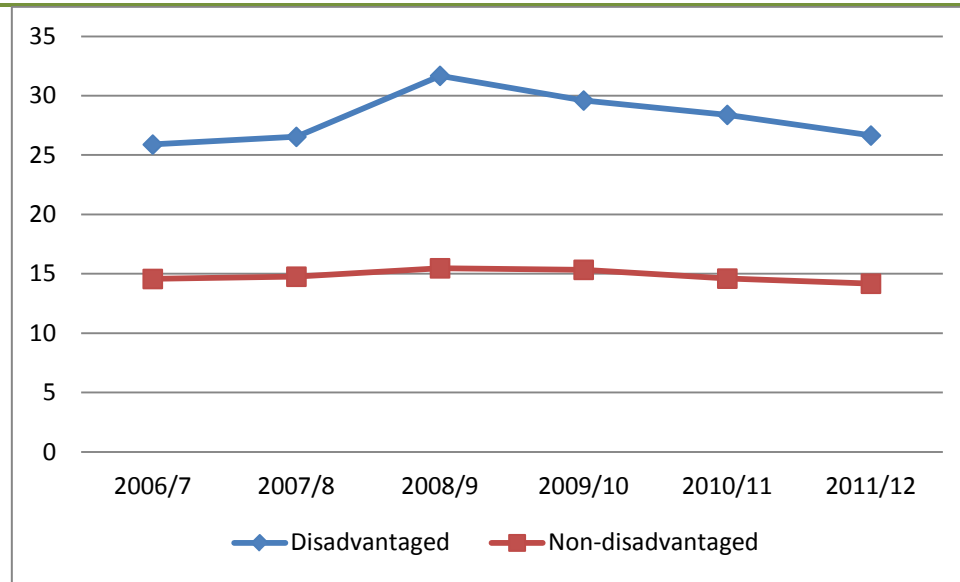
Source: NEWB/Tusla Annual Attendance Reports, various years.

Findings of the Inspectorate evaluations found that overall primary school level planning in relation to attendance has improved, as supported by an increase in overall attendance rates. However the evaluations highlight that there remains a core group of pupils whose attendance rates have remained poor. In one of the schools evaluated, 55 per cent of pupils missed twenty or more school days (DES, 2015c).

Figure 3.7 shows non-attendance figures for DEIS and non-DEIS post-primary schools between the academic years 2006/7 and 2011/12. As with the primary data, the lines show the percentage of students in the school who missed 20 days or more in the school year. The most recent published national analysis of attendance data found that non-attendance is roughly 12.5 per cent higher in DEIS schools than non-DEIS schools. Just under 27 per cent of students in disadvantaged schools were absent for twenty days or more in 2011/12. Nevertheless this shows a decrease in non-attendance rates of almost 3 per cent since the academic

year 2009/10. In non-disadvantaged schools the figure for 20-day absences was 14.2 per cent for 2011/12, down slightly on the previous years (Millar, 2015).

**FIGURE 3.7** Non-Attendance Figures for DEIS and Non-DEIS Post-primary Schools Between the Academic Years 2006/7 and 2011/12



Source: NEWB Annual Attendance Reports, various years.

Overall there is still a marked difference between the attendance rates for DEIS and non-DEIS primary and post-primary schools. Existing data relate to average attendance across the whole school so it would be useful to disaggregate the data to examine whether trends differ by class and year group.

### 3.7 UPTAKE OF CURRICULAR PROGRAMMES UNDER DEIS

All schools participating in the DEIS programme were given access to educational programmes designed to cater for at-risk students; these programmes include the Junior Certificate School Programme (JCSP) and the Leaving Certificate Applied (LCA) programme. Additionally schools assessed as the most disadvantaged were to be provided with libraries under the JCSP programme. Whilst all DEIS schools have had the option of availing of these programmes, not all schools provide these educational programmes. Furthermore, not all schools providing JCSP or LCA are part of the DEIS programme. As part of the DEIS action plan, schools in the DEIS programme are prioritised for entry to the JCSP, with almost 93 per cent (179) of DEIS schools currently offering JCSP. At

present over 65 per cent (126) of DEIS schools offer LCA, and almost 67 per cent (129) of DEIS schools offer the Transition Year programme (DES, personal communication).

### **3.8 DIFFERENCES IN ACHIEVEMENT SCORES BETWEEN URBAN AND RURAL DEIS SCHOOLS**

Several studies to date have found marked differences in the results of urban schools compared to rural schools, both in schools involved in the DEIS programme, and schools that participated in previous programmes such as 'Breaking the Cycle' (Weir et al., 2002a, 2002b; Weir et al., 2009; Weir and McAvinue, 2013). In an evaluation of the BTC scheme, Weir et al. (2002a, 2002b) found that the achievements of rural pupils in the scheme did not differ from the achievements of the norm group; however, the achievement of urban pupils was well below those of the norm group. This section details work that has documented differences between urban and rural schools, and posited explanations for these differences.

In 2009 the first evaluation of the achievement of pupils in primary level schools in the rural dimension of the DEIS programme was published (Weir et al., 2009). The results showed that pupils in the rural DEIS schools performed significantly better at baseline than pupils in urban DEIS schools. The evaluation revealed that the achievements of rural pupils are much closer to that of the national average in both English and mathematics than are those of their urban counterparts. Test scores of pupils in the rural sample were significantly below the national norm for reading but not for mathematics.

Differences in the level of poverty between urban and rural schools may contribute towards differences in results between these two types of schools. The levels of poverty are lower, on average, in rural than in urban schools and the threshold for inclusion in rural DEIS is well below that for urban DEIS (Weir et al., 2009; Weir et al., 2014). As part of the evaluations, the ERC carried out analysis to test whether differences in poverty could be a contributing factor to differences in results. Comparisons of schools were restricted to schools that could be precisely matched on the basis of the percentages of pupils deemed eligible for free books (assuming that the free books variable is an appropriate measure of concentrations of poverty in rural and urban contexts). Results from the analysis did not find evidence to suggest that differences

could be explained by the apparently lower concentration of poverty in rural schools. Even when the concentration of poverty in a sample of urban and rural schools was equal, a sizeable achievement advantage remained for rural pupils (Weir et al., 2009; Weir and McAvinue, 2013).

A second review of rural schools participating in the DEIS programme was published in 2013, and looked at the achievements and characteristics of pupils attending rural schools participating in the DEIS programme (Weir and McAvinue, 2013). The findings revealed a general improvement in the reading and mathematics achievements of pupils in rural schools participating in DEIS between the years of 2007 and 2010, although the magnitude of the increase in improvement was small. Again rural pupils performed better in achievement tests than their urban counterparts; this was the case for the 2007 data (prior to any potential effects of the intervention) and even more so for the 2010 data (Weir and McAvinue, 2013). Marked differences were also found in the 2014 National Assessment between the achievement scores of second and sixth class students in urban and rural DEIS schools (see Section 3.3).

It is difficult to establish why differences in urban and rural achievement scores exist in the DEIS programme and its predecessors. School factors, such as school size and the extent to which poverty is concentrated in the school, do not appear to explain the difference (Weir et al., 2009). However, it is not possible to wholly unpack the effect of school factors on urban and rural differences, as a limited number of school factors have been assessed. Attitudinal data were collected from pupils (through a pupil questionnaire) as part of the evaluation, as well as background and home educational environment data from parents (through a parent questionnaire), and a small number of ratings of pupils by their teachers (on the basis of a Pupil Rating Form). This enabled the analysis of differences between urban and rural pupils from poor households in their attitudes, behaviours, and home backgrounds. Results from this analysis suggest that the achievements of rural pupils may have been somewhat protected by their parents' engagement in, and emphasis on, education within the home. The analysis of pupils' home background found that rural children had greater access to educational materials and were more frequently engaged in educational activities such as reading. Furthermore, these educational practices within the home had a greater influence on the achievement of the rural pupils than their urban counterparts. Rural parents also had slightly higher levels of education, and teachers' ratings of home support were slightly higher for rural than



for urban pupils. The findings also suggest that the achievements of urban pupils may have been negatively affected by the presence of distractions, mainly unstructured free-time activities such as playing computer games and playing with friends (Weir and McAvinue, 2013). Moreover, the findings suggest that rural pupils are less susceptible to the effects of poverty than are their urban counterparts, and certain factors mitigate the effects of poverty (e.g., home and community) (Weir et al., 2014).

The idea that poverty has less of an effect in rural areas was also supported by evidence of a ‘social context’ effect in the urban sample. This plays out when an individual’s achievement is negatively affected by increasing densities of students from disadvantaged backgrounds. Thus, the socio-economic mix in a school has an impact on an individual’s outcomes over and above their own socio-economic background (Weir and McAvinue, 2013). This effect has been observed previously before in Ireland (Sofroniou, Archer and Weir, 2004), and internationally (see Chapter 1).

### **3.9 POTENTIAL EXPLANATIONS FOR TRENDS OVER TIME IN DEIS SCHOOLS**

In this section we move away from outlining differences in achievement results between DEIS and non-DEIS schools to look at factors that may have influenced trends in achievement in DEIS schools.

#### **3.9.1 The Role of DEIS in Class Size Reduction and Provision of Additional Teaching Resources**

The reduction in class size in primary schools is a central element of the DEIS programme. The original DEIS plan (DES, 2005) contained a commitment to have maximum junior class sizes of 20 and maximum senior class sizes of 24 in urban/town primary schools with the highest concentrations of disadvantage (Band 1 schools). Band 2 schools did not receive an allocation of additional teaching posts to reduce class size. In an effort to streamline the process in line with the allocation for mainstream schools, in 2012 a revised staffing schedule was implemented for Band 1 schools. This provides for a pupil-teacher ratio of 20:1 in DEIS Band 1 junior schools, 22:1 in vertical schools (schools with junior and senior classes) and 24:1 in senior schools (DES, 2014). From the 2012/13 school year, all DEIS post-primary schools had a staffing schedule of 18.25:1, compared to the standard 19:1 which applied in

non-fee charging schools<sup>10</sup> (DES, 2012). The remainder of this section assesses the role of the DEIS programme in implementing class size reductions, and the provision of additional teaching resources.

