Addressing disadvantage:
What have we learned from the evaluation of DEIS in urban primary schools?

Susan Weir and Darina Errity

May 15th 2014
Marino Institute of Education
Research Seminar hosted by the Department of Education and Skills
and the Educational Research Centre
Attempts to deal with disadvantage in Ireland are longstanding. For example:

- Books and meals for needy pupils – early 20th century
- Rutland Street Project (1969)
- Disadvantaged Areas Scheme (DAS) (1980s)
- HSCL Scheme (1990s)
- Early Start (1994)
- Breaking the Cycle (1996)
- Giving Children an Even Break (2001)
- DEIS (2005)
Relationship between achievement & medical card possession at post-primary level

[Scatter plot showing the relationship between average performance on JCE 2002 and 2003 on the y-axis and medical card % average for 2002, 2003 and 2004 on the x-axis.]
Average achievement of 5th class pupils in the 2004 National Assessment and schools’ DEIS points (N=150)
Average achievement of 5th class pupils in the 2004 National Assessment and schools’ DEIS points ($N=150$)
The DEIS programme

DEIS is the most recent initiative aimed at addressing disadvantage at primary and second level.

- **Primary level:** Survey in 2005 by ERC used to rank order primary schools by level of disadvantage
  - 340 schools identified for the SSP (urban) (Bands 1 and 2)
  - 334 schools identified for the SSP (rural)

- **Second level:** Analysis in 2005 of centrally held data on socioeconomic and educational data
  - 200 post-primary schools identified for the SSP

The issue of identification
DEIS primary (urban)

DEIS combines previous supports with new elements. Among other things, the SSP under DEIS provides:

- Reduced class size (Band 1 urban only)
- Additional funding
- Access to planning supports
- Access to literacy/numeracy programmes & professional support in their implementation
- HSCL Scheme
- School Completion Programme
- School Meals
- Free book grant
<table>
<thead>
<tr>
<th>Evaluation design</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2007 baseline measures</td>
</tr>
<tr>
<td>- Reading</td>
</tr>
<tr>
<td>- Maths</td>
</tr>
<tr>
<td>- Attendance</td>
</tr>
<tr>
<td>- Parent involvement etc.</td>
</tr>
<tr>
<td>May 2010 &amp; 2013 outcome (repeat baseline measures)</td>
</tr>
<tr>
<td>- Reading</td>
</tr>
<tr>
<td>- Maths</td>
</tr>
<tr>
<td>- Attendance</td>
</tr>
<tr>
<td>- Parent involvement etc.</td>
</tr>
</tbody>
</table>
### Implementation at the level of the school and the system

<table>
<thead>
<tr>
<th>May 2007 baseline measures</th>
<th>SSP put in place</th>
<th>May 2010 &amp; 2013 outcome (repeat baseline measures)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Reading</td>
<td>Which aspects of DEIS were implemented? (Were targets set as part of school development, planning? Were class sizes reduced? Were literacy &amp; numeracy programmes introduced?)</td>
<td>-Reading</td>
</tr>
<tr>
<td>-Maths</td>
<td></td>
<td>-Maths</td>
</tr>
<tr>
<td>-Attendance</td>
<td></td>
<td>-Attendance</td>
</tr>
<tr>
<td>-Parent involvement etc.</td>
<td></td>
<td>-Parent involvement etc.</td>
</tr>
</tbody>
</table>

#### Other relevant developments

Change in socioeconomic profile of incoming pupils; amalgamations
Recent DEIS evaluation findings

- High levels of engagement with the programme among staff
- Focus on planning and target setting
- High levels of implementation of various aspects of the programme (e.g., class size reductions, adoption of literacy programmes)
- Improved pupil outcomes
Reading Standard Scores

- 2nd class
- 3rd class
- 6th class
- norm

Baseline | Follow-up 1 | Follow-up 2
--- | --- | ---
2007 | 2010 | 2013
Low Achievers in Reading
Percentages of pupils scoring at or below the 10\textsuperscript{th} percentile at each grade level in 2007, 2010 & 2013

<table>
<thead>
<tr>
<th>Grade level</th>
<th>2007</th>
<th>2010</th>
<th>2013</th>
<th>Norm group average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2\textsuperscript{nd} class</td>
<td>22.0%</td>
<td>15.9%</td>
<td>11.0%</td>
<td>10%</td>
</tr>
<tr>
<td>3\textsuperscript{rd} class</td>
<td>26.4%</td>
<td>23.0%</td>
<td>16.8%</td>
<td>10%</td>
</tr>
<tr>
<td>6\textsuperscript{th} class</td>
<td>28.0%</td>
<td>25.6%</td>
<td>20.2%</td>
<td>10%</td>
</tr>
</tbody>
</table>
What do the pupil outcome data tell us?

