

# Report on the Renfrewshire Literacy Approach

August 2015 – July 2017



**Sue Ellis, Jess Anderson & Adele Rowe**  
**University of Strathclyde**

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>4</b>
<b>INTRODUCTION AND BACKGROUND .....</b>	<b>7</b>
<b>School Education in Renfrewshire .....</b>	<b>7</b>
School Expenditure.....	8
Pupil Attainment.....	8
Poverty in Renfrewshire.....	9
<b>Research on Professional Learning and Effective Literacy Teaching.....</b>	<b>9</b>
Conceptualizing and Designing Curriculum Change .....	10
Professional Learning, Leadership and Co-production.....	10
Literacy Curriculum Content.....	12
<i>Figure 1: Strathclyde Three-Domain Model for Literacy Teaching and Assessment.....</i>	<i>15</i>
<b>AIMS, STRUCTURE AND CONTENT OF THE LITERACY INTERVENTIONS.....</b>	<b>16</b>
Overview: Primary School Intervention .....	17
Participation: Primary School Intervention.....	19
Overview: Secondary School Intervention.....	20
Implementation Timelines .....	21
Implementation Cost.....	24
<b>Data Collection .....</b>	<b>24</b>
<b>DATA ANALYSIS AND RESULTS .....</b>	<b>27</b>
<b>Secondary School Intervention.....</b>	<b>27</b>
<b>Primary School Intervention.....</b>	<b>28</b>
Standardised Test Data .....	28
<b>Standardised Tests: <i>New Group Reading Test (NGRT)</i> and <i>Primary Test in English (PTE)</i>.....</b>	<b>29</b>
<b>Results: Average Attainment.....</b>	<b>29</b>
<b>NGRT results: Changes in Attainment .....</b>	<b>29</b>
<b>Differences between NGRT Average Standardised Age Score by Stage.....</b>	<b>30</b>
<b>Differences in NGRT Stanine Groups by Stage .....</b>	<b>30</b>
<b>Progress Test in English (PTE) Results for P4 and P7: Changes in Attainment .....</b>	<b>32</b>
<b>Results by Gender.....</b>	<b>33</b>
<b>NGRT: Attainment Results by Gender.....</b>	<b>33</b>
<b>Differences in NGRT Stanine Groups by Gender .....</b>	<b>33</b>
<b>Progress Test English (PTE): Attainment Results by Gender .....</b>	<b>34</b>
<b>Differences in PTE Stanine group by Gender (P4) .....</b>	<b>34</b>
<b>Results: Economic Disadvantage and Attainment .....</b>	<b>35</b>
<b>NGRT Results by Scottish Index of Multiple Deprivation (SIMD) Quintiles .....</b>	<b>36</b>
<b>The Pattern of Movement: Differences in NGRT Stanine Groups by SIMD quintile .....</b>	<b>36</b>
<b>Primary Test in English: Results by SIMD Quintile .....</b>	<b>38</b>
<b>The Pattern of Movement: Differences in PTE Stanine Groups by SIMD Quintile.....</b>	<b>39</b>
<b>NGRT: Results by Clothing Grant Eligibility .....</b>	<b>41</b>
<b>The Pattern of Movement: Differences in NGRT Stanine Groups by Clothing Grant Eligibility.....</b>	<b>41</b>
<b>Progress Test in English: Results by Free School Meal Entitlement.....</b>	<b>43</b>

<b>The Pattern of Movement: Differences in PTE Stanine Group by Free School Meal Entitlement</b> .....	44
<b>The Evidence for Narrowing the Gap</b> .....	46
<b>Results: Changes in Teaching</b> .....	47
Changes in Teacher Knowledge .....	48
Changes in Teaching Practices and the Challenges Teachers Faced.....	49
<b>Making Change Happen: Drivers and Enablers</b> .....	54
A Knowledge-Driven Intervention.....	54
Understanding the Problem .....	55
Co-producing Solutions.....	55
Developing a Theory of Change .....	56
Using Data to Understand and Inform Change .....	56
<b>CONCLUSIONS AND RECOMMENDATIONS</b> .....	57
<b>Appendix 1: Professional Attendance</b> .....	60
<b>Appendix 2: Primary Reader Response and Coaching Networks</b> .....	62
<b>Appendix 3: Theory of Change</b> .....	63
<b>Appendix 4: Analysis of Comparative Attainment Data for 5 schools in the <i>Renfrewshire Literacy Approach</i>, June 2016.</b> .....	66
Comparative Book Level Data for 'Proof of Concept' and Tracking .....	66
P3/2 Book Level Data in Coaching and Non-Coaching Classes.....	66
PIPs Data for P1 Cohorts: Three Schools.....	67
<i>School C: Comparative PIPs data for two P1 cohorts (P1A &amp; P1B)</i> .....	68
Comprehension Data P5 & P6: School E.....	69

## EXECUTIVE SUMMARY

This report describes the first two years of the *Renfrewshire Literacy Approach*, designed to both raise general literacy attainment and to narrow the attainment gap between economically advantaged and disadvantaged children in Renfrewshire. The intervention was the result of a partnership between Renfrewshire Council and Strathclyde University. It was prompted by the recommendations of the *Renfrewshire Tackling Poverty Commission* and was funded jointly by Renfrewshire Council and the Scottish Government.

**Scope:** The intervention took place in both primary and secondary schools. The primary school intervention was allocated the largest part of the funding. It involved rebalancing the teaching focus of the curriculum, introducing new pedagogies and more responsive use of resources. The changes were effected through a process of co-production between school professionals and university academics. In the primary sector, co-production involved academics working directly with the Head Teachers and teachers in all 49 primary schools.

The secondary school intervention was smaller and more traditional in design. It was facilitated through existing Renfrewshire Council support networks and provided professional development directly to 63 teachers working in 10 subject areas. It focused on teaching the subject-specific literacy demands of particular disciplines. Neither intervention required a particular teaching programme or resource. Instead school staff identified and introduced those changes most likely to be sustainable and offer the best payoff in their own context.

**Research background:** Two areas of research informed the analysis and subsequent interventions: literacy research knowledge and tools helped professionals identify and implement those changes most likely to raise attainment, and professional-development research informed the overall strategy for delivering effective change at scale.

**Impact on attainment:** One aim of the *Renfrewshire Literacy Approach* was to improve general literacy attainment. We collected standardised test data (New Group Reading Test, NGRT) for a sample of approximately 3,800 primary pupils at the beginning and end of the academic year in which the approach was rolled out to all children. This shows a statistically significant rise in average standardised age scores, significant at the 99% confidence level ( $p$  value  $< 0.01$ ). This rise is statistically significant at every stage of primary schooling from P3 to P7, and for both girls and boys. Results from another standardised test (Progress Test in English, PTE) conducted with approximately 3,500 pupils, allowed us to compare the attainment of children at the end of P4 and P7 who received the intervention with the previous P4 and P7 cohorts who did not. These data show a statistically significant improvement in the average literacy attainment among the cohort who received the intervention. Results from two different analyses therefore indicate that the *Renfrewshire Literacy Approach* is raising average literacy attainment.

Low literacy presents a barrier to wider academic achievement and further analysis of the NGRT scores indicates *which* readers are being most helped. This shows a decrease in the percentage of children with 'low' and 'below average' scores, indicating that the *Renfrewshire Literacy Approach* is impacting on those with lower literacy levels. Literacy is a gateway to the rest of the curriculum and this pattern is to be welcomed because improving the literacy of 'struggling' readers will better equip them to deal with the wider literacy demands of schooling.

**Narrowing the gap:** A second aim of the *Renfrewshire Literacy Approach* was to narrow the literacy attainment gap between children from economically advantaged and disadvantaged homes. Evidence requires analysis of attainment data (standardised age scores) against a variety of poverty measures. Analysis of the NGRT data using an area-based definition of disadvantage (Scottish Index of Multiple Deprivation, SIMD) suggests that the average increase in attainment scores is broadly consistent across the differing levels of deprivation, with children making over and above the progress we would expect within a school year. Differences between standardised age scores at the beginning and end of the school year were significant at the 99% confidence level for all SIMD quintiles ( $p$  value < 0.01) and were broadly similar in size. However, analysis of *who* has made *which* gains shows that a greater percentage of children from deprived areas moved from the 'low' and 'below average' groups. Improving the scores of children in these groups is likely to improve their access to the wider curriculum.

Analysis comparing the NGRT scores of children from families in receipt of a school clothing grant (indicating low household income) and those not in receipt of clothing grant shows a slightly larger average rise in attainment among children from low-income families. In addition, further analysis of the PTE shows that rises in scores are significant only for children living in deprived and less affluent areas (SIMD quintiles 1 to 3). These findings suggest that the intervention may have had a greater impact on children from poorer backgrounds and therefore in narrowing the literacy attainment gap.

These results are only for the first year of implementation. As benefits are likely to accrue as children move through their schooling, the full impact of the *Renfrewshire Literacy Approach* will be evident only after several years.