In 2012, an evaluation of the effectiveness of the reduction in class size in primary schools was published by the ERC. The evaluation was conducted using data provided by the DES on the size of all classes in the system in the school year 2009/10. The analyses found that class size targets were achieved for the vast majority of junior and senior classes in Band 1 schools. Junior classes had an average class size of 17.43, with 79.3 per cent of classes having 20 or fewer pupils. Senior classes had an average class size of 19.42, with 86.8 per cent of classes having 24 or fewer pupils (Weir and McAvinue, 2012). Clear evidence of positive discrimination towards Band 1 schools was found, with the average class size of Band 2 schools being larger than the average class size for Band 1 schools. The analysis revealed a bias in reduced class size in favour of schools which had previously participated in initiatives aimed at addressing disadvantage, such as 'Giving Children an Even Break' and 'Breaking the Cycle' (Weir and McAvinue, 2012).

Results from the evaluations have shown that the DEIS programme has been successful in reducing class size in Band 1 primary schools. However, there are some caveats to the success found so far. Students with special educational needs (SEN) are not included for the purpose of determining teacher allocations in DEIS schools. This makes it difficult to establish whether class size targets have been met by schools participating in DEIS (Weir and McAvinue, 2012). It is likely that an increasing emphasis on inclusion in recent years has led to a higher number of pupils with special educational needs being included in mainstream classes. Hence excluding these pupils from the analyses may thus obscure comparisons of the positive discrimination achieved by the DEIS scheme. Furthermore, analysis of class size does not include additional posts allocated under the GAM (see Chapter 1).

### **3.9.2 The Use of Literacy and Numeracy Strategies Within the Programme**

The DEIS programme places a high priority on measures and supports to improve literacy and numeracy outcomes, with a particular emphasis on

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<sup>10</sup> DES Circular 0009/2012.

early intervention at primary level. As part of the programme, schools have access to a range of literacy and numeracy support services, which include programmes such as First Steps, Reading Recovery, Mathematics Recovery and Ready Set Go Maths; access to homework clubs/summer camps assisting literacy and numeracy development; access to Home School Community Liaison services (including literacy and numeracy initiatives involving parents and family members); financial allocation under the school books grant scheme based on level of disadvantage, and additional funding targeted at book loan/rental schemes (Weir et al., 2011). Appropriate support for DEIS schools continues to be prioritised by the Professional Development Service for Teachers (PDST); ongoing continuous professional development (CPD) support is provided in DEIS Band 1 and Band 2 schools in accordance with the priority needs identified by the schools, taking into account CPD provision already provided. Extra resources are made available through the PDST for intensive professional development for teachers in these schools. This section provides an overview of the use of literacy and numeracy strategies within the DEIS programme, and their success.

In 2009 the DES Inspectorate published a report on effective literacy and numeracy practices in DEIS schools; the report focused on eight schools that the inspectorate deemed successful at implementing effective literacy and numeracy programmes. The report highlighted successful steps these schools had taken to implement the strategies. Highlighted forms of good practice included continuous professional development, teacher commitment, schools prioritising literacy and numeracy, leadership style, high teacher expectations of pupils, planning and team teaching. Whilst the report provides useful insights into the main dimensions of good practice, it is difficult to generalise from these findings because of the reliance on a small number of schools pre-selected to capture successful literacy and numeracy programmes. Furthermore, the review did not outline the effectiveness of specific literacy and numeracy strategies within the programme; therefore differences in achievement cannot be attributed to the success/shortcomings of certain programmes. Consequently it is difficult to glean from this analysis which literacy and numeracy strategies of the DEIS programme are successful, and contributing factors for their success.

### 3.9.3 The Use of Planning, Target-Setting and Self-Evaluation Within the Programme

Planning is a fundamental aspect of the DEIS programme; the action plan places an emphasis on planning at school and cluster level, target-setting, and measurement of progress and outcomes to ensure that investment under the initiative creates an improvement in educational outcomes. The DEIS planning themes are: attendance, retention, progression, examination attainment (only at post-primary level), literacy, numeracy, partnership with parents and partnership with the community. As part of an ongoing review process, the Inspectorate evaluates schools in relation to each one of the themes looking at the following aspects of the planning process:

- Target-setting practices, including collection of baseline data and data analysis;
- The strategies and interventions used to achieve the targets set or to promote other DEIS-related objectives;
- The implementation of those strategies and interventions;
- The progress made by the school with regard to the targets or objectives set.

Schools that receive additional support and resources through participation in DEIS are expected to support the DEIS action plan through a systematic planning and monitoring process at individual, school level, and at school cluster/community level (DES, 2011b). It is expected that schools keep progress in the implementation of these action plans under review, and adjust their plans in light of experience. Planning for literacy and numeracy is distinct from the overall school plan, and based on the implementation of literacy and numeracy programmes, and evaluation of assessments and student and school progress.

The School Development Planning Initiative (SDPI) for post-primary schools, and School Development Planning Support Service (SDPS) for primary schools, were established by the DES to support school development planning. The SDPI and SDPS provided a wide range of supports to assist DEIS schools in establishing their baseline data on the areas of activity specified in the DEIS plan, and to aid with planning and target setting. This initiative ran from 1999 to 2010 before it was subsumed into the Professional Development Service for Teachers (PDST)

(Weir et al., 2014). Currently a team of advisors from within the PDST provide support to primary and post-primary schools in the areas of action planning, literacy and numeracy. As part of the planning process, schools are required to self-evaluate their own progress in the implementation of the school plan. Schools are then expected to revise their plans in accordance with such progress, or lack thereof.

Findings thus far on the use of planning, target-setting and self-evaluation within the DEIS programme can be collated from a number of separate reviews. In 2010 the Department of Education and Skills Inspectorate undertook a review of planning processes in DEIS primary and post-primary schools; as part of the review, planning processes in literacy and numeracy within 18 primary and 18 post-primary schools were evaluated (DES, 2011a, 2011b). Further evaluations of planning were carried out by DES Inspectorate in 2011, 2013 and 2014. In total 44 DEIS primary and 44 DEIS post-primary schools were evaluated in relation to planning.

In relation to planning at primary level, the Inspectorate evaluations found that engagement with action planning for improvement is having a positive impact in DEIS schools. Schools evaluated reported improvements in many aspects of the DEIS themes, including attendance, literacy and numeracy (DES, 2015a). Primary schools that were effective at target setting and planning focused on the analysis and dissemination of literacy and numeracy information and data. Whilst overall effective planning was found in most areas, deficiencies were found in assessment practices, data collection and utilisation, and in the links between target setting and teaching and learning interventions (DES, 2011a). The evaluations emphasise a need for the effective use of evidence to provide baseline information, and for schools to use these data to assist in setting targets, which will enable schools to measure progress more effectively. Whilst overall improvements were found in evaluations at the primary level, the evaluations highlight that schools continue to face challenges in addressing certain aspects of the DEIS themes. These include: the attendance levels of pupils with persistently poor attendance; pupils' oral language development; providing appropriate challenge to pupils of higher academic ability, particularly in mathematics; and the adoption of better links with the full range of agencies operating in the school's local area (DES, 2015a).

The reviews of planning in post-primary schools (DES, 2011b; 2015b) also found that engagement with the DEIS action planning for improvement is having a positive impact overall on schools. Overall strengths predominated in planning for five of the seven DEIS themes, and internal departmental data demonstrate improvements in attendance, retention and progression figures. As found in primary level DEIS schools, there is a positive correlation between effective school leadership and effective DEIS planning. The most widespread good practice was found in planning for the theme of partnership. However, marked weaknesses were found with planning for examination attainment and for numeracy. In particular, findings in relation to examination attainment show no evidence of improved practice in the most recent evaluations. The evaluations also found uncertainty in schools with regard to the interface between school self-evaluation and DEIS planning. The most widespread deficit was found in the use of data to provide baseline information in order to set targets and to measure progress reliably (DES, 2015b).

A salient theme of the reviews on planning is a need for both primary and post-primary schools to employ more focused target setting and self-evaluation practices (Weir et al., 2011; DES, 2011a, 2011b). There is a highlighted gap in schools' use of baseline data to inform planning, target setting and interventions. At post-primary level only a minority of DEIS schools are seen as having advanced the school self-evaluation process to an effective level (DES, 2015b). Key recommendations of the evaluations at primary and post-primary level include the need to build capacity in DEIS schools for improvement planning and self-evaluation, to address specific DEIS themes where weaknesses persist, and to improve co-ordination and accountability in DEIS schools (DES, 2015a, 2015b).

Findings from interviews with principals in second-level schools on their experience with the school plan found that in the majority of cases, the planning process began during the school years 2008/9 and 2009/10. The areas of attendance, literacy and retention were the three most frequently mentioned areas by principals for setting targets, and outcome targets were the most common. Overall, principals' views of the planning process, and of the target-setting aspect of the DEIS strategy, were markedly positive (Weir et al., 2014).