- Unmistakable positive change in achievement at individual and school level
- Change at all grade levels (2\textsuperscript{nd}, 3\textsuperscript{rd}, 6\textsuperscript{th}) in both reading and maths, but particularly striking at 2\textsuperscript{nd} class level
- Change most noticeable among lowest-scoring pupils
- Significant upward change observed in longitudinal as well as cross-sectional comparisons
What can pupil outcome data *not* tell us?

- That changes in achievement levels are due to participation in the programme (e.g., they may have been part of an overall national improvement, or the result of increased exposure to standardised tests, or a feature of a changing school population)
- Why some schools improved their outcomes and others did not
- If the programme is responsible, the identity of particular aspects of it that led to improved outcomes
However…. 

- No evidence of overall improvements nationally
- Improvements in DEIS have occurred in a context of high implementation levels (e.g., class size targets have mostly been met, literacy and numeracy programmes have been introduced)
- Evidence that schools have embraced various aspects of the programme (especially planning)
- Other changes consistent with effects of programme (e.g., significantly improved pupil attendance)
- Measures under DEIS exceed what was available under previous schemes and better reflect what has been identified as important in addressing disadvantage
‘Desirable’ features of programmes at primary level
‘Desirable’ features of programmes at primary level

- Preschool provision
- Small classes
- Curriculum innovation
- Parental involvement
- Community links
- Integrated services
- School planning
- Professional development
- Raised expectations
‘Desirable’ features of programmes at primary level

- Preschool provision
- Small classes
- Curriculum innovation
- Parental involvement
- Community links
- Integrated services
- School planning
- Professional devt
- Raised expectations
‘Desirable’ features of programmes at primary level

- Preschool provision
- Small classes
- Curriculum innovation
- Parental involvement
- Community links
- Integrated services
- School planning
- Professional devt
- Raised expectations
### 3rd class pupils’ educational aspirations and expectations

<table>
<thead>
<tr>
<th>Aspirations</th>
<th>Finish primary school (%)</th>
<th>Junior Cert (%)</th>
<th>Leaving Cert (%)</th>
<th>College/University (%)</th>
<th>Don’t know (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007 (n=4,013)</td>
<td>9.2</td>
<td>4.7</td>
<td>16.5</td>
<td>51.4</td>
<td>18.2</td>
</tr>
<tr>
<td>2010 (n=4,288)</td>
<td>8.3</td>
<td>3.3</td>
<td>12.8</td>
<td>58.4</td>
<td>17.1</td>
</tr>
<tr>
<td>2013 (n=4,283)</td>
<td>8.1</td>
<td>3.1</td>
<td>11.1</td>
<td>62.6</td>
<td>15.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expectations</th>
<th>Finish primary school (%)</th>
<th>Junior Cert (%)</th>
<th>Leaving Cert (%)</th>
<th>College/University (%)</th>
<th>Don’t know (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007 (n=4,013)</td>
<td>1.1</td>
<td>5.1</td>
<td>27.4</td>
<td>47.5</td>
<td>19.0</td>
</tr>
<tr>
<td>2010 (n=4,288)</td>
<td>1.0</td>
<td>2.8</td>
<td>24.7</td>
<td>50.8</td>
<td>20.5</td>
</tr>
<tr>
<td>2013 (n=4,283)</td>
<td>0.6</td>
<td>2.7</td>
<td>22.3</td>
<td>52.5</td>
<td>22.0</td>
</tr>
</tbody>
</table>
Pupils in 3rd & 6th class indicating how much they like school

<table>
<thead>
<tr>
<th>3rd</th>
<th>Like a lot (%)</th>
<th>Like (%)</th>
<th>Dislike (%)</th>
<th>Dislike a lot (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007 (n=4,032)</td>
<td>29.1</td>
<td>40.4</td>
<td>10.5</td>
<td>20.0</td>
</tr>
<tr>
<td>2010 (n=4,300)</td>
<td>27.8</td>
<td>41.1</td>
<td>11.6</td>
<td>19.5</td>
</tr>
<tr>
<td>2013 (n=4,305)</td>
<td>33.2</td>
<td>42.0</td>
<td>11.0</td>
<td>13.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6th</th>
<th>Like a lot (%)</th>
<th>Like (%)</th>
<th>Dislike (%)</th>
<th>Dislike a lot (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007 (n=3,905)</td>
<td>9.5</td>
<td>53.7</td>
<td>21.7</td>
<td>15.1</td>
</tr>
<tr>
<td>2010 (n=4,132)</td>
<td>10.6</td>
<td>55.2</td>
<td>20.7</td>
<td>13.6</td>
</tr>
<tr>
<td>2013 (n=4,171)</td>
<td>11.6</td>
<td>58.2</td>
<td>19.7</td>
<td>10.5</td>
</tr>
</tbody>
</table>
Correlations between reading and maths test scores and pupil questionnaire items – 3rd class (2013)