**Impact on teaching:** Evidence of changes to teaching practices in the primary schools was collected through questionnaires, surveys and interviews. These data show improvements in teacher knowledge of literacy, increased understanding of how poverty impacts on literacy attainment and of how to intervene to promote equity. There is now greater emphasis on fostering reading engagement and comprehension, use of instructional text levels, responsive coaching and increasing time on task.

Renfrewshire schools, teachers and children have recently won a number of awards and accolades for their work on literacy from national and UK-wide organisations.

Evaluation of the secondary school intervention was based on qualitative rather than quantitative data. It showed that the intervention has been positively received and that the strategies have been adopted and adapted for different year-groups and subject disciplines. Teachers reported changes to their traditional pedagogies, increased involvement of lower-literacy children in lessons, and increased use of high-level literacy behaviours and texts.

**Design features** that have contributed to the effectiveness of the *Renfrewshire Literacy Approach* are:

- Strong commitment and leadership at every level of Renfrewshire Council, including the Chief Executive and elected members.
- A partnership between Renfrewshire Council staff and the University of Strathclyde academics that involved co-production, and harnessed leadership and expertise from both contexts.
- A University of Strathclyde tool for thinking about literacy and learning (the *3-Domain model*), which helped school staff notice a broader range of evidence, recognise the importance of

local context, identify how practices gain traction with particular pupils, and encouraged them to value the overall 'learning mix' above atomistic programmes.

- An explicit 'theory of change' that detailed the aims and the stages of change, and articulated how specific actions would gain traction to prompt particular outcomes for particular groups.
- A strong focus on professional knowledge, on developing a common vision, and on using high-quality texts in classrooms. Deep expertise was developed by employing a range of professional inquiry approaches and by making good use of data (qualitative and quantitative) to understand how teachers were adopting and adapting the approaches.

**Future prospects:** With careful stewardship, improvements should continue over the next six years as children progress through the system and accrue year-on-year benefits. Careful stewardship is likely to involve:

- Continued active, visible, and thoughtful interest and support from senior Renfrewshire Council officers and elected members.
- Continued focus on developing professional knowledge about literacy teaching at all levels: Central Office staff, Head Teachers, school-based Literacy Champions and teachers. Head Teachers should, for example, regularly share challenges, solutions, and progress during Head Teacher meetings. Literacy Champions should continue to be supported in developing their professional learning and literacy leadership with regular meetings and support at school and council level.
- Good use of a wide range of literacy data, resisting any pressure to narrow the focus of the literacy curriculum, reduce the level of challenge or become overly dependent on commercial programmes and resources.
- Careful induction of new senior staff within Children's Services, new Head Teachers and new teachers, (including all newly qualified teachers). This induction needs to support new staff in building the professional knowledge and pedagogical skills that are required for the responsive teaching that characterises the *Renfrewshire Literacy Approach*.
- Continued efforts to ensure that both school staff and central Renfrewshire Council staff are connected to wider literacy networks of researchers and professionals within Scotland, the UK and internationally.

The good start made by the *Renfrewshire Literacy Approach* is being further developed and supported by the Scottish Government. The partnership between University of Strathclyde and Renfrewshire Council is continuing with three further strands designed to complement and extend existing achievements. These are:

- ***Dive into Writing:*** professional and curriculum development that uses the *Strathclyde Three Domain* model (a central plank of the reading intervention) as a tool to help teachers design a writing curriculum that focuses on developing children as writers.
- ***Data-Based Assessment and Pathways to Impact:*** research that investigates the heuristics that teachers and Head Teachers use to notice and navigate data, the links to professional knowledge and the implications for data-use to question school and classroom routines, assumptions and systems.
- ***Classroom Assistant Project:*** research on the kinds of knowledge classroom assistants have about children, how this is accessed and utilised in schools, how it can be enhanced, and the systemic changes that can help to ensure best utilisation of classroom assistants.

## INTRODUCTION AND BACKGROUND

This report explains the focus, implementation process and outcomes of a two-year partnership between Renfrewshire Council and the University of Strathclyde designed to raise attainment in reading and narrow the poverty-related attainment gap. The outcomes are evidenced in two areas:

- Literacy attainment.
- Staff development, curriculum and pedagogy

In April 2015, Renfrewshire Council accepted the recommendations of its independent Tackling Poverty Commission and in June of that year made significant resource available to raise reading attainment and narrow the literacy attainment gap associated with poverty. In 2016, the Scottish Government offered a sum of money to part-fund the latter part of the Renfrewshire Literacy Approach work as part of the Scottish Attainment Challenge initiative. The government are now continuing their support of further developments in this work through the Scottish Attainment Challenge.

In August 2015, the University of Strathclyde was commissioned by Renfrewshire Council to work with council officers and staff on a two-year literacy intervention and research project. The intervention concentrated on literacy because literacy is the gateway to a wide range of curricular areas and because it has the potential to improve mental wellbeing, empathy, vocabulary and general knowledge.

The University of Strathclyde designed interventions for both the primary and secondary sectors because research shows that support and intervention is needed at every stage of schooling to ensure equitable outcomes.

The interventions had a clear focus on those strategic actions likely to work to improve attainment and a strong implementation strategy that included data-use to support co-production and allow active, on-going management during implementation. Time will be required to ensure change is fully embedded in practice but also to allow the impact of a change to work through the system. In the primary sector for example, this will take at least six years because benefits accrue as a child moves through schooling. This means that with continued support and careful stewardship from Renfrewshire Council, the changes introduced as a result of this intervention should continue to deliver incremental gains in attainment.

### School Education in Renfrewshire

Renfrewshire's pupil population stands at approximately 13,000 primary school pupils and 10,000 secondary school pupils. There are 49 primary schools and 11 secondary schools. Attendance stood at 95.5 per cent primary and 92.0 per cent secondary in 2010-11, slightly higher than the average for Scotland as a whole. Child poverty, defined as children living in households with less than 60 per cent of the national median income, is estimated to be around 21 per cent across the local authority. In 2015, Renfrewshire had a significantly higher percentage of looked-after and accommodated children (20.2 per 1,000) compared with the national average (14.9 per 1,000); and a significantly lower percentage of children registered with Additional Support Needs (7.2 per cent in 2011 compared with 14.6 per cent nationally).

## School Expenditure

Spend on schooling per pupil varies widely across Scotland. In 2012/13, the average spend per pupil in Scotland was £5,468. Among the eleven urban councils, Renfrewshire had the lowest average spend per pupil at £4,782 compared to the highest spend of £5,899 in West Dunbartonshire.

Between 2010/11 and 2012/13 local councils' overall expenditure on education fell by an average of 5 per cent, in line with reductions in the Scottish Government's block grant to councils. Renfrewshire's expenditure fell by 5.8 per cent.

## Pupil Attainment

Audit Scotland's 2014 report on School Education<sup>1</sup> assessed and compared local councils' spending on education and pupil attainment across Scotland. The report relies mainly on data over a three year period from 2010/11 to 2012/13 and therefore presents a snapshot of this particular point in time. It focuses on attainment of secondary pupils at S4-S6 level because there is little comparable national information on pupil performance between P1 and S3. Some of the attainment measures to be introduced by the National Improvement Framework are designed to address this.

Renfrewshire's Pupil attainment in S4 between 2002 and 2013 was generally similar to, or slightly above, the national average<sup>2</sup>. For example, the percentage of Renfrewshire pupils attaining third level or above in Maths and English in 2012-13 (94 per cent) was the same as the Scottish average; while 41 per cent of pupils achieved 5 awards at SCQF level 5 or above compared to 39.4 per cent nationally. Over the same period, the percentage of pupils in S5 achieving 3 or 5 awards at level 6 in Renfrewshire fluctuated around the Scottish average, but increased overall for both Renfrewshire and Scotland as a whole.

In many respects, attainment in Renfrewshire appears to be average or close to average. However, Audit Scotland highlights wide and consistent differences in attainment between local councils across almost all measures in S4 to S6 that cannot be explained by differences in pupil intake<sup>3</sup>. There is a gap of 30 percentage points or more between the highest and lowest performing councils on seven of the ten attainment measures. Renfrewshire ranks as a middle-performing council, with scores close to the national average.

Audit Scotland also found that attainment differed significantly between schools within the same council area and that the extent of this gap varied across the country. In Renfrewshire the picture was somewhat complex: while the middle-performing group of schools were within approximately ten percentage points of each other with respect to the percentage of S4 pupils achieving five awards at SCQF level five in 2013, there was a gap of approximately 50 percentage points between the lowest and highest achieving schools within the authority. There was similarly wide variation in pupil outcomes at S5 and S6. This suggests that there is a core group of schools achieving average levels of attainment, alongside a group of 'outlier' schools with particularly low and high performance.

---

<sup>1</sup> [http://www.audit-scotland.gov.uk/docs/local/2014/nr\\_140619\\_school\\_education.pdf](http://www.audit-scotland.gov.uk/docs/local/2014/nr_140619_school_education.pdf)

<sup>2</sup> Source of data: <http://statistics.gov.scot/>

<sup>3</sup> The measures are: English and maths at level 3 in S4; 5 awards at level 3 in S4; 5 awards at level 5 in S4; 5 awards at level 5 in S5; 1 award at level 6 in S5; 3 awards at level 6 in S5; 1 award at level 6 in S6; 5 awards at level 6 in S6; 1 award at level 7 in S6.