Provision for planning is now in place in all primary and post-primary schools (DEIS and non-DEIS) under the School Self Evaluation (SSE) process, which is a reframing of the school development planning (SDP)

process. The SSE process has been informed by learning from the use of planning in DEIS schools. SSE provides opportunities to schools to examine their own practice, and to report on their strengths and areas for improvement to their own school community. During SSE, the principal, deputy principal and teachers, under the direction of the board of management and the patron, and in consultation with the parents and pupils, engage in reflective enquiry on the work of the school. From 2012/13, all primary and post-primary schools are required to engage in school self-evaluation of teaching and learning, including literacy and numeracy. DEIS schools are advised to continue the DEIS planning cycle and engage in the self-evaluation process as outlined in the Guidelines when the current three-year plan has been implemented.<sup>11</sup>

### 3.10 CONCLUSIONS

Overall, the DEIS programme is the first programme to address educational disadvantage in Ireland that has shown evidence of improvement in achievement scores. Evaluations of primary DEIS schools have indicated an increase in reading and mathematics test scores over time, with a greater increase for reading than mathematics. This increase has been evident in a context where levels of poverty and material deprivation, which might be expected to impact on academic outcomes, have increased in the wake of the recession. More recent data from the National Assessment 2014 indicate an improvement in test scores across all types of schools, meaning that the gap in achievement between DEIS and non-DEIS schools has largely been maintained. Of concern is the large proportion of very low achievers in reading and mathematics in urban DEIS schools. In particular, marked differences have been found between the scores of urban Band 1 and other pupils across all grades and domains. Results from the National Assessment also reveal a considerable difference between the scores of rural DEIS schools and other schools. Rural DEIS schools perform better than all other schools in sixth class mathematics and reading, and perform the same as urban non-DEIS and higher than rural non-DEIS schools in second class mathematics, and one point lower than urban and rural non-DEIS schools in second class English. However, these findings should be interpreted with some caution due to the small number of schools involved. Within the second-level sector, there has been a slight narrowing of the Junior Certificate performance gap between DEIS and non-DEIS schools overall and in English, but not in Mathematics. Retention rates have also

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<sup>11</sup> For more information see <http://schoolself-evaluation.ie/primary/index.php/what-school-self-evaluation>.

improved in DEIS schools. Attendance rates have improved in urban Band 1 schools but trends in second-level DEIS schools are less clear-cut, albeit with some improvement in the most recent years.

The multi-faceted nature of the DEIS programme means that it is not possible to disentangle the effects of different components of the initiative on student outcomes. Thus, it is not possible to assess the extent to which trends in standardised test results, attendance and retention reflect different aspects of the programme such as the focus on structured literacy and numeracy programmes, class size reduction (in urban Band 1 schools), supports to promote attendance and retention, and/or improved school capacity regarding planning and target-setting. To date, evaluations have largely focused on the impact of DEIS on academic achievement, largely measured through standardised literacy and numeracy test results. Chapter 5 points to the potential for expanding the range of data used in assessing the effects of the DEIS programme. Evidence from the evaluations points to significant changes in the organisation and process within DEIS schools. The following chapter points to broader differences between DEIS and non-DEIS schools in organisation and process.



# Chapter 4

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## Evidence From Other Research on DEIS Schools

### 4.1 INTRODUCTION

Chapter 3 has outlined the findings from the evaluations conducted to date of the DEIS programme. In this chapter, we draw on findings from a range of other research studies which illuminate some of the processes and outcomes within DEIS schools. The first section looks at the school choice landscape and the implications of choice processes for the concentration of disadvantage and complexity of need in DEIS schools. The second section examines the use of ability grouping and, for second-level schools, the extent of take-up of higher level subjects within DEIS and non-DEIS settings. The third section explores differences between DEIS and non-DEIS settings in teacher characteristics and use of different kinds of teaching methods while section four examines school climate, including the quality of relations between teachers and students.

### 4.2 SCHOOL CHOICE AND COMPOSITION

The profile of DEIS schools, and the complexity of student need within these schools, is the product of a set of broader factors reflecting school choice on the part of parents, school admissions policies and the extent to which local areas are socially mixed or not. While largely outside the control of individual schools, these processes form a fundamental part of the context within which DEIS schools operate.

There is a good deal of active participation in the choice of school on the part of students and their families in the Irish context. Around half of the second-level cohort does not attend their nearest or most accessible school, and such active choice is more prevalent among middle-class families (Hannan et al., 1996; Smyth et al., 2004). Even at primary level where attending the local school is more common, middle-class parents are more likely to engage in active choice by registering their child at an earlier stage and/or for multiple schools (ESRI/TCD, 2013). School choice processes mean that some schools are over-subscribed, thus determining entry on the basis of factors such as school attendance by older siblings, length of time on the waiting list etc. DEIS schools are much less likely to

be over-subscribed than non-DEIS schools and are more likely to be subject to the ‘cream-off’ of middle-class and/or higher ability students where there is between-school competition for students (Smyth et al., 2004; Darmody and Smyth, 2013).

**TABLE 4.1** Social Profile of Students By DEIS Status of Primary School (*Growing Up in Ireland Data*)

	Urban Band 1 DEIS	Urban Band 2 DEIS	Rural DEIS	Non-DEIS
<b>Social class:</b>				
<b>Salariat</b>	17.2	29.9	29.1	46.9
<b>Self-employed</b>	6.0	11.6	20.3	14.4
<b>Semi/unskilled manual</b>	14.9	9.4	8.2	5.8
<b>Economically inactive</b>	25.2	17.9	13.6	8.1
<b>Equivalised household income:</b>				
<b>Lowest quintile (fifth)</b>	43.7	24.3	31.7	16.6
<b>Highest quintile (fifth)</b>	5.0	11.3	7.5	22.8
<b>Mother’s education:</b>				
<b>Degree</b>	4.6	8.8	11.8	19.4
<b>Lone parent household</b>	36.6	26.7	12.9	15.9

Source: McCoy et al. (2014b).

The interaction of school choice on the part of families and enrolment policies among schools, alongside patterns of residential segregation, means that schools may have very different student profiles. Not surprisingly, given the basis on which DEIS status is assigned (see Chapter 3), significant differences are found between DEIS and non-DEIS schools in relation to a number of different dimensions of social background. At primary level, children attending DEIS schools are less likely to come from the more advantaged salariat (professional) and self-employed classes and more likely to come from working-class or economically inactive households (Table 4.1). Children attending DEIS schools are much more likely than those in non-DEIS schools to come from low income households and families where the mother does not have degree-level qualifications. Furthermore, those in DEIS schools are more likely to come from lone parent households, which tend to have lower levels of economic resources. Children attending urban Band 1 schools are the most disadvantaged across all of the dimensions of social background. The pattern for rural DEIS schools is more complex; children in these schools are more advantaged than those in urban DEIS schools in terms of social class, education and family structure but tend to have lower income levels than those in urban Band 2 schools.

Second-level patterns reveal similar differences between DEIS and non-DEIS schools to those found at primary level, with more young people from working-class and non-employed households in DEIS schools (Table 4.2). In addition, those from low income and less educated families are over-represented in DEIS second-level schools as are those from lone parent households. The patterns found at primary and post-primary level suggest that, although based on principal reports of various dimensions of student composition, DEIS schools encompass a disadvantaged cohort of children and young people, with a particularly high concentration of disadvantage evident in urban Band 1 schools.

**TABLE 4.2** Social Profile of Students by DEIS Status of Second-Level School (*Growing Up in Ireland* Data)

	DEIS	Non-DEIS
<b>Social class:</b>		
Professional	5.2	12.3
Semi/unskilled manual	20.6	9.8
Economically inactive	15.7	8.0
<b>Equivalised household income:</b>		
Lowest quintile (fifth)	32.6	18.4
Highest quintile (fifth)	7.2	21.5
<b>Mother's education:</b>		
Degree	9.0	24.1
Lone parent household	25.3	16.1

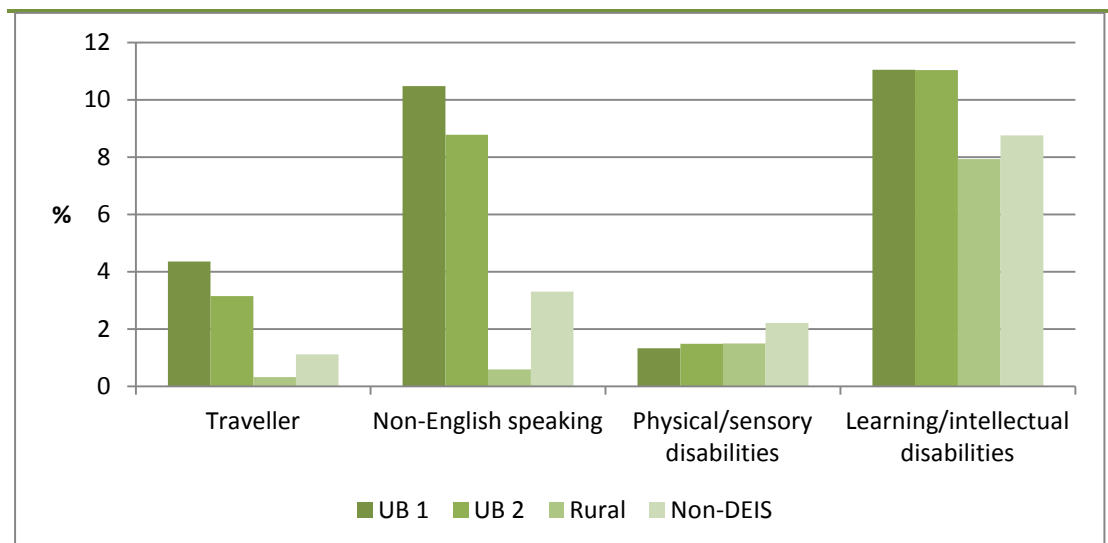
Source: *Growing Up in Ireland*, wave 2 of child cohort, special tabulation.