<table>
<thead>
<tr>
<th></th>
<th>Liking School</th>
<th>Educational Aspirations</th>
<th>Educational Expectations</th>
<th>Liking Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>.06</td>
<td>.24**</td>
<td>.23**</td>
<td>.19**</td>
</tr>
<tr>
<td>Maths</td>
<td>.07</td>
<td>.19**</td>
<td>.19**</td>
<td>.09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Liking Maths</th>
<th>Time spent doing homework</th>
<th>Reading books for fun</th>
<th>Time spent on computer games</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>.02</td>
<td>-.19**</td>
<td>.12**</td>
<td>-.15**</td>
</tr>
<tr>
<td>Maths</td>
<td>.15**</td>
<td>-.21**</td>
<td>.07</td>
<td>-.15**</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.001 level (2-tailed)**
## Attitudes to school and schoolwork by gender - 3rd class (2013)

<table>
<thead>
<tr>
<th>Item</th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liking school</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Educational aspirations</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Educational expectations</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Proud of school work</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Liking reading</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Liking maths</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Maths (self-evaluation)</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>English reading (self-evaluation)</td>
<td></td>
<td>No difference</td>
</tr>
</tbody>
</table>
## Extracurricular activities by gender – 3rd class (2013)

<table>
<thead>
<tr>
<th>Item</th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrow books</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Read books for fun</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Read web pages</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Time spent watching TV</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Time spent playing computer games</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Playing sport</td>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>
Future evaluation plans

• The evaluation is continuing to monitor programme implementation and attempting to identify factors impacting on pupil outcomes

• Publication of further reports (e.g., report on the organisation of Learning support and classroom traffic in DEIS schools)

• Return on DEIS investment more likely in the long term

• It is intended to continue to collect data on pupil achievement
Feedback from School Principals
January-March 2014

Darina Errity

May 15th 2014
Marino Institute of Education
Research Seminar hosted by the
Department of Education and Skills
and the Educational Research Centre
Format & Response Rates

Jan-Feb 2014: Questionnaire circulated to principals of all urban schools in the SSP
  • 65% ($n=219$) returned

Mar 2014: Series of nationwide seminars held
  • Athlone, Cork, Dublin (x4), Limerick, Sligo, Wexford
  • 49% ($n=163$) attended
Rationale

Recent Bulletin Report
- focused heavily on achievement outcomes
- included only a sample \((n=120)\) of schools
- did not discuss factors behind changes

1. Has progress been made in other domains?
2. Have similar changes occurred in schools outside the sample?
3. Can changes be attributed to the SSP?
4. If so, to which particular factors can the changes be attributed?
Patterns of Pupil Achievement: Overall

Q: How would you describe the patterns of achievement in your school over the past 6 years in comparison to the patterns observed in the sample?

<table>
<thead>
<tr>
<th></th>
<th>Larger Gains (%)</th>
<th>Similar Gains (%)</th>
<th>Smaller Gains (%)</th>
<th>No Changes or Declines (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading</strong></td>
<td>23.2</td>
<td>60.9</td>
<td>15.0</td>
<td>0.9</td>
</tr>
<tr>
<td><em>(n=207)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maths</strong></td>
<td>23.8</td>
<td>62.4</td>
<td>12.9</td>
<td>0.9</td>
</tr>
<tr>
<td><em>(n=202)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Perceived Determinants of Gains: Most Important

Q: If there have been gains in achievement outcomes in your school, to what do you attribute these gains?