The gap between high and low-achieving schools in Renfrewshire represented one of the largest variations in the performance of schools within a council area. Gaps of a similar magnitude (at least 50 percentage points) were only evident in the three largest city councils (Glasgow, Edinburgh and Aberdeen) and in Highland, Stirling and Dumfries and Galloway. The Audit Scotland report stresses that the variation in performance across schools is not fully explained by a council's size, level of deprivation, rurality or number of secondary schools. Other relevant factors cited in the report and identified in the wider literature include: the quality of teaching and school leadership; systems for monitoring and tracking pupil data; parental involvement and the home learning environment; and pupil motivation, engagement and aspirations.

Audit Scotland also found marked variation between councils in the percentage *improvement* in attainment rates over the past ten years for all of the S4-S6 attainment measures. It measured any improvement in the percentage of S4 pupils achieving five awards at level five between 2004 and 2013, and the percentage ranged from -4 per cent in Aberdeenshire (i.e. a fall in attainment) to a 15 per cent improvement in East Dunbartonshire. In Renfrewshire, the attainment rate increased by 3 per cent over the ten year period, below the Scottish average of 4 per cent.

## Poverty in Renfrewshire

Assessing poverty levels is difficult because families on the borderline move in and out of poverty and area-based measures such as the Scottish Index of Multiple Deprivation (SIMD) do not fully capture families in financial hardship, particularly those struggling in private rented accommodation. Nevertheless, analysis of the 2016 SIMD shows that most schools in Renfrewshire serve areas that contain families living in poverty but some have a much greater concentration of deprivation than others. In fact, a fine grained analysis of poverty based on data zones<sup>4</sup> (small areas covering an average of 760 people) shows that 27 per cent of Renfrewshire's 225 data-zones are within the 20 per cent most deprived areas across the whole of Scotland. The most deprived data zone in the whole of Scotland is Paisley Ferguslie (Rank 1) and the ten most deprived data zones in Renfrewshire fall into the 5 per cent most deprived areas nationally. The SIMD data therefore shows that Renfrewshire schools serve areas of extreme multiple deprivation. But this is not the whole story; 19 per cent of the data zones in Renfrewshire fall into the 20 per cent areas in Scotland that are the **least deprived**. Between these extremes, the schools serve a mix of deprived and less deprived areas.

## Research on Professional Learning and Effective Literacy Teaching

To ensure that public money is well-spent, education interventions must be research-informed. This section highlights the research that shaped the design, content and implementation of the *Renfrewshire Literacy Approach*. To make this section accessible a few indicative studies are cited, rather than the full weight of evidence.

---

<sup>4</sup> There are 225 data zones within Renfrewshire and 6,976 within Scotland as a whole:  
<http://www.gov.scot/Resource/0051/00510774.pdf>

The approach adopted in the primary school intervention in Renfrewshire took account of research into:

- How professional development and project implementation are made efficient, effective and sustainable.
- How to adapt the literacy curriculum, and the way it is operationalised, to support children's literacy learning, particularly for children living in poverty.

The approach adopted in the secondary school intervention took account of the research into:

- Effective literary teaching for secondary school subject areas, including effective pedagogies and content for children living in poverty.

### Conceptualizing and Designing Curriculum Change

Marie Clay<sup>5</sup> conceptualized curriculum reform as three 'waves'. The first reform wave is good coherent teaching for all. The second is planned intervention for pupils making insufficient progress. The third wave is very specific, possibly separate, provision for children who need it. The interventions described in this report target what Marie Clay termed 'first wave' reform: good, coherent teaching for all children.

Designing an effective intervention is not simply about choosing 'research-proven' memes. Programmes that work in randomized controlled trials lose impact in real-life situations where they must compete for prioritization and gain traction in diverse and complex situations<sup>6</sup>. Because of this, and because poverty presents a complicated challenge that is poorly addressed by narrow, single-issue, literacy programmes,<sup>7</sup> we chose not to adopt an atomistic 'treatment' approach.

Instead, the *Renfrewshire Literacy Approach* conceived intervention as operating in a complex ecosystem where various elements co-exist, interact and influence each other. The focus was not on pre-determined programmes but on understanding the needs of the children and supporting professionals to weave a 'learning mix' that is coherent and optimally effective in their own context. This approach accepts that there may be different paths to improving outcomes and that teachers serving different populations or working in different contexts may need to do different things to achieve the best results. It also accepts that the overall mix of a child's experience is as important as the quality of any single element within that mix.

### Professional Learning, Leadership and Co-production

Professional development (PD) opportunities offer an important impetus for professionals to develop their existing practice and make it more effective or efficient. It can take a variety of forms, but PD

---

<sup>5</sup> Clay, M. M. (1985). The early detection of reading difficulties.

<sup>6</sup> Datnow, A., Hubbard, L., & Mehan, H. (2002). *Extending educational reform: From one school to many*. Psychology Press.

<sup>7</sup> Ellis in Hall, K., Goswami, U., Harrison, C., Ellis, S., & Soler, J. (Eds.). (2010). *Interdisciplinary perspectives on learning to read: Culture, cognition and pedagogy*. Routledge.

impacts most effectively when it changes what teachers notice, what they do and what they think. Change of this sort, delivered through PD, can lead to wider systemic and operational impacts, long-term sustainability and greater cost efficacy. Traditional PD courses led by outside experts do not raise attainment where the focus is on superficial aspects of teaching and learning such as resources, activities, delivering schemes of work or organizing classroom groupings<sup>8</sup>. However, courses led by outside experts are effective when they prompt teachers to engage rigorously with new ideas. To do this the teachers must:

- Implement and talk about how ideas worked with specific pupils and classes.
- Discuss how ideas dovetail or conflict with existing beliefs and practices, the adaptations made, and the arrangements for monitoring how well these work.
- Re-visit ideas by reading and talking about them in their context of use.
- Reflect on the wider implications for school systems and class practices.

An alternative to traditional PD courses is teacher-to-teacher networking. This allows educators to share knowledge that is useful, close-to-practice and framed in terms of its use. Network knowledge is easily recognized, remembered and implemented<sup>9 10</sup> and professional networking is a popular PD approach in Scotland. However, it is not always clear that professional networks raise attainment. Poorly constituted, they can circulate false-truths, reinforce the status quo or divert attention from effective but challenging interventions to less effective, less challenging ones. Evidence<sup>11</sup> shows that professional networks raise attainment only when members:

- Bring a range of expertise and contexts and offer a variety of perspectives and experiences.
- Are practically engaged in using ideas rather than circulating second-hand reports of activities done by others.
- Include external experts who introduce well-founded research knowledge into the conversation.

Projects that involve co-production, where service users and providers create an intervention together, help to ensure that initiatives gain traction with user groups and can often generate both professional and policy knowledge. Co-production works when the collaboration:

- Has clearly agreed aims and outcomes.
- Takes place across a number of levels.
- Makes systematic use of data.

We were aware that a formal 'Theory of Change' would help the co-production process by allowing

---

<sup>8</sup> Coburn, C. E. (2005). Shaping teacher sensemaking: School leaders and the enactment of reading policy. *Educational policy*, 19(3), 476-509.

<sup>9</sup> Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (1994). *The new production of knowledge: The dynamics of science and research in contemporary societies*. Sage.

<sup>10</sup> Nutley, S., Walter, I., & Davies, H. T. (2003). From knowing to doing: a framework for understanding the evidence-into-practice agenda. *Evaluation*, 9(2), 125-148.

<sup>11</sup> Coburn, C. E., Russell, J. L., Kaufman, J. H. and Stein, M. K. (2012) Supporting sustainability: teachers' advice networks and ambitious instructional reform. *American Journal of Education*, 119.1, pp. 137–182.

different interest groups to negotiate a common understanding of the aims of the *Renfrewshire Literacy Approach* and of the outcomes, conditions, people and actions that would determine its success<sup>12</sup>.

Successful interventions require political, professional and organisational leadership. Both school (Head Teacher) and classroom (teacher) leadership are important<sup>13</sup>. Teacher leadership matters because it fosters professional curiosity, agency and grounded innovation, all of which lead to new understandings. Head Teacher leadership is crucial to facilitate this and to ensure that a project maintains its focus, coherence and impetus throughout the school. Head Teachers do this in formal and informal ways: for example, through their conversations with staff, through monitoring the quality of teaching, planning and assessment, through discussions of children's progress, through the allocation of resources, and through school policy and development planning. All these influence how instructional time is used in class and, importantly, how teachers think about their teaching and their pupils. How teachers see their pupils has a direct influence on how they treat them, on what they expect of them, and on what their pupils learn. Head Teachers need practical know-how and a vision of what they want a project to deliver if they are to provide good leadership.

## Literacy Curriculum Content

The biggest factor associated with how well and how quickly children learn to read in Scotland is social class, closely linked to poverty<sup>14</sup>. A successful intervention needs to acknowledge why and how social class and poverty exert influence and use this knowledge to identify 'what might work' and 'what might matter' in narrowing the attainment gap.