DEIS and non-DEIS schools differ not only in their social profile but in the presence of groups of children who may have more complex needs. Figure 4.1 uses *Growing Up in Ireland* data collected from school principals to show the proportion of total student enrolment who are from the Travelling community, non-English speaking families, and who have physical/sensory or learning/intellectual disabilities. There is much greater prevalence of learning disabilities in urban DEIS than in non-DEIS schools (Figure 4.1). In contrast, the prevalence of physical/sensory disabilities does not vary markedly by DEIS status of the primary school. Additional information collected from school principals indicates that urban DEIS schools have a much greater concentration of students with emotional-behavioural difficulties than non-DEIS schools (Figure 4.2). Thus, in a quarter of urban Band 1 schools students with emotional-behavioural problems make up more than a quarter of the student cohort, compared with only 2 per cent of non-DEIS schools. Non-English

speaking students are over-represented in urban DEIS schools, especially in urban Band 1 schools (Figure 4.1), reflecting the impact of residential patterns and school enrolment criteria (see Smyth et al., 2009; Banks and McCoy, 2011). Students from a Traveller background are also over-represented in urban DEIS schools compared to non-DEIS schools. These data point to a greater complexity of need in urban DEIS schools, where the prevalence of students with learning disabilities, emotional-behavioural difficulties and without English/Irish as a first language combines to create greater challenges for teaching and learning. In contrast, the situation in rural DEIS schools is very different; these schools have a somewhat lower prevalence of learning disabilities than non-DEIS schools and are much less likely to have students from minority groups, with very small proportions of students who are non-English speaking or from Traveller backgrounds. The patterns found in GUI data are echoed in a recent census of schools which found a higher prevalence of special educational needs in urban DEIS schools than in rural DEIS or non-DEIS primary schools (McCoy et al., 2014a).

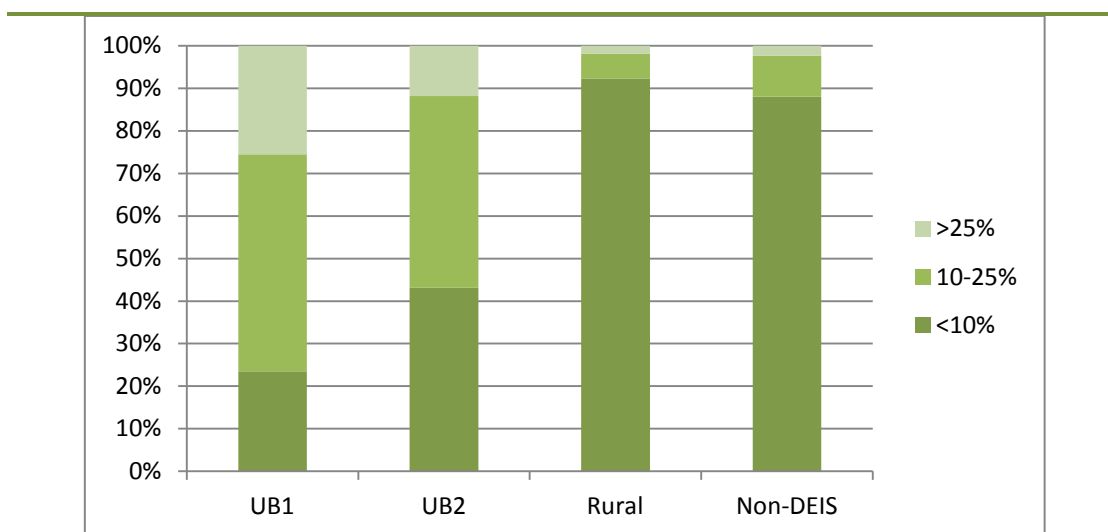
Of particular interest is evidence of greater focus on behavioural difficulties in the most disadvantaged primary school contexts, where children are more likely to be identified with behavioural problems than similar children attending other schools (McCoy et al., 2012a). Further analysis highlights disproportionality in teacher identification of emotional behavioural difficulties (EBD) among Irish primary school children (Banks et al., 2012). In line with a number of international studies, the analysis finds clear evidence that teacher judgement in SEN identification is influenced by the composition of the class and in particular the social mix of other students in the class or school. The detection of SEN is therefore likely to depend on what is considered 'normal' and this will vary between schools. While local judgement used by the teachers does not apply to those pupils for whom SEN designation is obvious, such judgement is central to EBD identification.

**FIGURE 4.1** Average Percentage of Total Enrolment From Different Groups of Children, Reported by Primary School Principals (*Growing Up in Ireland* Data)



Source: *Growing Up in Ireland*, wave 1 of the Child Cohort.

**FIGURE 4.2** The Prevalence Of Emotional-Behavioural Problems Among Students In The School, Reported By Primary School Principals (*Growing Up in Ireland* Data)

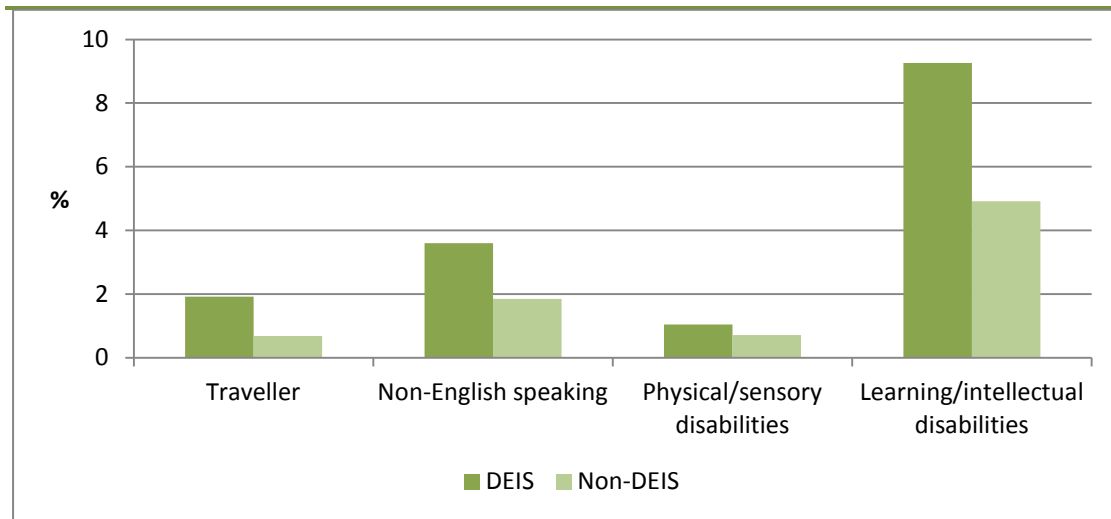


Source: *Growing Up in Ireland*, wave 1 of the Child Cohort.

Data from second-level schools also indicate a higher prevalence of special educational needs in DEIS schools than in non-DEIS settings (McCoy et al., 2014a). DEIS second-level schools are more likely to have young people with learning/intellectual disabilities and are somewhat more likely to have young people with physical/sensory disabilities (Figure 4.3). They are also more likely to have young people from minority backgrounds, Traveller or non-English speaking. Almost half (49 per cent) of DEIS second-level schools report that more than a quarter of

their cohort have emotional-behavioural difficulties; this sharply contrasts with the 4 per cent of non-DEIS schools which report a similar prevalence of such difficulties. These data indicate that, as at primary level, second-level DEIS schools encompass a range of students who have complex needs and may require additional supports.

**FIGURE 4.3** Average Percentage of Total Enrolment from Different Groups of Young People, Reported by Second-Level School Principals (*Growing Up in Ireland* Data)



Source: *Growing Up in Ireland*, wave 2 of the Child Cohort.

### 4.3 ABILITY GROUPING

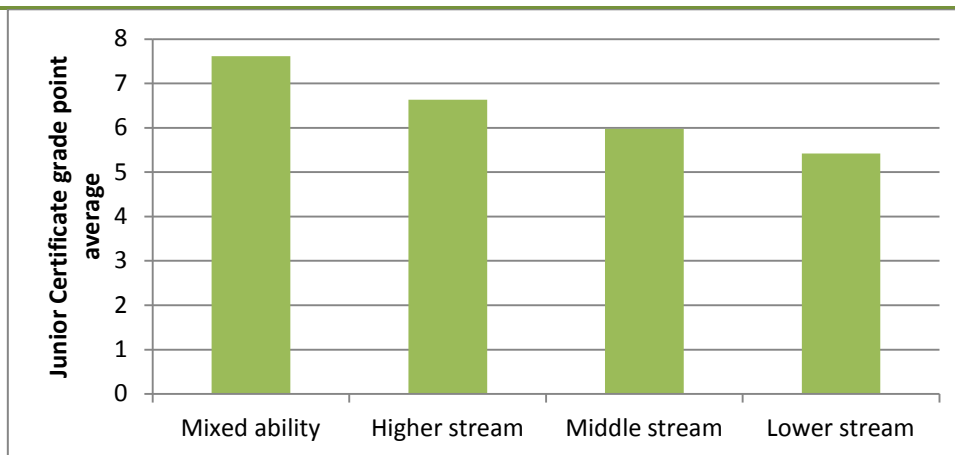
Existing research indicates that DEIS and non-DEIS schools tend to differ in the way in which they organise learning, principally in the use of ability grouping. Between-class ability grouping is relatively rare at primary level, but is somewhat more common in DEIS than in non-DEIS schools (7 per cent compared with 4 per cent). Having separate special classes can also be regarded as a form of ability grouping. Urban DEIS schools are more likely than non-DEIS or rural DEIS schools to have separate special classes; 24 per cent of urban Band 1 schools and 21 per cent of urban Band 2 schools have such classes compared with only 5 per cent of rural DEIS schools and 4 per cent of non-DEIS schools (McCoy et al., 2014a). At post-primary level, DEIS schools are more than twice as likely as non-DEIS schools to have special classes (46 per cent compared with 21 per cent) (McCoy et al., 2014a). Streaming, that is, the allocation of students to base classes on the basis of assessed ability/achievement, has declined in prevalence over time in the post-primary sector. However, DEIS schools are significantly more likely to use streaming than non-DEIS schools, with 40 per cent of DEIS schools using some kind of between-class ability

grouping compared with 13 per cent of their non-DEIS counterparts (GUI data, special tabulation).