1. Introduction of specialized literacy and numeracy programmes
2. Clear target setting & progress monitoring
3. Reduced class sizes
Increased Emphasis on Literacy & Numeracy

- Increased emphasis on literacy and numeracy in a broad sense in most schools
  - ICT
  - School Libraries
  - Individual levelled readers
  - Reading with parents
  - Sharing of book reviews
  - Readathons
  - Support Materials for Maths
Reduced Class Sizes

- Questionnaire responses may under-estimate importance attributed to smaller classes
  - Band 1/Band 2 differences
  - Reduced pupil-teacher ratio facilitates successful implementation of literacy & numeracy initiatives
    - “Could be regarded as number one”
Interdependency of Different Factors

- Quality & quantity of Learning Support
- Improved pupil attitudes
- Continuous Professional Development
- Improved attendance

**Combination** is what works

- “All very connected”
- “Inextricably linked”
- “Provision of focused resources”
Home Support

Pleasant school environment provided by SSP can combat negative attitudes of some parents towards the education system.

But...

- Resources provide an excuse for some to ‘abdicating responsibility’.
- Greater focus on improving parenting skills & tackling mental health issues needed.
What can pupil outcome data not tell us?

- That changes in achievement levels are due to participation in the programme (e.g., they may have been part of an overall national improvement, or the result of increased exposure to standardised tests, or a feature of a changing school population)

- Majority of factors identified by school principals as being important determinants of gains are components of the SSP
Perceived Determinants of Gains: Least Important

Q. Please indicate what you believe to be the least important determinant of the gains observed

1. Overall National Improvement
2. Increased Exposure to Standardized Tests
3. Newcomer Pupils
Newcomer Pupils

- High Achievers
- ‘Competition’
- Restricted by language difficulties
- Insufficient E.A.L support

- “They are not a homogenous group”
Patterns of Pupil Achievement: Low- v. High-Scorers

Q: Amongst which pupils are gains most evident?

<table>
<thead>
<tr>
<th></th>
<th>Low Achievers (%)</th>
<th>Middle Achievers (%)</th>
<th>High Achievers (%)</th>
<th>Equal across multiple groups (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading (n=211)</td>
<td>51.2</td>
<td>33.2</td>
<td>2.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Maths (n=209)</td>
<td>39.7</td>
<td>32.5</td>
<td>11.0</td>
<td>16.7</td>
</tr>
</tbody>
</table>
Patterns of Pupil Achievement: Low- v. High- Scorers

- High-Scorers not necessarily suffering

- Concern for 10\textsuperscript{th}-30\textsuperscript{th} percentile

- “Potential for huge improvements”
  \textbf{but:} GAM + removal of RTTS

- In-class support theoretically favourable, but withdrawal often necessary
Patterns of Pupil Achievement: Junior v. Senior Classes

Q: Were changes in achievement in your school particularly evident in the junior classes?

<table>
<thead>
<tr>
<th></th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading ($n = 143$)</td>
<td>88.2</td>
<td>11.8</td>
</tr>
<tr>
<td>Maths ($n = 143$)</td>
<td>81.1</td>
<td>18.9</td>
</tr>
</tbody>
</table>
## Patterns of Achievement: Junior v. Senior Classes

<table>
<thead>
<tr>
<th>Junior Classes</th>
<th>Senior Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ‘Enormous emphasis’ on literacy &amp; numeracy</td>
<td>• Some pupils surpass parents’ literacy levels</td>
</tr>
<tr>
<td>• Greater degree of learning support</td>
<td>• Some don’t develop “higher-order” skills</td>
</tr>
<tr>
<td>• Greater parental involvement</td>
<td>• Some struggle with junior-senior transition</td>
</tr>
<tr>
<td>• Smaller class sizes</td>
<td>• 6th class disengaged?</td>
</tr>
</tbody>
</table>
### Beyond Achievement Gains

Q: How would you describe patterns in relation to attendance, attitudes towards school, behaviour during class, educational aspirations & engagement with school over the last 6 years?

<table>
<thead>
<tr>
<th></th>
<th>Improved (%)</th>
<th>No Change (%)</th>
<th>Disimproved (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance (n = 212)</td>
<td>89.6</td>
<td>8.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Attitudes (n = 214)</td>
<td>91.1</td>
<td>8.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Behaviour (n = 214)</td>
<td>78.0</td>
<td>18.2</td>
<td>3.7</td>
</tr>
<tr>
<td>Aspirations (n = 211)</td>
<td>74.9</td>
<td>23.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Engagement (n = 212)</td>
<td>90.6</td>
<td>8.5</td>
<td>0.9</td>
</tr>
</tbody>
</table>
Beyond Achievement Gains

• Enjoyment/Engagement:
  “Goals are now set at the level of the child – there is always a sense of achievement”

• Behaviour:
  “Severe emotional difficulties”
  “No. of children being medicated... is alarming”
  “Programmes simply cannot be delivered if the child is not connected”