Views on 'what works' and 'what matters' in literacy teaching depend on the kind of evidence accepted and the kind of data collected. For example, the National Reading Panel of the USA used only randomized controlled trial data to identify 'Five Pillars of Reading'. The pillars that emerged were: phonemic awareness; phonics; fluency; vocabulary, and comprehension. In contrast, Allington<sup>15</sup> recognized evidence from large-scale surveys, cohort and field studies. This yielded 'Five Further Pillars': access to interesting texts and choice; matching pupils to appropriate texts; maximizing the reciprocal and positive effects of reading and writing; balancing whole class, small group and side-by-side teaching; and availability of expert tutoring.

A successful literacy curriculum must reconcile what these different kinds of research evidence mean in relation to the desired real-world literacy outcomes. This is no easy task. For example, teaching phonics might seem an obvious starting point to narrow the attainment gap. Yet large-scale survey

---

<sup>12</sup> Laing, K., & Todd, L. (2015). Theory-based Methodology: Using theories of change in educational development, research and evaluation. *Newcastle: Research Centre for Learning and Teaching, Newcastle University*.

<sup>13</sup> Harris, A. (2004). Distributed leadership and school improvement: leading or misleading?. *Educational Management Administration & Leadership*, 32(1), 11-24.

<sup>14</sup> <http://www.gov.scot/Topics/Statistics/Browse/School-Education/SSLN>

<sup>15</sup> Allington, R. L. (2005). Five Missing Pillars of Scientific Reading Instruction. *Literacy without Boundaries*,

data from almost 22,000 6 year-olds following 1,000 different phonics programmes<sup>16</sup> showed that focusing over-heavily on phonics in the early years closes the alphabetic knowledge gap between rich and poor but makes little impact on reading fluency, engagement or comprehension. Thus despite good alphabetic knowledge, children from poor homes were less competent in reading words continuous text (in a book, for example) and at understanding and responding to what they read. Further studies revealed that so much class time was used for teaching phonics, that there was little time left to teach these other equally important skills.

Identifying what matters is difficult in every area of reading research. Comprehension teaching is often portrayed as a list of psychological strategies and skills (see for example 'Reciprocal Reading', Palincsar and Brown<sup>17</sup>). However, comprehension is underpinned by other slower-grown skills: the capacity to attend to language so that 'words create a world'<sup>18</sup>; having a wide general knowledge<sup>19</sup>; having a wide vocabulary<sup>20</sup>; as well as the disposition and ability to respond to stories, and to discuss books<sup>21</sup>. These are acquired in no small part by activities such as listening to, telling and discussing storybooks at home. The home lives of children in poverty tend to involve fewer story experiences and less talk. Whilst homes are loving, parents in poverty may be less inclined to seek or debate children's opinions or promote reading as a relaxing, discursive activity. Schools need to provide an effective 'bridge' from these home experiences and values to help such pupils engage confidently and meaningfully in school literacy activities<sup>22</sup>.

Where schools do not get this right, the cultural mismatch can make literacy-learning an alien and unsatisfactory experience for children in poverty<sup>23</sup>. Their weaker talk-skills mean they command less talk time in class. They do not expect adults to 'dance attention on them' and this lack of entitlement means they often get less help from teachers<sup>24</sup> <sup>25</sup>. They often do not view themselves as readers, do not see reading as enjoyable and do not have a strong sense of the kind of books they like. They lack strong social networks around reading and therefore do not get peer advice about what is worth reading. All of this contributes to 'Matthew Effects' and a widening attainment gap: disadvantages that are initially quite small lead to a slower start which results in fewer opportunities to participate and less practice. As these children see others around them improving at a faster rate they enter a downward spiral, become demotivated and eventually begin to avoid reading, which means they get less practice

---

<sup>16</sup> Denton, K., & West, J. (2002). Children's reading and mathematics achievement in kindergarten and first grade.

<sup>17</sup> Palincsar, A. S., & Brown, A. L. (1985). Reciprocal teaching: Activities to promote reading with your mind. *Reading, thinking and concept development: Strategies for the classroom*. NY: The College Board.

<sup>18</sup> Wells, G. (1986). *The meaning makers: Children learning language and using language to learn*. Heinemann Educational Books Inc., 70 Court St., Portsmouth, NH 03801.

<sup>19</sup> Hirsch, E. D. (2003). Reading comprehension requires knowledge—of words and the world. *American Educator*, 27 (1), 10-13.

<sup>20</sup> Joffe, V. L. (2011). Vocabulary enrichment programme. *Milton Keynes: Speechmark*.

<sup>21</sup> Chambers, A. (1985). *Booktalk: Occasional writing on literature & children*. HarperCollins Books.

<sup>22</sup> Lareau, A. (2011). *Unequal childhoods: Class, race, and family life*. University of California Press.

<sup>23</sup> Thomson, P., & Hall, C. (2008). Opportunities missed and/or thwarted 'Funds of knowledge' meet the English National Curriculum. *The Curriculum Journal*, 19 (2), 87-103.

<sup>24</sup> Calarco, J. M. (2011). "I need help!" Social class and children's help-seeking in elementary school. *American Sociological Review*, 76(6), 862-882.

<sup>25</sup> Martlew, J., Ellis, S., Stephen, C., & Ellis, J. (2010). Teacher and child talk in active learning and whole- class contexts: some implications for children from economically less advantaged home backgrounds. *Literacy*, 44(1), 12-19.

and so the attainment gap between successful and less successful readers widens<sup>26</sup>.

To change this trajectory, teachers clearly need to do more than deliver mandated programmes or activities. In fact, Hall<sup>27</sup> reports that highly effective and less effective literacy teachers provide similar classroom activities but the highly effective teachers make the activities more purposeful and better-linked to pupils' out-of-school lives. This creates tailored literacy learning environments that prioritize literacy. They create time-on-task and instructional density by combining multiple goals in a single lesson and are adept at seizing the 'teachable moment' so that explanations and modeling are relevant. The highly effective teachers teach a range of reading cues (phonic, semantic and syntactic), coaching children to use them in the context of reading actual texts rather than through decontextualized tasks and worksheets. They 'notice' what children can and can't do, take a broad view of comprehension and are expert at getting pupils to work at a level of 'easy difficulty'. The effect of these actions is that they create a well-planned structured, responsive curriculum rather than blindly adhering to a pre-determined programme.

To help teachers navigate themselves into position as 'noticing teachers', the University of Strathclyde had previously developed a tool, known as the '*Strathclyde Three-Domain Model*' (Figure 1). It outlines three different, but interconnected, domains of professional knowledge that teachers need. These are the child's:

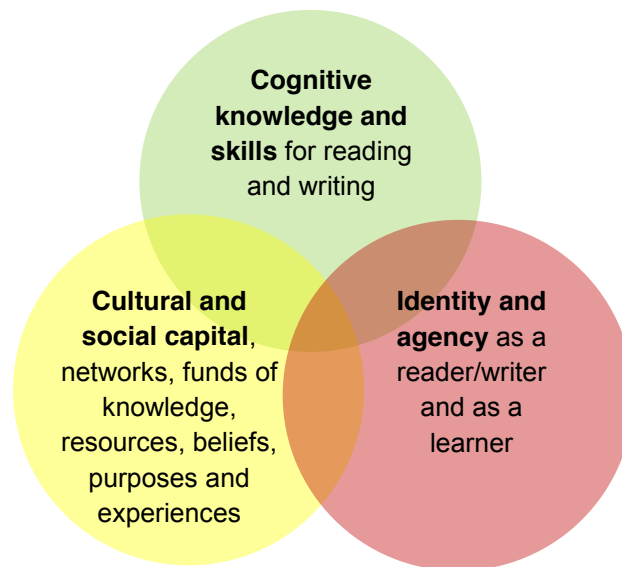
- Cognitive skills and knowledge about how to read, and how books work.
- Cultural/social capital and funds of knowledge about the world, and the purposes and practices of literacy outside school.
- Identity as a learner and a reader, including reading aspirations, preferences and networks.

---

<sup>26</sup> Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading research quarterly*, 360-407.

<sup>27</sup> Hall, K. (2013) 'Effective literacy teaching in the early years of school: a review of evidence', in J. Larson, J. Marsh (Eds.) *The Sage Handbook of Early Childhood Literacy*, 2nd ed. London: Sage Publications.

Figure 1: Strathclyde Three-Domain Model for Literacy Teaching and Assessment  
(© University of Strathclyde)



Previous research showed the *Strathclyde Three-Domain Model* had the potential to help teachers think about curriculum provision in terms of the children and to re-conceptualise literacy teaching by:

- Making data about cultural capital and identity part of the explicit evidence-base that informs teaching decisions.
- Helping professionals consider how and why activities gain traction with particular classes or children.
- Identifying and articulating how to achieve pathways to impact.
- Helping children progress in school by harnessing the learning potential of their lives outwith school and creating supportive literacy learning environments in school.

The model is deliberately lightly-specified so that professionals navigate a range of evidence-streams and use their professional judgement to determine a productive 'learning mix'. It acknowledges that some evidence-streams are harmonious, while others suggest conflicting or parallel courses of action. Professionals need to attend to all the evidence before choosing a course of action that will achieve the best payoff in the circumstances. This model provided the 'anchor' for professional learning and development in Renfrewshire's primary schools, and a tool for thinking about curriculum provision.