There has been relatively little Irish research on the impact of ability grouping and special class provision on student outcomes at primary level.<sup>12</sup> Qualitative research by McGillicuddy (2013) indicates that being assigned to a lower ability group within the primary classroom is associated with poorer self-concept and evokes more negative emotional responses such as shame, sadness and upset among children. There is a large body of evidence which indicates negative outcomes for post-primary students allocated to lower stream classes without any corresponding gains for those assigned to higher stream classes. Findings from the Post-Primary Longitudinal Study indicate that those assigned to lower stream classes are more likely to leave school early, with 60 per cent of the entrant cohort dropping out of school before the Leaving Certificate compared with 19 per cent of those in higher stream classes and 7 per cent of those in mixed ability classes (Byrne and Smyth, 2010). Students in lower stream classes are found to significantly underperform in the Junior and Leaving Certificate exams, even taking account of their lower average prior achievement levels (Smyth et al., 2007). Figure 4.4 shows that, controlling for prior ability and a range of other factors, there is a sizeable performance gap between those in mixed ability and lower stream classes, in the order of over two grade points (out of a maximum of ten) per exam subject. This is a very significant achievement gap when considered across the ten to twelve exam subjects taken by students, a gap that has significant implications for access to subjects and subject levels at senior cycle. Contrary to the assumption that being in a higher stream class boosts the achievement of higher ability students, in fact those in higher stream classes have somewhat lower grade levels than those in mixed ability base classes, a pattern which reflects the disadvantaged social profile of schools using streaming.

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<sup>12</sup> ESRI researchers have been examining how special classes operate in mainstream primary and post-primary schools; the first results were published last year (McCoy et al., 2014a) and a further report is currently being finalised.

**FIGURE 4.4** Junior Certificate Grade Point Average by Ability Group of Class

*Note:* These estimates control for gender, social background and reading and mathematics entry scores.

*Source:* Smyth et al. (2007).

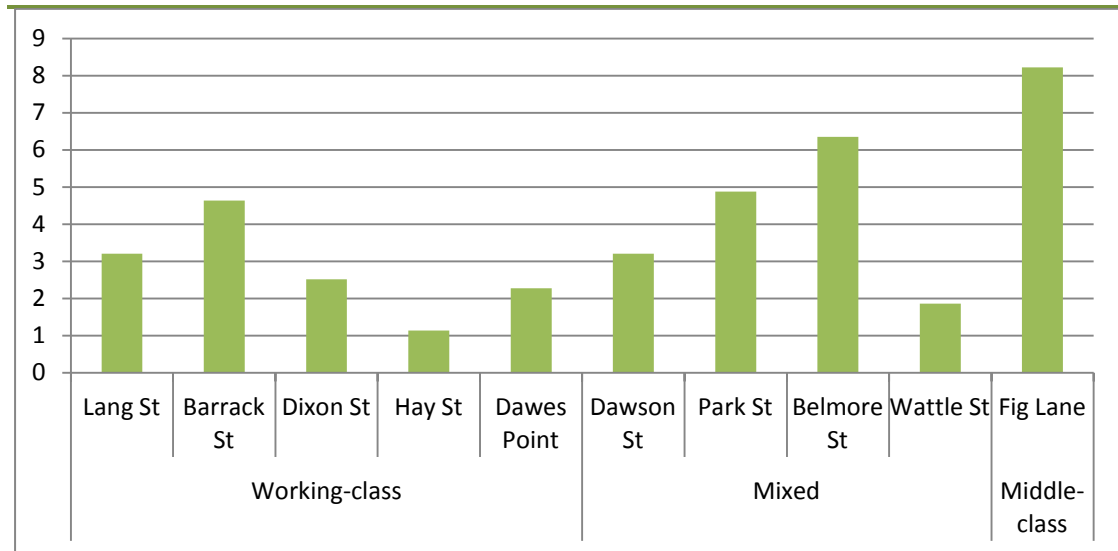
At least part of the explanation for this differential relates to the assumption within schools that lower stream classes will take subjects at ordinary or foundation level, thus setting a ceiling to their potential achievement. Evidence also points to the perhaps more powerful role of the expectational climate of lower stream classes, with a slower pace of instruction and lower expectations held by teachers and students in these classes (Smyth et al., 2007), an issue discussed further in Section 4.5. The fact that working-class students are more likely to attend schools that use streaming than their middle-class peers, and that boys are more likely to be allocated to lower stream classes than girls, means that ability grouping accounts for at least part of the class and gender differential in school retention and second-level achievement.

Even in schools with mixed ability base classes, there is significant variation in the take-up of higher level subjects, reflecting the social mix of the school, school policy regarding access to higher level, student expectations and teacher practice. Figure 4.5 depicts the variation in the number of higher level Junior Certificate subjects taken by students who were in the second lowest quintile (fifth) of reading achievement when they entered the school three years earlier. There is a stark contrast between the take-up of higher level subjects in working-class, socially mixed and middle-class schools, even among students with the same levels of reading ability. At the extremes, students in Fig Lane, a middle-class school, take an average of eight higher level subjects compared to an average of one higher level subject for those in Hay Street, a disadvantaged school that uses streaming. However, it is worth noting that even among working-class schools, there is considerable variation



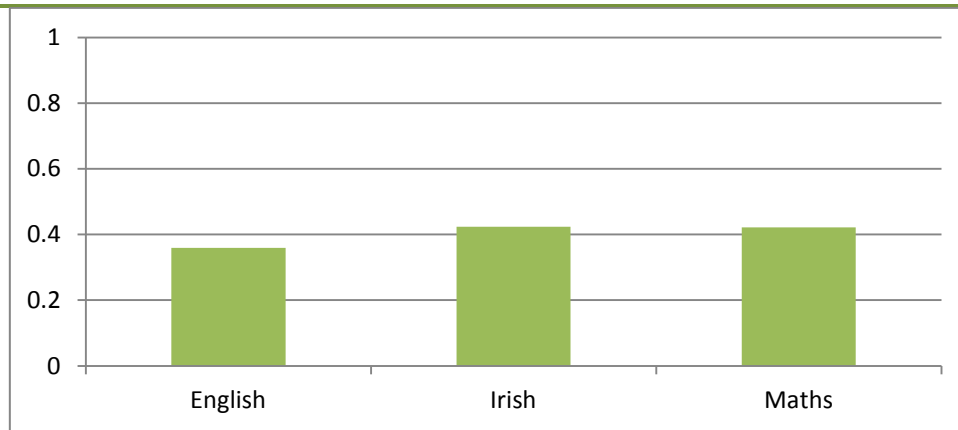
among individual schools in higher level take-up, reflecting differences in school policy and climate.

**FIGURE 4.5** Take-Up of Higher Level Subjects at Junior Certificate by School, for the Second Lowest Quintile in Reading Test Scores at Entry



Source: Smyth et al. (2007).

More recent data indicate a continued differential in the take-up of higher level English, Irish and Mathematics at Leaving Certificate level between students in DEIS and non-DEIS schools. The estimates in Figure 4.6 show the net difference between the two types of schools, taking account of other factors such as receipt of a medical card (as a proxy for individual social background) and gender. If take-up was equivalent between DEIS and non-DEIS schools, the odds ratio would have a value of one. Thus, students in DEIS schools are only a third as likely as their counterparts in non-DEIS schools to take higher level English and only 40 per cent as likely to take higher Irish or Mathematics.

**FIGURE 4.6** Differences (Odds Ratios) Between DEIS And Non-DEIS Schools in the Take-Up of Higher Level Leaving Certificate Subjects, 2013

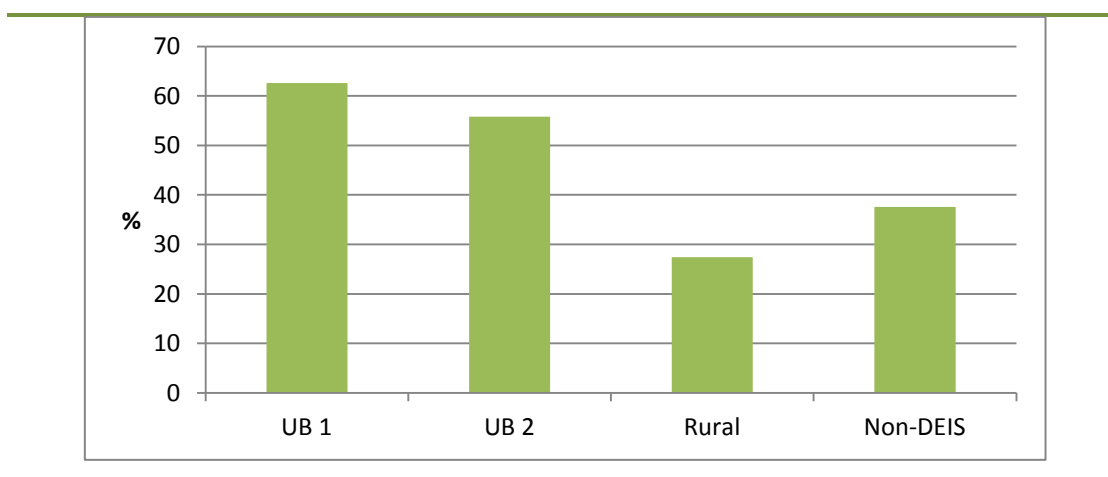
*Note:* These estimates are based on multi-level models which control for gender and exam fee waiver (as a proxy for social background).