Aspirations:
“Third level education not on the radar”
in some communities
Beyond Achievement Gains

Q. Do you think the gains observed in your school have been made **at the expense of anything else**?

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other subjects (n=215)</td>
<td>37.6</td>
<td>62.4</td>
</tr>
<tr>
<td>EBD Support (n=215)</td>
<td>9.9</td>
<td>90.1</td>
</tr>
<tr>
<td>Enjoyment of School (n=215)</td>
<td>0.9</td>
<td>99.1</td>
</tr>
<tr>
<td>Extra-curricular activities (n=215)</td>
<td>3.3</td>
<td>96.7</td>
</tr>
<tr>
<td>Other (n=215)</td>
<td>3.8</td>
<td>96.2</td>
</tr>
</tbody>
</table>
Potential for Continued Improvement

Q. Do you believe that DEIS, as presently constituted, has the capacity to produce **further gains** in achievement outcomes?

<table>
<thead>
<tr>
<th></th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading  (n = 206)</td>
<td>79.1</td>
<td>20.9</td>
</tr>
<tr>
<td>Maths    (n = 205)</td>
<td>79.5</td>
<td>20.5</td>
</tr>
</tbody>
</table>
Potential for Continued Improvement

“Only if supports are left in place”

“Dependent on resources”

“We’re running as fast as we can just to stand still”

“Schools can only do so much”

“Staff are overworked… running on empty”

“I think we’re very close to a plateau here”
Summary

• Similar results in schools outside sample

• Perceived determinants of change:
  ▫ are related to the SSP
  ▫ seem to be interdependent

• Improvements seen in diverse areas

• Progress to date highly valued
  “These data are a positive beacon of light”

• Optimism for the future, but considerable concern re: diminishing resources evident
Educational disadvantage in rural areas

Susan Weir

May 15th 2014
Marino Institute of Education
Research Seminar hosted by the Department of Education and Skills and the Educational Research Centre
Rural disadvantage

• Almost 2,000 of the 3,145 (65%) of schools nationwide are in rural areas

• Following a review of the DAS, rural schools began to be catered for by programmes (only 2.5% of rural schools had been in the DAS)

• Breaking the Cycle rural was the first scheme to address rural disadvantage, followed by GCEB, and most recently DEIS
Achievement levels in rural schools

• Even though schools were largely identified for inclusion on the basis of poverty, sizeable differences in the achievements of urban and rural pupils have been found in several studies.

• For example, test data from BTC showed that rural pupil achievement is better on average than urban.

• Test data were also collected for the DEIS evaluation in rural schools.
Reading and Maths averages of pupils in 3rd class in rural ($N=256$) and urban DEIS schools ($N=120$)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2010</th>
<th>Norm group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural reading</td>
<td>96.3</td>
<td>97.7</td>
<td>100</td>
</tr>
<tr>
<td>Rural maths</td>
<td>98.0</td>
<td>99.4</td>
<td>100</td>
</tr>
<tr>
<td>Urban reading</td>
<td>90.7</td>
<td>91.6</td>
<td>100</td>
</tr>
<tr>
<td>Urban maths</td>
<td>91.1</td>
<td>92.6</td>
<td>100</td>
</tr>
</tbody>
</table>
What might explain these achievement differences?

Several hypotheses:

• Small school size acts as an antidote to the effects of poverty
• Poverty is less concentrated in rural schools
• Rural pupils are less susceptible to the effects of poverty than are their urban counterparts
• Certain factors mitigate the effects of poverty (e.g., home and community)
A comparison of average achievement in rural schools of different sizes in 2007 ($N=266$)

<table>
<thead>
<tr>
<th></th>
<th>‘Small’ ($\leq 63$)</th>
<th>‘Medium’ (64-113)</th>
<th>‘Large’ (114+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>96.6</td>
<td>96.8</td>
<td>96.6</td>
</tr>
<tr>
<td>Maths</td>
<td>98.8</td>
<td>96.6</td>
<td>98.8</td>
</tr>
</tbody>
</table>

($r = .02$)
Is poverty less concentrated in rural than in urban schools?