In terms of secondary school literacy, research indicates that pupils need to move beyond the generic literacy behaviours taught in the primary sector and engage in subject-specific literacies that are required for their new subject-specific curriculum. Disciplinary Literacy research explores how each subject specialism uses literacy in a particular way: reading in chemistry, for example, requires pupils to adopt specific reading behaviours, understand specific vocabulary, use text structures that reflect the knowledge structure of the discipline and to learn the disciplinary norms of applying knowledge, argument and evidence that are particular to chemistry as a subject. Reading in history involves

different kinds of texts and vocabulary and requires a different pattern of reading behaviours, knowledge and thinking. Teaching literacy in the secondary school is therefore less about taking general responsibility for teaching punctuation and spelling and more about preparing pupils for subject-specific reading demands. Being explicit about how pupils need to read, write and think in such subject-specific ways helps them to adopt appropriate 'literate' behaviours and provides a rubric for remembering the content knowledge. Such teaching is particularly beneficial to pupils from low-literacy backgrounds.

## **AIMS, STRUCTURE AND CONTENT OF THE LITERACY INTERVENTIONS**

The Renfrewshire Literacy Approach has two long-term aims:

- To raise general literacy attainment in Renfrewshire.
- To narrow the literacy attainment gap between pupils from economically advantaged and disadvantaged backgrounds.

To achieve these aims, the University of Strathclyde provided Renfrewshire Council staff with academic advice and leadership, professional development and interventions designed for teachers in primary and secondary schools. The work in secondary schools was supported by the University for just one year. It involved 63 secondary school teachers working in 10 disciplines. The role of the University was to provide knowledge and training, which the teachers would develop in their schools supported by the secondary-based Literacy Development Officer.

The work with primary schools took the greatest part of the resource. It was supported by the University of Strathclyde for two years and involved the Head Teachers of all 49 primary schools and their teaching staff (around 540 teachers), working with just under 13,000 pupils and supported by the local authority literacy coordinator for primary schools. This approach used the '*Strathclyde Three Domain Model*' to improve teacher knowledge and decision-making.

There was strong and visible leadership by Renfrewshire Council Officers and Elected Members. Sandra Black (Chief Executive), Peter Macleod, (Director of Children's Services), Cllr Jackie Henry, (then Chair of the Education Committee), Steven Quinn, (Chief Education Officer) and Gordon McKinlay, (Head of Schools) attended various staff development sessions to understand the *Renfrewshire Literacy Approach* and listen to staff. Laura McAllister and Amilia Hall, (Education Managers) attended sessions and Julie Paterson and Karen Anderson, (Renfrewshire Literacy Development Officers) attended all sessions, visited schools to discuss how the *Renfrewshire Literacy Approach* was progressing and worked closely with the Strathclyde team of academics to provide responsive school-based development and support. Towards the end of the first year, the Strathclyde academics and Renfrewshire Council senior education officers produced a formal 'Theory of Change' (see Appendix 3), which was discussed and further developed with Head Teachers and teachers. Towards the middle of Year 2, Renfrewshire Council Education Managers visited schools to understand how change was being implemented and the role of the Head Teacher in this.



## Overview: Primary School Intervention

The geography of poverty in Renfrewshire is that schools serving areas of high-deprivation do not account for the majority of children living in poverty. All primary schools therefore participated in two connected initiatives: the **Primary Literacy Coaching Approach** and the **Knowledge-Rich, Literacy-Rich Curriculum Approach**. Data was collected throughout the implementation of the *Renfrewshire Literacy Approach* and was systematically used to inform the implementation process. It was used to understand the depth of implementation, to monitor on-going impact and to support on-going change.

Standardised literacy test data was used to determine the impact on attainment and the extent to which the *Renfrewshire Literacy Approach* was meeting its aims.

Both primary school interventions focused on improving core teaching and learning in literacy rather than on introducing new programmes or resources. They recognised that two factors were important for a successful intervention:

- A research-informed, diagnostic approach to teaching content and pedagogy, designed to focus staff on those changes to practice that would deliver the biggest payoff for children.
- A strong and responsive implementation strategy, with frequent feed-back loops, monitoring and adjustment to ensure a grounded and coherent approach.

The *Renfrewshire Literacy Approach* introduced staff to new tools, pedagogical activities and research knowledge, all of which were designed to help them notice significant aspects of the attainment gap and know what to do about it. It focused on providing a broader context for understanding reading development, and how new pedagogies and practices might gain traction with children, but it did not attempt to introduce new programmes or resources. Rather, teachers and Head Teachers were invited to evaluate and change current provision to ensure the most productive learning mix and make best use of 'core' existing resources, routines and activities. Only once this was happening was it clear which new resources were required. New resources were therefore introduced responsively, only when the need for them was really established and it was clear how they would supplement existing provision.

The 49 schools were split into two cohorts to enable the Head Teacher and a P1-3 class teacher from every primary school to attend four Professional Development sessions. Each session had follow-up tasks and reading. The school professionals then explored this content in two contexts: in a *Literacy Clinic* context where they worked in teams to teach an individual child with literacy problems, and in a *whole-class* context where the class teachers applied the ideas to one class in each school.

Academic staff from the University of Strathclyde designed and led this part of the intervention, supported by the Renfrewshire Council Literacy Development Officer, who attended all sessions. The intended outcomes were to:

- Ensure that every school had a Head Teacher and a teacher with deep professional understanding and skills, both theoretical and practical.
- Develop a common vision for the literacy curriculum and changes required.
- Determine an evidence-base around the shifts in thinking and practice that would be required in Renfrewshire.
- Develop, from systematic analysis of the data, a range of tailored resources that would support change.

The changes that teachers were asked to make were to the content and balance of the curriculum, to teaching pedagogies, and to the traditional classroom systems for reading instruction. As a result, teachers:

- Taught reading as a problem-solving process in which readers learn how to work out (or 'read') words using multiple cues rather than pre-learning lists of 'tricky words' or relying only on phonic cues.
- Actively coached children in how to read, teaching them to be independent and adventurous, to monitor themselves as they read, and to stop and think about the deeper meaning of texts.
- Regularly used running records to ensure texts presented appropriate challenge and that the balance of instruction in class was appropriate.
- Maximized time-on-task, ensuring that class routines promoted daily instruction and practice and that home-reading tasks celebrated achievement rather than 'prepared' or 'practiced' reading for the teacher to hear it later.
- Actively noticed, and took steps to foster, social networks in school around reading for pleasure and relaxation.
- Regularly made time for all children to participate in discussions focused on the reader's emotional and intellectual response to texts, actively creating knowledge of the world and of oneself rather than simple comprehension 'skills'.
- Ensured that every child encounters books where they can use their 'outside school' knowledge to enrich the text, and that teachers are alert to the kinds of books that children want to read.

To understand the challenges and levers for change the range of data collected during this period included: Head Teacher interviews, class teacher surveys and interviews, documentary evidence from the Literacy Clinics, and observational evidence from class teaching, as well as children's progress measured by book levels and raw scores on non-standardised tests. The analysis helped to determine the focus and the support required for the wider roll-out of the *Renfrewshire Literacy Approach* to all staff.

The University of Strathclyde academics led the roll-out to all Renfrewshire primary teachers in large-group PD sessions but were supported in this by the Head Teachers and teachers who had engaged with the intervention ideas already. The intervention was then taken forward in the school by the Head Teacher, who could call on tailored resources that had been developed to support change. Indicative examples of these resources are:

- A 'Renfrewshire Checklist' showing core practices that needed to happen in all schools/ all stages. This was based on idea of 'medical checklist', which had improved outcomes for hospital surgery teams. Its content was informed by the qualitative data collected from the early stages of the *Renfrewshire Literacy Approach*
- Networks of teachers and Head Teachers who could model and explain specific aspects of pedagogical change. Schools were funded to allow teachers to visit these network teachers, observe a lesson and talk to teachers afterwards (Appendix 2).
- A 'Literacy Champion' in each school who was a class-committed teacher, able to support colleagues. The Literacy Champions met after school every month to share knowledge, strategies, successes and challenges.

- Staff development on specific topics that schools required, for example: book levelling; children's literature; struggling readers; reading engagement, and use of book corners.
- Booklists and children's books designed for specific gaps or to support particular changes in practice.
- Planning tools for whole school development.
- A DVD, illustrating core ideas and pedagogies.

The **Knowledge-Rich, Literacy-Rich Curriculum** involved a smaller number of P4-7 teachers who all worked in schools serving high levels of poverty. These teachers attended staff development sessions to think about how the intervention principles arising from the *Strathclyde Three Domain Model* could work for the P4-7 stages and scope some of the issues, challenges and benefits for pupils in poverty. The work focused on changing how literacy was addressed in two existing curricular areas: in the P4-7 novel study/comprehension/literary programme of the school and in science lessons. The University of Strathclyde provided academic advice and professional development with follow-up reading, discussion and practical tasks. The data collected from this small group of teachers informed a wider roll-out to all staff, where some of the 'scoping' teachers presented their work.