*Source:* Derived from tabulations in Darmody and Smyth (forthcoming).

#### 4.4 TEACHER CHARACTERISTICS, TEACHING METHODS AND CURRICULUM

There is relatively little systematic information available on the profile of teachers in DEIS and non-DEIS schools. *Growing Up in Ireland* data indicate that the majority of those teaching in urban DEIS schools have been teaching for less than five years; in contrast, more recently qualified teachers represent a minority of the teaching staff in non-DEIS and rural DEIS schools (Figure 4.7). Similar patterns were found in a study of fourth class groups conducted in 2011; over half (52 per cent) of fourth class teachers in disadvantaged schools were found to have been teaching for five years or less compared with 42 per cent of those in advantaged schools and just 5 per cent of those in socially mixed schools (McMahon et al., forthcoming). Such patterns have implications for student outcomes because of the higher reading and mathematics test scores found among nine-year-olds being taught by more experienced teachers, all else being equal (McCoy et al., 2014b). There is less information available on second-level teacher experience but the TALIS study conducted in 2008 indicates no significant difference in teacher age group or the proportion of newly qualified teachers between DEIS and non-DEIS schools (Gilleece et al., 2009).

**FIGURE 4.7** Proportion of Teachers of Nine-Year-Olds Who Have Teaching for Less Than Five Years (*Growing Up in Ireland* Data)



Source: McCoy et al. (2014b).

Two studies yield insights into differences in teaching approaches between DEIS and non-DEIS schools at primary level: the *Growing Up in Ireland* study which focuses on the overall teaching methods used with nine-year-olds (who are mainly in third class) (McCoy et al., 2012b) and a recent ESRI study of school and class effectiveness for fourth class mathematics and science (McMahon et al., forthcoming). Both studies indicate consistent patterns regarding the approaches taken in DEIS and non-DEIS schools, with the McMahon et al. study further distinguishing among non-DEIS schools in terms of whether they are socially mixed or advantaged in composition. Teaching approaches are found to be more teacher-centred and structured in DEIS schools, with less use of active teaching methods. In contrast, teachers in advantaged schools are more likely to allow students to work independently and to work within groups, an approach which is much less common in disadvantaged schools. At the same time, teachers in disadvantaged schools are more likely than those in other schools to use ICT on a regular basis. The differences found may relate to the challenges of classroom management, real or perceived, with different groups of students as teachers are also less likely to use more active methods with boys than girls (McCoy et al., 2014a; see Devine et al., 2013, for qualitative evidence supporting this perspective). Indeed, the McMahon et al. study findings suggest a greater degree of time 'off task' in disadvantaged schools where teachers spend more time dealing with misbehaviour and non-appropriate questions from students.

Unfortunately there is an absence of systematic information on teaching practices in DEIS and non-DEIS second-level schools. The only available source of nationally representative information is the TALIS study of

2008, which points to more teacher-directed methods in Ireland compared with many other countries but does not examine whether methods vary between disadvantaged and non-disadvantaged schools. In any case, it is likely to be difficult to clearly identify any such differences given variation in teaching practices by subject area (Gilleece et al., 2009) and case-study evidence that approaches are more teacher-centred in lower stream classes (Smyth et al., 2007).

There is some evidence of variation by school type in access to different domains of the curriculum. Nine-year-old children in DEIS urban Band 1 schools spend more time on English and Social, Personal and Health Education (SPHE), and less time on Irish, Religious Education and Art, than those in non-disadvantaged schools (McCoy et al., 2012b). Time spent on other subjects, including Mathematics, does not differ significantly by DEIS status. These data were collected prior to the roll-out of the literacy and numeracy strategy so may not reflect current patterns. However, the research does suggest that primary teachers make trade-offs between different subject areas and adjust their class timetable to reflect the perceived needs of their student intake, focusing on core literacy skills and on personal-social development among more disadvantaged groups.

At post-primary level, the provision of curricular programmes varies by school social mix (see also Chapter 3), with DEIS schools much more likely to provide the Junior Certificate School Programme and the Leaving Certificate Applied programme (Banks et al., 2010) and much less likely to provide Transition Year (TY) (Clerkin, 2013) (see also Chapter 3). The latter pattern is significant given the association found between TY participation and higher Leaving Certificate performance (Smyth et al., 2004; Smyth et al., 2011). The social composition of the school has also been found to influence the types of subjects provided within junior and senior cycle, with working-class/disadvantaged schools more likely to provide technological subjects and less likely to provide Physics or Chemistry (Smyth et al., 2004; Darmody and Smyth, 2005).

#### **4.5 SCHOOL CLIMATE AND EXPECTATIONS**

There is now a substantial body of research in Ireland which shows the strong relationship between school climate, measured in terms of the quality of day-to-day interaction between teachers and students, and a range of student outcomes, including school retention, exam

performance at Junior and Leaving Certificate levels, and aspects of student personal-social development, such as academic self-image and self-reported stress (Hannan et al., 1996; Smyth, 1999; Smyth et al., 2011). There is evidence too that the quality of these relations has a significant influence on the likelihood of young people going on to post-school education and training, even taking account of prior achievement (McCoy et al., 2014c).

Research findings point to the way in which certain dimensions of school climate vary according to the social class composition of the school. These differences centre on the disciplinary climate, the quality of teacher-student interaction and the expectational climate.

As shown in Section 4.2, principals of DEIS schools at both primary and post-primary level report a higher prevalence of emotional and behavioural difficulties (EBD) among students. As noted earlier, analyses of GUI data suggest that, all else being equal, there may be an over-identification of EBD in urban Band 1 DEIS schools and an under-identification of learning disabilities (McCoy et al., 2012a). Furthermore, children are more likely to be identified as having an EBD in urban Band 1 schools relative to self-reported emotional-behavioural well-being, a finding which highlights the potential risk of labelling certain groups of children (Banks et al., 2012). Analysis of teaching approaches has shown more time 'off task' in response to disciplinary issues in DEIS primary schools (see above, McMahan et al., forthcoming). At post-primary level, significant differences in disciplinary climate are found by school social mix, whether based on teacher reports (Gilleece et al., 2009) or on student self-reported misbehaviour (Smyth et al., 2007). Levels of positive teacher-student interaction are broadly similar but levels of negative interaction are much higher among 13 year olds in DEIS schools (GUI, special tabulation).

Differences in school expectational climate are reflected in the way in which schools facilitate access to higher level subjects (see above) as well as in the formal and informal guidance available to students. In more middle-class schools, going on to higher education assumes a 'taken for granted' quality; the focus is not on whether to go on to higher education but on which college and which course (Smyth and Banks, 2012; McCoy et al., 2011). In contrast, students in disadvantaged schools lack the 'insider' knowledge through the family networks available to their middle-class peers and are more reliant on formal school-based guidance

(McCoy et al., 2014c). Actual patterns of post-school transitions vary markedly between DEIS and non-DEIS schools; even taking account of lower levels of Leaving Certificate grades, young people who attended disadvantaged schools are significantly less likely to go on to higher education than those who had attended middle-class or socially mixed schools (McCoy et al., 2014c; see also DES, 2013). Participants in the LCA programme are also disproportionately drawn from lower socio-economic groups, with implications for post-school educational opportunities (McCoy et al., 2010; McCoy et al., 2014c).

These patterns of school climate are reflected in trends in student engagement in school. At the age of nine, children are generally positive about school and about their teacher, with little variation between DEIS and non-DEIS schools in subjective engagement (McCoy et al., 2012b). Engagement with school is more strongly influenced by social background and school social mix after the transition to second-level education, with more negative attitudes to school found among 13 year olds who attended DEIS second-level schools and who had attended urban Band 1 primary schools (Smyth, forthcoming). Over the course of junior cycle, students become less positive about school and about their teachers, with greater levels of disengagement evident among working-class boys. The allocation of students to streamed classes appears to result in a process of polarisation over the course of the junior cycle. Misbehaviour increases most in lower stream classes while negative interaction between teachers and students increases most in middle and lower stream classes. By third year, lower stream classes are increasingly characterised by negative relations with a mutually reinforcing pattern of student misbehaviour and teacher admonishment. On the whole, negative interaction increases more in working-class schools than in socially mixed or middle-class schools (Smyth et al., 2007). Students who have positive relations with their teachers are more positive about school while those who have experienced more negative interaction are more disengaged from school (Smyth et al., 2007; Smyth, forthcoming).

Finally, recent research drawing on GUI data examined the extent to which different groups of children engage in different types of activities out of school (McCoy et al., 2012c). While children attending urban Band 1 DEIS schools were initially found to be less likely to participate in the types of activities likely to reinforce their school learning, i.e. cultural activities and social networking, this was due to the individual social background of students attending DEIS schools, rather than a school

context effect. It is suggested that it may be the case that the provision of extracurricular activities in DEIS schools, funded through the School Completion Programme,<sup>13</sup> cancels out, to some extent, any effect of the school social mix that may have been evident in the past.