<table>
<thead>
<tr>
<th>Identification variable</th>
<th>Rural %</th>
<th>Urban %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed breadwinner</td>
<td>39%</td>
<td>51%</td>
</tr>
<tr>
<td>Local authority housing</td>
<td>25%</td>
<td>69%</td>
</tr>
<tr>
<td>Lone-parent family</td>
<td>17%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Conclusion: Yes
Reading and maths average achievement in 111 schools matched by level of poverty

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>97.7</td>
<td>90.8</td>
</tr>
<tr>
<td>Maths</td>
<td>99.2</td>
<td>91.1</td>
</tr>
</tbody>
</table>

Differential achievement of pupils in urban and rural settings is not simply a reflection of lower levels of poverty.
Relationship between reading achievement and medical card possession in rural and urban schools

<table>
<thead>
<tr>
<th>% medical cards</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.50</td>
<td></td>
<td>-.14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medical card</th>
<th>No Medical card</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Reading</td>
<td>88.0</td>
</tr>
</tbody>
</table>

Conclusion: Rural pupils appear to be less susceptible to the effects of poverty.
Are there differences between urban and rural pupils from poor households in their attitudes, behaviours, and home backgrounds?

Several sources of evaluation data that were used to investigate this:

- Pupil questionnaire
- Pupil Rating Form (completed on behalf of each pupil tested by his / her class teacher)
- Parent questionnaire
Comparison of the scholastic attitudes of urban and rural pupils from poor households

<table>
<thead>
<tr>
<th>Item</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liking school</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Educational aspirations</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Educational expectations</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Proud of school work</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Liking reading</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Liking maths</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Feel they are doing well at school</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Reading ability (self-evaluation)</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Maths ability (self-evaluation)</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>
Comparison of the engagement in types of out-of-school activities of urban and rural pupils from poor households

<table>
<thead>
<tr>
<th>Item</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrow books from library</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Read books for fun</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Read web pages</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Time spent watching TV</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Time spent playing computer games</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Time spent hanging out with friends</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Member of online community</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Member of sports club</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Member of youth club</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>
# Home and other characteristics of urban and rural pupils from poor households

<table>
<thead>
<tr>
<th>Item</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home support, attendance, behaviour in class (all teacher rated)</td>
<td></td>
<td>+ (all)</td>
</tr>
<tr>
<td>Parents’ educational level</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Parental reading frequency</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Frequency of reading to preschool child</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Number of books in the home</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Child’s use of atlas / dictionary</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Parents’ estimate of child’s reading ability</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Parents’ estimate of child’s maths ability</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>Family use of public library</td>
<td>No difference</td>
<td></td>
</tr>
<tr>
<td>% parents unemployed</td>
<td>No difference</td>
<td></td>
</tr>
</tbody>
</table>
Commonalities in the relationship between background variables and achievement by location

<table>
<thead>
<tr>
<th>Variables</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of books in the home</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Frequency of reading to child as a preschooler</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Teacher’s rating of level of home support</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Teacher’s rating of child’s behaviour in school</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pupil’s own educational aspirations</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Parent’s educational level</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Use of educational resources in the home (atlas, dictionary, computer)</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
### Relative importance of factors predicting achievement among urban and rural pupils from poor households

<table>
<thead>
<tr>
<th>Factors</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Educational resources / practices in the home (books, dictionary, frequency of reading to child)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Students’ attitudes towards school (academic aspirations, teachers’ ratings of behaviour, pupils’ enjoyment of school)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. Participation in extracurricular and out-of-school activities (membership of online community, youth clubs, guides / scouts)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Variance explained</td>
<td>22.3%</td>
<td>35.2%</td>
</tr>
</tbody>
</table>
Conclusion

The relationship between pupil achievement and home background is quantitatively and qualitatively different in urban and rural settings

- The contextual data available explain more of the variance in achievement among pupils in rural areas
- Rural pupils have greater access to educational resources at home and those resources have a greater impact on their achievements than is the case for urban pupils
- Rural pupil achievement may be protected by parents’ engagement with, and emphasis on, education (issue of location also)

- Pupil factors are more important in urban areas, in particular pupils’ engagement in large amounts of unstructured free time activities (e.g., hanging out with friends and screen time)
- Possible operation of a ‘social context effect’ in urban but not in rural schools
Further work

- Data here represent very preliminary findings in the special study of rural disadvantage and further work in the area of home background and home processes is indicated.

- The potential impact of wider community influences on educational outcomes in rural areas remains to be investigated.
What have we learned from the evaluation of DEIS in post-primary schools?