In the novel study approach (called *Dive in to Reading*), teachers studied a linguistically rich, emotionally complex and intellectually interesting novel with the class. It challenged scheme-led literacy programmes or novel studies characterised by each child having a copy of the 'class novel' and 'reading around the room'. It was taught as a lesson-series and was in addition to individual books that pupils read at their own instructional level. The *Dive in to Reading* approach included:

- The teacher reading aloud to the class.
- Individual close reading and analysis of short sections of the text.
- Group/class discussion and response activities.
- Use of a reader-response journal in which children could write about anything to do with the novel they read. This was not 'marked' by the teacher, but responded to as if it were a conversation.
- Comprehension and reader response activities designed to change how readers understood the novel.

The science intervention focused on the links between curricular knowledge, talk, reading comprehension and vocabulary. Teachers focused on how to deepen understanding of scientific concepts and increase the quantity of 'low stakes' reading, where reading is used in purposive ways to progress activities (increasing practice opportunities) rather than to make judgements about a child's proficiency as a reader.

### Participation: Primary School Intervention

All primary schools participated in the intervention. There were one-day PD courses on *Coaching Reading* and on *Language Rich, Knowledge Rich Curriculum*. These were attended by 589 and 441 participants respectively. They included Head Teachers, teachers and classroom assistants, Educational Psychologists, Inclusion and Home-Link Services team, and the Community Learning Partner team (Appendix 1). Evaluations of both courses were positive.

The Literacy Champion Teacher Network began with one teacher being nominated from each school, but several schools quickly asked to send two teachers. This made sense as in a large school it might be helpful to have one Literacy Champion for P1-3 and one for P4-7. Having two Literacy Champions meant that they could work together and support each other, and if a Literacy Champion left, there was some continuity and the knowledge that had been built-up remained in the school. The Literacy Champion meetings expanded from 49 teachers to 76 (and is continuing to expand), with high attendance rates for meetings.

## Overview: Secondary School Intervention

The secondary school intervention was *Literacy Across Subject Disciplines*. The partnership with the University of Strathclyde took place over one year and the intervention then continued under the direction and support of Renfrewshire Council and the Literacy Development Officer. Its aim was to increase attainment and narrow the literacy gap associated with poverty in the secondary sector. It sought to do this by asking secondary teachers to use literacy in a different way in their Broad General Education (BGE) classrooms by:

- Increasing the quantity of reading and the demand-level of the text for all pupils in the class.
- Teaching *through* a text (rather than use a text to confirm ideas already taught).
- Making explicit the discipline-specific requirements for reading, and the text purpose, its structure and how it relates to the knowledge-structure of the discipline.
- Adopting new inclusive, whole-class pedagogies using complex and challenging texts but teaching them in ways that enable all to understand. The pedagogy focused on highly explicit and direct teaching of the text's meaning, structure, and terminology to all pupils. Pupils were required to read the text in new ways, and to annotate and reconstruct texts, orally and in writing.

Secondary teachers were asked to try-out these new pedagogies and explore how they could be used to enable all pupils to access complex texts, with complex ideas and vocabulary. Traditionally teachers are advised to give pupils who struggle with literacy simpler, shorter texts containing fewer words, shorter sentences and simplified vocabulary. Inevitably, this leads to a simplification of the ideas. We felt that such approaches simply enshrine disadvantage. If weaker readers are never exposed to complicated texts, vocabulary or ideas it is impossible for them to develop complex understandings. It becomes impossible for them to catch-up with their peers.

The professional landscape of secondary schools is complex and it was felt that it was inappropriate for the intervention to be positioned as a 'whole school' initiative. The ideas were therefore introduced through six traditional PD sessions led by the University of Strathclyde academics. The sessions took place on a weekly basis after the school day and involved teacher volunteers. Teachers identified the reading behaviours, vocabulary, text structures and ways of applying knowledge that were specific to their own subject. They trialled new lesson structures that used reading at the start of the lesson to explain core content, and then enriched and explored these ideas through practical and written tasks. They also introduced new ways of teaching vocabulary and of using writing.

The course ran twice during the year and teachers were supported by the Renfrewshire Council Secondary School Literacy Development Officer who was also a principal teacher in a secondary

school with a class commitment. The Renfrewshire Council Literacy Coordinator presented the ideas to Principal Teachers across Renfrewshire at Renfrewshire Council Subject Forum meetings.

The teachers monitored their own impact, many using the ‘improvement science’ approaches recommended by Scotland’s Learning Directorate.

## Implementation Timelines

The implementation timelines identify when key activities and checkpoints occurred and when support resources were developed. A shortage of supply staff meant that the *Literacy Coaching Project* was delivered in two phases over the course of the first year. Phase One involved 34 Schools; Phase Two involved the remaining 15 schools.

2015		
	Primary School Intervention	Secondary School Intervention
August-Sept	A two-year intervention announced by RC. Negotiate scope of intervention with local authority and Head Teachers (NB: Supply cover required a Phase 1 (34 schools) & Phase 2 (15 schools) structure. Head Teachers select one P1-3 class teacher (CT) to take part alongside them. Literacy Co-ordinator appointed on secondment by RC.	Discussions with RC Literacy Coordinator in secondary sector; two schools identified Discussions with HT of each school. Volunteer teachers identified in a range of subject areas in the two schools.
Sept – Oct	4 x half day CPD sessions for teachers and Head Teachers in Phase 1 schools. Follow-up tasks/investigations and reading after each session. Evening sessions for teachers who want to come. Data from sessions used to: note difficulties, shifts in thinking, resources & support required.	First after-school course begins: 6 x 2-hour sessions. Data used to: note difficulties, shifts, resources, support required.
Nov-Dec	‘Literacy Clinic’: HT and CT teams, working with a struggling reader. Support through fortnightly meetings noting how the model of literacy learning was applied and the difficulties, shifts, resources and support required.  Data from sessions used to: note difficulties, shifts in thinking, resources & support required.  Draft support resources (Literacy Checklist; visit protocols; book orders)	First after-school course ends. Teachers take the ideas forward in their own schools. Volunteer teachers recruited across all Renfrewshire secondary schools.  RC coordinator gave presentations to subject specialist teacher networks in Renfrewshire.
2016		
Jan-Feb	Phase 1 schools: HT & CT - Clinic Celebration CTs: apply ideas with whole class (in-situ support from SU &/or RC Literacy Coordinator)	Second after-school course begins: 6 x 2-hour sessions.

	<p>HT/Lit Challenge T: Local roll-out in PAT times.</p> <p>SU: Design &amp; negotiate support networks (from analysis of CT and HT data):</p> <ul style="list-style-type: none"> <li>• <i>Head Teacher Management Group</i>;</li> <li>• <i>Reader Response Network</i>;</li> <li>• <i>Classroom Coaching Network</i></li> </ul> <p>SU: Trial support resources drafted earlier (Literacy Checklist; visit protocols; book orders).</p> <p>Phase 2 schools: begin intervention (4 x half day CPD sessions HT &amp; T with follow-up tasks/investigations and reading) SU: note difficulties, shifts, resources, support required</p> <p>SU: Roll-Out CPD for approx. 500 teachers from Phase 1 schools HT: Identify Literacy Champion Teachers (LCT) SU: LCT meetings each month</p> <p>24 teachers undertake M.Ed module in Children's Literature (WoS partnership funding).</p>	8 teachers undertake M.Ed module in Disciplinary Literacy (WoS partnership funding)
March	<p>Phase 2 schools begin Literacy Clinics: Literacy Clinic work for HTs and CTs with fortnightly tutorial meetings</p> <p>CT: visits to network schools and others.</p> <p>SU: Write support resources (Written advice for RC School Development Plans; letters/resources to support parental involvement).</p> <p>SU &amp; and RC Literacy Coordinator design training for <i>Reader Response &amp; Coaching Network</i>; identify books to fill particular 'gaps' in provision; ensure their effective classroom/school organisation and use).</p> <p>CTs rolling out the ideas with their classes</p> <p>SU: LCT meetings each month</p>	<p>Second after-school course ends.</p> <p>Teachers take the ideas forward in their own schools.</p>
May-July	<p>SU: Develop tools &amp; resources (e.g. checklist; levels; books) that are required to support implementation at school level</p> <p><i>Literacy Champion Network</i> established (meet monthly)</p>	Film resource developed.