#### 4.6 CONCLUSIONS

This chapter has examined existing research to yield insights into the processes and outcomes in DEIS and non-DEIS schools. Variation in the social composition of schools must be placed in the context not only of patterns of residential segregation but of school choice and enrolment. This process results in the concentration of social disadvantage in some schools but urban DEIS schools are also faced with a greater complexity of need, containing disproportionate numbers of students with emotional-behavioural and learning difficulties as well as a higher proportion of non-English speaking students and those from Traveller backgrounds. DEIS and non-DEIS schools vary in a number of ways which are likely to impact on student outcomes. DEIS schools are more likely to use rigid forms of ability grouping, which are associated with disengagement among those assigned to lower stream classes, disengagement which contributes to early school leaving and underperformance in State exams among those who remain in education. In addition, DEIS schools are found to have more challenging disciplinary climates and a greater level of negative interaction between students and teachers, all factors found to be associated with school retention and the likelihood of continuing on to post-school education or training. In the following chapter, we highlight some of the lessons to be learned from this research, identifying potential levers to further enhancement of practice in DEIS schools.

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<sup>13</sup> ESRI research is currently underway examining the kinds of activities provided across School Completion Programme clusters as well as analysing the approaches taken to targeting, governance and assessing outcomes.

# Chapter 5

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## Conclusions and Implications for Policy

### 5.1 FINDINGS FROM THE DEIS EVALUATIONS

This report has drawn on existing research on the DEIS programme to document the impact of the programme on student outcomes and to highlight the implications of those findings for the further development of policy in relation to educational disadvantage.

The approach in DEIS is to target schools serving disadvantaged populations rather than targeting deprived areas as is the practice in the educational priority areas approach adopted in some European countries and in the DCYA's Area Based Approach Childhood (ABC) Programme. While many disadvantaged schools are located within deprived communities, complex patterns of school choice mean that there is not necessarily a neat mapping between school and area profile in the Irish context. This would suggest the value of continuing to target schools for additional resources.

Schools were identified for participation in the DEIS programme on the basis of principal reports of student composition in relation to a range of criteria. Findings from the large-scale *Growing Up in Ireland* study indicate that DEIS schools do indeed differ markedly from non-DEIS schools in terms of different dimensions of family socio-economic background, including social class, parental education, household income and family structure. DEIS urban Band 1 schools are found to have a high concentration of disadvantage. Furthermore, urban Band 1 schools are catering for more complex needs among their student population, with a greater concentration of students with special educational needs, Traveller students and non-English speaking students in these school settings.

There is now a large body of evaluation research on the DEIS programme and prior interventions targeting disadvantaged schools, especially in relation to the primary school sector. Research has pointed to a change in approach within both primary and post-primary DEIS schools, with a significant improvement in planning for teaching and learning and in



setting targets for achievement. In contrast to evaluations of earlier interventions to address educational disadvantage in Ireland, and research results on area-based interventions elsewhere in Europe, findings have indicated a significant increase over time in literacy test scores among students in DEIS primary schools. There have also been increases in numeracy test scores, though these trends are less clear-cut than is the case for literacy scores. The evaluations point to between-school differences in the rate of improvement among DEIS schools, with greater variation between schools found in relation to numeracy test scores. However, these evaluations did not include a control group, which means that it is impossible to compare 'like with like' in looking at student outcomes. Consequently it was not possible to assess whether similar changes had taken place in non-DEIS schools. The findings in the National Assessment 2014 (NA 2014) provide a way of comparing DEIS and non-DEIS schools, albeit drawing on smaller numbers of students than the dedicated DEIS evaluations. The NA 2014 points to an increase in literacy and numeracy scores among *all* primary schools such that the achievement gap between urban DEIS and non-DEIS schools has remained largely stable over time. It is worth noting that this gap has remained stable in the context of a decline in the material conditions of the families of students attending DEIS schools. The evaluation results do, however, point to the persistence of a large proportion of very low achievers (at or below level 1) in reading and mathematics in urban Band 1 DEIS schools. For example, 52 per cent of DEIS Band 1 students in second class performed at or below level 1 in mathematics in 2013 (Shiel et al., 2015).

There has been less focus on evaluating academic achievement within the second-level sector. A recent report (Weir et al., 2014) indicates a slight but significant narrowing of the gap in average Junior Certificate grades between DEIS and non-DEIS schools over the period 2003 to 2011. The achievement gap was also found to narrow for Junior Certificate English grades but not for Mathematics. It would also be important to analyse the extent to which Leaving Certificate performance has changed over time in DEIS schools, given the crucial role played by Leaving Certificate grades in accessing post-school education and employment.

In relation to other student outcomes, the gap in levels of non-attendance between urban Band 1 primary schools and non-DEIS urban schools has narrowed somewhat over the period following the introduction of DEIS (2007/8 to 2011/12). However, no consistent trends

are found in attendance levels for rural DEIS schools and rates in urban Band 2 schools have only started to improve in the most recent time-point. In contrast, at post-primary levels, attendance rates in DEIS schools rose between 2006/7 and 2008/9 before falling slightly. There has been a significant increase in retention to Junior Certificate and Leaving Certificate level in DEIS schools, at a rate which has grown faster than the national average. However, a significant gap in the prevalence of early school leaving remains between DEIS and non-DEIS schools, with a difference of over 10 per cent in senior cycle retention rates for the cohort who entered post-primary education in 2008.

The DEIS programme has involved the provision of additional funding and multi-faceted supports to schools serving disadvantaged populations. The nature of the programme means that it is not possible to disentangle which particular elements of the programme work best; rather any changes in student outcomes in DEIS schools reflect the comprehensive package of supports put in place. The fact that both DEIS and non-DEIS primary schools have improved literacy and numeracy test scores in recent years after a period of stability in test scores over time would point to the role of the literacy and numeracy strategy, and potentially school planning, in enhancing achievement in these domains. Greater effects of DEIS are found for younger cohorts of students, indicating that exposure to interventions over a sustained period of time is likely to yield greater dividends. Larger effects are also found for lower-achieving students, most likely due to the targeting of literacy and numeracy initiatives (such as Reading Recovery) on this group of children. Schools that were involved in pre-DEIS schemes for disadvantaged schools have somewhat better outcomes than other DEIS schools. This is consistent with the large body of international research that indicates that organisational change in general, and school improvement in particular, takes a certain amount of time to be reflected in better outcomes for children.

## 5.2 DATA GAPS

Although there is a large body of research on DEIS, there remain some gaps in what is known about how the programme works and its effects on different groups of students. Section 5.1 referred to the lack of a control group, which means that it is impossible to compare 'like with like' in looking at student outcomes. The NA 2014 and administrative records on Junior Certificate results provide a quasi-control group in allowing the analysis of changes over time across the two settings.

However, these can only compare average outcomes rather than allowing us to determine the differences in outcomes between DEIS and non-DEIS schools for specific groups of students, especially those from very disadvantaged backgrounds. The gap in achievement between disadvantaged and non-disadvantaged schools reflects two components:

- (a) the gap in achievement between individual students of different social backgrounds (whether measured in terms of social class, parental education and/or household income), and
- (b) the ‘multiplier effect’, that is, the additional effect of the concentration of disadvantage in a school on achievement.

At present, the lack of data on individual student background means that we are unable to disentangle these two components, as we cannot compare students from disadvantaged backgrounds who attend DEIS schools with students from disadvantaged backgrounds who attend more socially mixed schools.

This issue has important implications for policy as it matters for the kinds of goals we set for the DEIS programme. In the UK context, Thrupp (1999), among others, has argued that it is not realistic to expect schools with a high concentration of disadvantaged students to perform at the same level academically as schools with a more advantaged intake, since social gaps in achievement reflect the broader societal processes influencing educational inequality. This raises a question as to the overall aim of the DEIS programme. DEIS aims could be framed in two ways. Firstly, the goal may be to reduce or eliminate the *overall gap* in achievement between DEIS and non-DEIS schools. This would be an extremely ambitious agenda as it would mean reducing overall differences in educational outcomes between social class groups within and between schools. Thus, if Leaving Certificate results vary by social class background, average student performance will be higher in middle-class schools than in working-class schools, even if the concentration of students of different backgrounds makes no difference. In this case, narrowing the gap between schools would mean reducing inequalities by individual background. Alternatively, the goal may be to reduce the *negative effect of the concentration of disadvantaged students*; in other words, the aim may be to reduce the gap in achievement between working-class students in DEIS schools and working-class students in non-DEIS schools. The DEIS programme was explicitly motivated by the existence of a ‘multiplier effect’ in schools with a high concentration of disadvantage. Thus, this would seem to be a fairer test of the success of

DEIS but the lack of social background data on students in DEIS and non-DEIS schools means that it is difficult, if not impossible, to measure the achievement gap specifically for disadvantaged students.

The *Growing Up in Ireland* survey data provide a way of tapping into this issue because of the wealth of information on children's social background, including social class, parental education, household income and family structure. Analyses of the data on nine-year-olds (see McCoy et al., 2014b) thus provide an estimate of the size of the 'multiplier effect' on reading and mathematics achievement and future waves of the survey should facilitate a similar assessment in relation to Junior and Leaving Certificate achievement as well as post-school outcomes. There is also potential for the collection of social background information, at least among students in the senior classes of primary school or at post-primary level. An innovative approach to collecting social background information directly from primary school students was developed by German researchers (Bos et al., 2012) and adapted for use in the Irish context. This approach, which has been used in a study of Irish primary schools (McMahon et al., forthcoming), allows for the assessment of the average social mix of the school, controlling for individual social background. Such information could be collected as part of the national assessment, at least for sixth class students. With the roll-out of the primary pupil database, the piloting of a survey for a small number of schools could be used to test the feasibility of incorporating information on social background into the database.