Peter Archer and Laura McAvinue

May 15th 2014
Marino Institute of Education
Research Seminar hosted by the Department of Education and Skills
and the Educational Research Centre
Elements of DEIS Post-Primary

- Improved staffing schedule
- Additional financial support
- Access to *Home School Community Liaison services*
- Access to *Schools Meals Programme*
- Access to a range of supports under *School Completion Programme*
- Access to Junior Certificate Schools Programme (JCSP)
Elements of DEIS Post-Primary (Contd)

- Some JCSP schools have a library
- Access to Leaving Certificate Applied Programme (LCA)
- Access to planning supports
- Access to a range of professional development supports
- Additional funding under School Books Grant Scheme

(Source: DES Website, 2013)
Evaluation

Focus: Examining implementation and outcomes

Activities

- What Students Think (Survey of 1st and 3rd Years)
- School visits
- School Questionnaires
- Analysis of centrally held data (e.g., exams, retention rates)
This Presentation

- Two aspects of implementation (1 national and 1 local)
- The opinions and experiences of Principals and Researchers
- Trends in centrally held data (Laura)
Uptake of Programmes

• Shortly after the introduction of DEIS, the number of schools with JSCP libraries went from 10 to 30.

• Our data indicate that the policy of opening JCSP libraries in schools with highest concentrations of disadvantage has been reasonably successfully implemented.

• LCA participation has also been affected by the introduction of DEIS but to a much smaller extent than JCSP.
Uptake of Programmes (Contd.)

- Before DEIS, the number of schools with students taking JCSP hovered around 130 for about 4 years.
- Since 2006/07, the number has risen steadily to between 200 and 210.
- All but one of the 70 (approx.) extra JSCP schools are in DEIS.
Planning

• By school year 2012/13, almost 90% of participating schools had completed a DEIS plan (a majority doing so between 2008 and 2010).

• All plans contained specific targets across a range of areas with a focus on literacy, numeracy, retention and attendance.

• All but 2 or 3 school principals reported progress in relation to stated targets.

• Principals are overwhelmingly positive about the planning process while acknowledging drawbacks and obstacles.

• Inclusive (whole-school) approach to planning is favoured.
What Principals Think about DEIS

- Universal positivity about all elements at DEIS
- Despite deteriorating socioeconomic context, Principals report improved
  - Retention
  - Exam performance
  - Literacy and numeracy
  - Attendance
  - Transfer to 3rd level
- Negative feedback mainly reflects concerns about resourcing
Impressions of those of us who visited schools

• We felt that we got ‘a feel’ for the overall atmosphere in about two-thirds of schools

• In most of the other third, contact was almost entirely with Principal

• Positives seen in almost all schools including
  • Enthusiastic engagement with planning
  • Team work
  • Flexibility in use of resources
  • Strong pastoral care
Impressions of those of us who visited schools (Contd.)

- Many DEIS schools are entitled to be regarded as ‘trail blazers’ in terms of planning and self evaluation

- Challenges faced very evident
  - Scale of marginalization
  - Resistance to change among a very small minority of staff
  - Impact of enrolment policies and practices
Trends over Time: 
Achievement & Retention Levels

Dr Laura McAvinue

May 15th 2014
Marino Institute of Education
Research Seminar hosted by the Department of Education and Skills and the Educational Research Centre
Trends over Time

• Academic Achievement
  • Junior Certificate Overall Performance Score
  • Junior Certificate English
  • Junior Certificate Maths

• Retention Levels
  • Retention to Junior Certificate
  • Retention to Leaving Certificate
Trends over Time

• Schools
  • 704 schools

• 200 ‘SSP’ schools
  • Enlisted into SSP in 2006 / 2007

• 504 ‘Non-SSP’ schools
  • Did not participate in SSP
Trends over Time

• *For each variable*…

  • Evidence of a significant trend over time?

  • Evidence of differing trends for SSP & Non-SSP schools?

  • Evidence that the introduction of DEIS in 2006 / 2007 had an impact on trends over time?
Linear Mixed Model

- Longitudinal data
  - Repeated measurements of the same unit of analysis over time
- Serial dependency
  - Repeated observations taken from the same unit tend to be correlated with each other
- Statistical analysis must take account of this serial dependency
Linear Mixed Model

- Can take account of the serial dependency
  - Regression of variable upon Time
  - Between-subjects model
    - Estimates group trend over time
  - Within-subjects model
    - Estimates individual trends over time
Linear Mixed Model

- Our analysis…
  - Estimate average rate of change over time
  - SSP-status
    - Different trends for SSP & Non-SSP schools?
  - Time varying covariate
    - Did the introduction of the SSP in 2006 / 2007 have an impact on the time series?
## Academic Achievement