	<p>In-school support from SU Research Assistant and RC Literacy Coordinator</p> <p>Theory of Change developed with RC Senior Managers</p> <p>SU/RC support resource: Film capturing practice (for sustainable staff development)</p> <p>SU: LCT meetings each month</p>	
August	<p>In-school support for change from HT and CT</p> <p>Baseline tests: NGRT (GL Assessment) in as many classrooms and stages as possible</p>	
Sept-Dec	<p>RC Quality Improvement Officers: Formal visits to all schools</p> <p>SU: LCT meetings each month</p> <p>SU: CPD for CTs from 8 schools on <i>Knowledge-Rich, Literacy-Rich Curriculum</i> – with tasks and reading.</p> <p>SU: Case studies of <i>Knowledge-Rich, Literacy-Rich Curriculum</i>.</p> <p>Large-scale CPD for 350 primary teachers and some classroom assistants on teaching reading.</p> <p>Telephone interviews with HTs</p> <p>Literacy Champion questionnaire – depth and duration of intervention.</p>	
<b>2017</b>		
Jan-April	<p>Feb CPD for 350 teachers – <i>Knowledge-Rich, Literacy-Rich Curriculum</i> (use CT from case studies).</p> <p>SU: LCT meetings each month.</p> <p>Questionnaire for CTs.</p> <p>Interviews with purposively selected HTs.</p>	
May-June	<p>Re-do NGRT standardised tests</p> <p>SU: LCT meetings each month.</p> <p>Literacy Champion network meetings (monthly).</p>	
July-Aug	<p>Data analysis and report writing.</p>	

## Implementation Cost

The resource covered the cost of both the primary and secondary aspects of the *Renfrewshire Literacy Approach*. In the primary *Renfrewshire Literacy Approach* indicative examples of the costs that were covered are: the Renfrewshire Council Literacy Development Officer to work across the 49 primary schools; supply teachers to release primary class teachers to attend PD sessions; some resources where the need was clear; the University of Strathclyde to provide expertise, staff development, practical support and an evidence-trail of the impact. This work included: research, practice and resource advice for teaching literacy, a research-driven implementation strategy; practical staff development; on-going support for implementation; strategic advice at school and local authority level; and data collection and analysis. In the secondary school *Renfrewshire Literacy Approach* it paid for the University to provide research, policy, practice and resource advice, professional development and some implementation support. The Literacy Co-ordinator of the secondary *Renfrewshire Literacy Approach* took responsibility for its roll-out and wider implementation.

## Data Collection

Data were collected and analysed for several purposes and at several time points. In the primary *Renfrewshire Literacy Approach*, systematic data collection and analysis facilitated the process of implementation in a way that did not happen in the secondary school approach because the intervention had a different focus and leadership in the secondary schools. In the secondary school intervention, qualitative data were used to evidence the adaptations teachers made and their impressions on the impact on pupils. In the primary school intervention data were used to inform the pace, direction, additional support and professional development requirements and to assess the overall impact on pupil attainment.

The data summary chart shows which data was collected, at which points.

### Data Summary Chart

<b>2015</b>		
August-Sept	Baseline book level data for class teachers' classes. Participation/attendance data for Phase 1 schools' HT and T.	Teacher participation/attendance data.
Oct-Dec	Qualitative data: Oral feedback on tasks, course inputs. Written data from Literacy Clinic team activities.	
<b>2016</b>		
Jan-Feb	HT: Semi-structured (telephone) interviews: What are the shifts in their thinking? What are the needs in their school? What are likely challenges? CT: Questionnaire data - What are the shifts in their thinking? What might be issues in applying this to a class context?	Teacher participation/ attendance information.  Teacher feedback on classroom trials (during course).
March	Semi-structured Classroom Observations: sample of 10 teachers	Improvement Science approach adopted and managed at school/class level.



	<p>working with their own classes.</p> <p>Semi-structured interview/ professional discussion: how are ideas adopted/ adapted/ parked; individual pupil reactions/needs; in-school challenges; resources.</p> <p>Course participation/completion data: 24 teachers on M.Ed module in Children's Literature.</p>	
May-June	<p>Participation data: <i>Literacy Champion Network</i> (monthly).</p> <p><i>Progress Test in English</i> (PTE) (GL Assessment): standardised literacy test at P1, P4 and P7 in all 49 schools.</p>	
August	<p>NGRT Standardised test A (GL Assessment): baseline sample from 8,394 children in P3-P7 at start of intervention year.</p>	
Sept-Dec	<p>RC Quality Improvement Officers: Formal visits to all schools – HT and T.</p> <p>SU Team: CPD for CTs from 8 schools on <i>Knowledge-Rich, Literacy-Rich Curriculum</i> – with tasks and reading SU: Case studies of <i>Knowledge-Rich, Literacy-Rich Curriculum</i>.</p> <p>Large-scale CPD for 350 primary teachers and some classroom assistants on teaching reading.</p> <p>Telephone interviews with HTs Literacy Champion questionnaire – depth and duration of intervention.</p>	
<b>2017</b>		
Jan-April	<p>Feb CPD for 350 teachers – <i>Knowledge-Rich, Literacy-Rich Curriculum</i> (use CT from case studies).</p> <p>Literacy Champion network meetings (monthly).</p> <p>Questionnaire for CTs Interviews with purposively selected HTs.</p>	
May-	<ul style="list-style-type: none"> <li>Sample of 3,632 children who had</li> </ul>	

June	<p>completed NGRT A completed B in P3 to P7 (We expect the rest to sit this in August/September 2017, after this report has been submitted).</p> <p>Literacy Champion network meetings (monthly).</p>	
July-Aug	Data analysis and report writing.	

## DATA ANALYSIS AND RESULTS

### Secondary School Intervention

The aims of the secondary school *Renfrewshire Literacy Approach* were to:

- Help high school teachers to identify the specific requirements of reading and writing in their own discipline.
- Signal clearly to pupils how they are expected to think and respond to texts in the discipline, modelling how to read and draw meaning from the text, how to talk about texts and how to construct and write a text that is discipline-appropriate.
- Ensure that all pupils in the class, whether they had literacy difficulties or not, are given opportunities to encounter the complex vocabulary, concepts, arguments and syntax that represented in complex texts.

Data was collected from secondary school teachers as feedback during the implementation. The teachers often took some time to trial the approach, but when they did, they generally found the techniques useful. Most widely adopted were the techniques for teaching vocabulary. More challenging were the ideas around using complex texts with the whole class at the start of the lesson to teach core content.

There were differences between subjects in the amount of reading and writing considered pedagogically appropriate and there were differences between schools. Some subjects traditionally involve a lot of reading (English and History, for example). Other subjects traditionally involve less (Technology, Science and Geography for example). This approach obviously presented more of a challenge to subjects that traditionally involve less reading. In some subjects, the expectations about reading and writing have changed recently as a result of the new examinations and this is increasing the need to teach reading and writing more directly (in subjects such as PE, for example). However, there may also be some differences between schools in the quantity of reading and writing expected, particularly in the 'Broad General Education' (BGE) stage. This was particularly the case in areas such as Science and indicates how easily 'micro-cultures' around reading and writing develop. The pedagogical traditions in subjects clearly meant that some subjects (for example English) encourage teachers to use reading at the start of the pedagogical cycle, and teaching involves working with the class to show them how to draw the meaning from the text. Other subjects (such as Geography) traditionally teach all the core concepts and information, only asking pupils to read at the end of the pedagogical cycle, once they know everything in the text. These differences meant that Disciplinary Literacy approaches represented a greater challenge to the pedagogical traditions in some subject areas than others.

Generally, the pedagogical techniques were well-received. Even in subjects such as English, where teachers are comfortable about beginning lessons with a text, ideas about explaining the structure, giving an overview and providing definitions so pupils locate key vocabulary were useful. English teachers used the techniques successfully to teach poetry, for example and found that they helped deepen pupil's comprehension and widen engagement in the lesson. General feedback was that some specific techniques were easier to adopt than others. For example, providing definitions for technical vocabulary was easy to adopt. Starting with the text and teaching the core content ideas through it,

enriching understanding through activities at a later point in the lesson sequence was a ‘leap of faith’ for some because it challenged long-held beliefs about the best way to teach the subject. Difficulties encountered were finding a suitable text, pacing the teaching and making time in class for reading. Teachers found that the text needed to be more challenging than those traditionally used and that the pace of teaching had to be brisk. However, when they got these elements right, they reported increased engagement from a wider range of pupils in the class. Ideas about giving positive feedback and the text-reconstruction activities were both easily adopted. Some teachers chose to do the text reconstruction as an oral task, either as an end in itself or as a ‘first draft’ before a written task as homework.

## **Primary School Intervention**

The first aim of the intervention was to raise the reading attainment of all children in Renfrewshire. This aim is important because raising average literacy levels is one way to impact on the literacy of children in poverty. It also raises teacher expectations about the general standards they should expect, which offers systemic benefits.

We analysed standardised literacy test data from 2016 and 2017 to see the impact of the intervention on literacy attainment and on the attainment gap between pupils from economically advantaged and disadvantaged backgrounds. These two measures determine the extent to which the *Renfrewshire Literacy Approach* is delivering its primary aims.

We also analysed qualitative data to determine the nature and extent of any changes in practitioner understandings and classroom practices. This helps us to understand the drivers of change and determine the support, professional development foci, and resources required to support change.

In addition, at an early stage in the intervention we analysed a small sample of PIPS data for P1 and book levels for P2 and P3 to help us understand issues around the depth of implementation. This informed how we rolled out the approach to all teachers. Results are included in Appendix 4.