There are other gaps in what is known about how the DEIS programme operates. Existing research has pointed to significant variation among DEIS schools in whether there has been an improvement in reading, and, especially, mathematics test scores. Detailed case-studies of schools with different levels of achievement should help to explain the differential patterns found for reading and mathematics achievement and provide useful insights into the factors which influence between-school variation in outcomes. In particular, there is a lack of systematic information currently on the kinds of teaching and learning practices used in DEIS and non-DEIS classrooms across different class and year groups. Research to date has focused largely on performance in reading and mathematics. While these are very important domains which facilitate engagement with the broader curriculum, Irish research has pointed to significant trade-offs within the primary classroom in the time allocated to different subject areas (McCoy et al., 2012b). Furthermore, US research has shown

the way in which domains of knowledge subject to regular assessment can ‘squeeze out’ time spent on other curricular areas (see, for example, Au, 2007). It is important therefore that engagement and achievement across the curriculum be systematically assessed. Finally, it is important to know how the DEIS programme interacts with other policies and practices at the national and school level.

### 5.3 IMPLICATIONS FOR POLICY

Findings from the existing evaluations of, and research on, the DEIS programme have implications for the targeting of programme resources and also identify a number of potential levers which may further enhance outcomes in disadvantaged schools.

The rationale for the DEIS programme (and preceding schemes) has been the existence of a ‘multiplier effect’, whereby students in a school with a high concentration of disadvantaged peers have lower achievement levels than those in schools with a more socially advantaged intake, all else being equal. There is robust evidence of such an effect in disadvantaged post-primary schools and in urban DEIS schools, especially in urban Band 1 schools. Students who start their education in urban Band 1 schools are also more likely to remain in DEIS schools at post-primary level (with almost 60 per cent doing so compared with a third of those in Band 2 and rural DEIS schools). This suggests that these young people are more exposed to the cumulative effects of being taught in a disadvantaged context (Smyth, 2015, forthcoming). In contrast, in rural settings, parental educational and cultural resources appear to offset the effects of low income and there is no such ‘multiplier effect’ consistently evident. Therefore, the findings point to differences among DEIS schools in the concentration of disadvantage and its effect on student outcomes, and highlight the need to continue to target more resources at urban Band 1 schools.

There has been little discussion of whether the scale of additional DEIS funding is sufficient to bridge the gap in resources between disadvantaged and non-disadvantaged settings. DEIS schools receive an additional grant based on enrolment and the concentration of disadvantage in the school. However, DEIS schools are less likely to ask parents for a voluntary contribution and, where they do so, receive smaller amounts of money and from a lower proportion of the group, which will have implications for the total amount of available funding

(Darmody and Smyth, 2013). In addition, the gap in economic, cultural and social resources among the families of students in DEIS and non-DEIS remains substantial (see Chapter 4). Further research and policy debate is therefore merited on the appropriate scale of funding, especially for urban Band 1 schools which face a high concentration of disadvantage.

The issue of levels of funding is also relevant in the context of the complexity of need in DEIS schools. Research highlights a greater concentration of students with special educational needs, especially emotional-behavioural difficulties, Traveller students and non-English-speaking students in urban DEIS schools, especially urban Band 1 school (see Chapter Four). This concentration reflects not only patterns of residential segregation but also school choice on the part of parents and admissions policies on the part of schools. Forthcoming legislation on school admissions policy will lead to more transparent entry criteria and the removal of the 'first come, first served' principle as well as preferential access for the children of past pupils. While this may lead to some changes in school profile, it is unlikely to lead to very dramatic changes in a context where middle-class parents continue to exercise more active choices. The funding mechanism should therefore recognise not only the concentration of socio-economic disadvantage but the complexity of need, particularly in urban Band 1 DEIS schools.

A further issue relates to the relatively sharp distinction between DEIS and non-DEIS schools, especially at post-primary level. This means that schools with relatively high levels of disadvantage may fall below the cut-off for additional support. In addition, the profile of students in a school may have changed since DEIS eligibility was determined. Research also indicates that a significant proportion of disadvantaged students attend non-DEIS schools (Smyth and McCoy, 2009; McMahan et al., forthcoming). In this context, there would appear to be a case for a degree of tapering of funding for schools rather than a sharp withdrawal below the specified cut-off.

The evaluation findings indicate a continued gap in retention and achievement between DEIS and non-DEIS schools. International and Irish research identifies a number of potential levers for further enhancing student outcomes, especially in disadvantaged settings. Rigid ability grouping in the form of streaming is more common in disadvantaged second-level schools than in non-disadvantaged settings. Allocation to the lower stream results in a higher probability of early school leaving

and lower achievement at Junior and Leaving Certificate level (Smyth et al., 2007; Byrne and Smyth, 2010). A move towards more flexible forms of ability grouping will therefore enhance average student achievement and play a part in reducing the social inequality in educational outcomes resulting from the disaffection found among working-class boys in lower stream classes. Junior cycle reform should facilitate this process as there will be a common level in all subjects except for English, Irish and Mathematics. It is important, however, that as many students as possible are facilitated in taking higher level within these subjects through encouraging high expectations for all students and postponing for as long as possible the time at which students are expected to select exam levels. At Leaving Certificate level, there are significant differences between DEIS and non-DEIS schools in access to, and take-up of, higher level subjects so high expectations for students also play a crucial role within senior cycle. There are challenges, however, in catering for the heterogeneous needs of students within a class. Continued investment in continuous professional development for teachers to support effective differentiation, in addition to professional development support for changes in assessment practices, is therefore likely to significantly enhance student achievement.

While there is not a large body of systematic research on teaching and learning at primary and post-primary level, existing evidence points to the persistence of teacher-centred approaches (see, for example, McCoy et al., 2014b). Even at primary level, where the curriculum emphasises the use of more active methods, the use of such approaches is less prevalent with boys and students in disadvantaged settings (see evidence presented in Chapter 4). At post-primary level, the exam-focused nature of teaching and learning contrasts with the active approaches which students themselves value, leading to disengagement among some groups, especially working-class boys (Smyth et al., 2007). Current reform of the primary and junior cycle curriculum represents an opportunity to broaden the repertoire of teaching methods used in Irish schools and engage students more directly in learning. Such reform is likely to have particular benefits for the students who currently disengage from learning but requires ongoing professional development support for teachers in enhancing their practice. Targeted professional development support for junior cycle reform started to roll out to teachers in 2013. The support services continue to provide professional development support to teachers of existing Junior Certificate subjects and the Junior Certificate School Programme.

There is robust evidence too that the nature of the school climate, that is, day-to-day interactions between teachers and students, significantly influences a range of student outcomes, including early school leaving, academic achievement, academic self-image, stress levels, and intended and actual post-school pathways (Smyth, 1999; McCoy et al., 2014c). Furthermore, students see care and respect on the part of teachers as key to effective teaching and learning in the classroom. However, research highlights the emergence of a negative cycle of 'being given out to' and 'acting up' in some schools, particularly for working-class boys (Smyth et al., 2007). The school behaviour policy is thus an important lever for school climate; punitive measures may actually fuel a cycle of misbehaviour and disengagement while international research points to the value of positive behaviour policies in bringing about a climate of respect. Research suggests that teachers in DEIS schools are more likely to over-identify emotional-behavioural difficulties and DEIS schools are more likely to use punitive measures such as suspensions (Banks et al., 2012). It is vital that the creation of a positive climate be seen as a central component of school development planning. Again, ongoing investment in continuous professional development for principals and teachers is likely to facilitate change. The Teaching Council *Guidelines on School Placement* (2013) highlight the importance of student teachers obtaining experience in a variety of school settings, reflecting the socio-economic and cultural mix of society. This is likely to improve the understanding of educational disadvantage among newly qualified teachers, especially if underpinned by course content which seeks to engage with the origins and impact of disadvantage. Initial teacher education should also continue to emphasise the importance of fostering a positive school and classroom climate as many new teachers may not realise the impact they actually have on their students.

Young people from disadvantaged backgrounds are more likely to rely on formal school-based guidance because of the absence of 'insider' knowledge about the educational system among their parents and siblings (McCoy et al., 2014c). Even prior to the removal of the ex quota provision for guidance, resource constraints meant that guidance provision was focused on senior cycle, especially sixth year CAO application completion. However, research indicates that aspirations to higher education are formed as early as junior cycle. Research indicates that both whole-school and specialist guidance play an important role in informing young people's post-school choices (McCoy et al., 2014c). It is important therefore that disadvantaged students are provided with both whole-school and specialist guidance which will help them see higher



education as a feasible option and inform their educational choices accordingly.

Socio-economic differences in educational outcomes cannot be viewed in isolation from the broader social context. The recession has had a significant impact on the families of children and young people who attend DEIS schools in the form of unemployment and reduced living standards. The interconnectedness of different domains of children's lives points to the importance of integrated services which span the domains of educational and social policy, an approach which is reflected in the *Better Outcomes, Brighter Futures* framework.

In conclusion, evaluations of the DEIS programme point to improvements in attendance levels in urban Band 1 schools, and retention rates and overall Junior Certificate grades in post-primary schools. Literacy and numeracy levels have improved in DEIS primary schools, although the gap in achievement between DEIS and non-DEIS schools has not narrowed over time. Planning for learning is seen to have improved in DEIS schools and indeed the DEIS planning template has informed the development of self-evaluation processes across all schools. However, findings point to continuing challenges in the area of numeracy in particular, indicating the need for a renewed focus on this domain in future provision for disadvantaged schools. Existing research also points to a number of potential levers for further enhancing practice in DEIS schools, including a move away from rigid forms of ability grouping, improving the quality of teacher-student interaction and fostering high expectations for all students.

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The Economic & Social Research Institute  
Whitaker Square  
Sir John Rogerson's Quay  
Dublin 2, Ireland  
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