<table>
<thead>
<tr>
<th>Higher</th>
<th>Ordinary</th>
<th>Foundation</th>
<th>OPS score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>D</td>
<td>A</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>E</td>
<td>B</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>F</td>
<td>C</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>D</td>
<td>A</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>E</td>
<td>B</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>F</td>
<td>C</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>D</td>
<td>3</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td>E</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>F</td>
<td>1</td>
</tr>
</tbody>
</table>

### Overall Performance Score

(Kellaghan & Dwan, 1995)

Number is assigned to each letter grade
OPS score for best 7 subjects summed to give OPS
Mean JC OPS from 2002 to 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean OPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>55.00</td>
</tr>
<tr>
<td>2003</td>
<td>57.00</td>
</tr>
<tr>
<td>2005</td>
<td>59.00</td>
</tr>
<tr>
<td>2006</td>
<td>61.00</td>
</tr>
<tr>
<td>2007</td>
<td>63.00</td>
</tr>
<tr>
<td>2008</td>
<td>65.00</td>
</tr>
<tr>
<td>2009</td>
<td>67.00</td>
</tr>
<tr>
<td>2010</td>
<td>69.00</td>
</tr>
<tr>
<td>2011</td>
<td>71.00</td>
</tr>
</tbody>
</table>

- Gap
  - SSP v Non-SSP
- Increasing trend
  - All schools
- Both observations supported by LMM
  - 2002 - 10 points
  - 2011 - 9 points
  - Trend of .24 points
Mean JC OPS from 2002 to 2011

- Significantly Different Trends
  - SSP: .32 points
  - Non-SSP: .21

- Impact of DEIS?
  - 2008 on
  - Significant increase in trend
    - .57 points

- No such impact for Non-SSP schools
Mean JC English Scores from 2002 to 2011

- Significant Gap
  - SSP v Non-SSP
  - 1 ½ OPS points
  - 2011
  - SSP: Ord B
  - Non-SSP: Ord A +

- Significant trend
  - All schools
  - .02 points per year
  - No evidence for differing trends
Mean JC English Scores from 2002 to 2011

- Significant Impact of DEIS resources
- SSP schools
- Trend of significantly greater magnitude during the years 2008 to 2011 (.063 points)
- Non-SSP schools
- No evidence of different trend during these years
Mean JC Maths Scores from 2002 to 2011

- Significant Gap
  - SSP v Non-SSP
  - 1 ½ OPS points
  - 2011
  - SSP: Ord C
  - Non-SSP: Ord B-A

- Significant trend
  - All schools
  - .045 points per year
  - No evidence for differing trend

- No evidence of impact of DEIS resources
Average Percentage Retention to JC

Significant Gap
• SSP v Non-SSP
• 2007 cohort
• 4% gap
• Non-SSP
  • High throughout

Trend?
• Not for Non-SSP
• 1995: 96.8%
• 2007: 97.3%

Cohort refers to Year of Entry
1995 cohort entered second level in 1995 & left 5 / 6 years later
Average Percentage Retention to JC

Trend?
- SSP
  - Significant linear trend
  - Average of .37 points per year
- But!
  - Linear trend not appropriate
  - LMM supported presence of shifting slopes
Average Percentage Retention to JC

DEIS resources?
- 2004 cohort on
  - Positive trend
  - Difficult to interpret
- Non-SSP schools
  - Evidence of similar changes in trend
  - Lower magnitude
Average Percentage Retention to LC

- Significant Gap
  - SSP v Non-SSP
  - 2007 cohort
  - 13% gap
  - SSP: 79%
  - Non-SSP: 92%

- Significant trend
  - All schools
  - .97 points per year

Cohort refers to Year of Entry
Average Percentage Retention to LC

**Significant trend**
- Greater for SSP
- 1.56 points per year
- Non-SSP
- .73 points per year

**DEIS resources**
- 2004 cohorts on
- SSP schools
- Significant increase in trend

Also significant for Non-SSP
- Due to DEIS?

*Cohort refers to Year of Entry*
Summary

• Evidence of a significant trend over time?
  • Yes
  • SSP & Non-SSP on all variables
    • Exception of JC Retention for Non-SSP

• Evidence of differing trends for SSP & Non-SSP schools?
  • Yes
  • SSP schools trends of greater magnitude
    • Junior Certificate OPS
    • Retention to JC & LC
Summary

• Evidence that the introduction of DEIS in 2006 / 2007 had an impact on trends over time?
  • *Were these years associated with change in trend?*
  • Yes

• Achievement
  • JC OPS & English scores

• Retention
  • JC & LC
  • Difficult to interpret