## **Standardised Test Data**

Data on pupil attainment and characteristics (e.g. gender, Scottish Index of Multiple Deprivation (SIMD), additional support needs, attendance) were provided by Renfrewshire Council and analysed by the Strathclyde University team to investigate the impact of the intervention on literacy attainment. Attainment data were based on standardised reading tests (New Group Reading Test and Progress Test in English) carried out in Renfrewshire primary schools in 2016 and 2017.

To measure attainment, we used Standardised Age Scores (SAS). These allow us to compare the performance of a child with that of a large, UK-wide reference group of similarly aged children (to within 8-11 weeks). In UK tests, a SAS score of 100 is standardised as the average attainment level for a child (i.e. a child attaining a SAS score of 100 is spot-on for his/her age; were one to plot all the test scores for children of that age it would form a bell-curve and the child would be in the middle).

We are aware that these results are only for the first year of implementation. The benefits should accrue as a child moves through schooling and the full impact of the intervention is likely to be evident after several years.

## Standardised Tests: *New Group Reading Test (NGRT)* and *Primary Test in English (PTE)*

Children from 25 out of the 49 schools in Renfrewshire were tested using the *New Group Reading Test (NGRT)* at primary 3-7. The first test (NGRT A) was taken in August/September 2016 at the start of the roll-out to all classrooms. The second test (NGRT B) was taken in May /June 2017, at the end of the academic year. This ensured standardised reading age scores were available at two time points for the same cohort of children.

Statistical analysis was then used to assess the impact of the programme on literacy attainment: comparing the Standardised Age Score in NGRT A and NGRT B allowed us to determine whether the average attainment of the Renfrewshire cohort had progressed at the same rate, faster, or slower than the reference-group. Sub-group analysis was carried out to investigate any differential impact for particular groups (e.g. different year groups, boys and girls, and children affected by poverty, as measured by SIMD 2016 and eligibility for free school meals or a clothing grant). The NGRT was chosen because it provides detailed measures of comprehension and decoding. These two aspects of reading were the main focus of the intervention as they influence children's reading engagement and their ability to access the rest of the curriculum.

Children from P2, P4 and P7 in all 49 Renfrewshire schools were also tested using the *Primary Test in English (PTE)*. This is a wide-ranging test of knowledge and skills in English that Renfrewshire Council has historically conducted annually in May/June. The test provides Standardised Age Score data on reading comprehension, grammar, spelling and punctuation. We analysed data for the P4 cohorts and the P7 cohorts in 2016 and in 2017 (data for P2 was not available). Use of this data allowed a comparison between the attainment of children who had experienced the intervention and the attainment of the equivalent P4 and P7 cohorts in the previous year, most of whom had not experienced the intervention.

## Results: Average Attainment

### NGRT results: Changes in Attainment

Analysis of the sample of 3,727 primary children who completed NGRT A in August/September 2016, and NGRT B in May/June 2017 shows a statistically significant increase in the average Standardised Age Score of these children.

The average Standardised Age Score (SAS) in NGRT A was 96.4 compared with 101.0 in NGRT B (Table 1). A paired sample T-test shows that the difference between mean scores (4.6) is significant at the 99% confidence level ( $p$  value  $< 0.01$ ), which means that this increase is very unlikely to have happened by chance as a result of random variation. This indicates a genuine improvement in the average reading attainment in Renfrewshire.

Table 1: Differences between NGRT average Standardised Age Scores

Mean SAS NGRT A	Mean SAS NGRT B	N	Mean difference	Paired sample T-test	P value (two-tail)
96.4	101.0	3,727	4.6	30.7	0.00

## Differences between NGRT Average Standardised Age Score by Stage

We wondered whether children had improved at every stage of the primary school, or whether the average rise in attainment masked some stages who had done very well and others who had not improved at all. We looked at the average SAS for each stage of the primary school and found a significant improvement between NGRT A and NGRT B at every stage from P3 to P7. The largest mean differences were in P3 (7.5) and the smallest in P6 and P7 (2.9), but differences in average scores were significant at the 99% confidence level for all stages (Table 2). These results are consistent with the implementation timetable since at the point of taking the second test, younger children had received the intervention for a longer period of time; the large-scale roll-out sessions on coaching younger readers occurred before those that looked in detail at literacy in the upper stages of primary school.

Table 2: Differences between NGRT average Standardised Age Score by Stage

Stage	Mean SAS NGRT A	Mean SAS NGRT B	N	Mean difference	Paired sample T-test	P value (two-tail)
P3	89.3	96.8	734	7.5	20.4	0.00
P4	95.3	100.5	695	5.1	15.1	0.00
P5	96.5	100.7	950	4.2	16.1	0.00
P6	99.6	102.3	671	2.9	9.0	0.00
P7	101.9	104.7	677	2.9	8.1	0.00

## Differences in NGRT Stanine Groups by Stage

The NGRT splits the 'bell curve' of Standardised Age Scores (SAS) into five stanine groups, putting scores into the categories: 'low', 'below average', 'average', 'above average', and 'high'. Tables 3 and 4 show the percentage of children in each of these stanine groups by stage in NGRT A and NGRT B. The broad pattern is one of improvement, with more children attaining 'high' and 'above average' scores in NGRT B and fewer children attaining 'below average' and 'low' scores.

Table 3: NGRT A: Stanine Group by Stage

	Low	Below Average	Average	Above Average	High	Total (n)
<b>P3</b>	21.9%	20.8%	52.0%	5.0%	0.1%	100% (734)
<b>P4</b>	7.3%	22.7%	58.3%	10.8%	0.9%	100% (695)
<b>P5</b>	4.9%	25.5%	55.8%	12.7%	1.1%	100% (950)
<b>P6</b>	3.9%	20.0%	54.1%	20.0%	2.1%	100% (671)
<b>P7</b>	2.5%	13.0%	59.2%	23.0%	2.2%	100% (677)
<b>All</b>	8.1%	20.8%	55.8%	14.0%	1.2%	100% (3727)

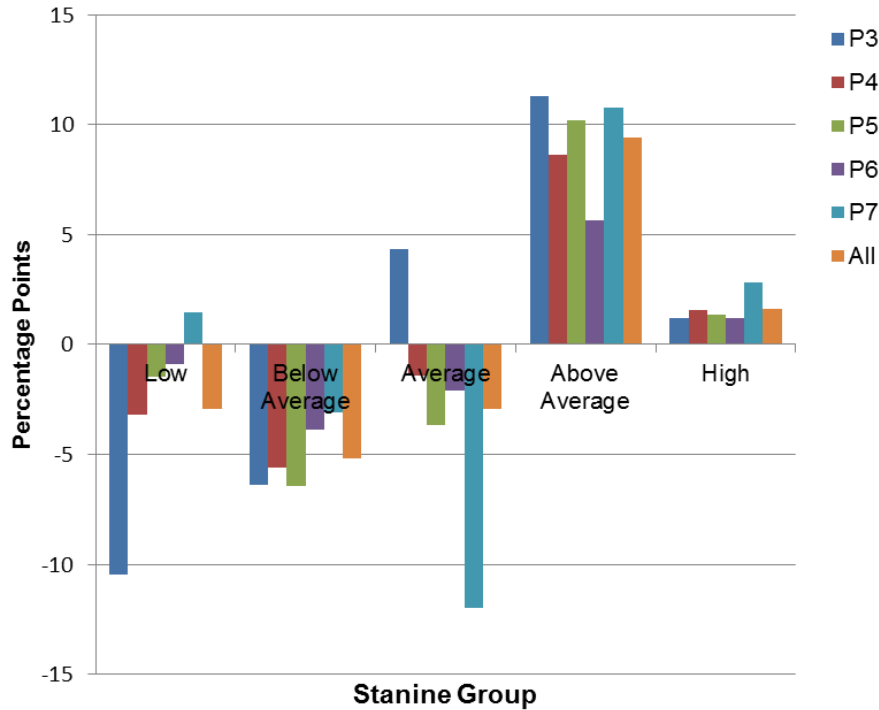
Table 4: NGRT B: Stanine Group by Stage

	Low	Below Average	Average	Above Average	High	Total (n)
<b>P3</b>	11.4%	14.4%	56.4%	16.3%	1.4%	100% (734)
<b>P4</b>	4.2%	17.1%	56.8%	19.4%	2.4%	100% (695)
<b>P5</b>	3.5%	19.1%	52.1%	22.9%	2.4%	100% (950)
<b>P6</b>	3.0%	16.1%	52.0%	25.6%	3.3%	100% (671)
<b>P7</b>	4.0%	9.9%	47.3%	33.8%	5.0%	100% (677)
<b>All</b>	5.2%	15.6%	52.9%	23.5%	2.8%	100% (3727)

The pattern of change can be seen more readily in Chart 1 which shows the shifts based on the **percentage point difference** between NGRT A and B for each category (i.e. the simple difference between NGRT B% for each stanine group minus the NGRT A% for each stanine group). Where the bars lie below zero, it shows a fall in the percentage of children in that category. Where the bar lies above zero, it shows a rise in the percentage of children in that category. Chart 1 shows that:

- A lower percentage of children at all stages, except for P7, achieved 'low' scores, and this was particularly notable in P3. The slight rise in 'low' scores among P7s equates to only 10 children.
- A lower percentage of children at all stages achieved 'below average' scores in NGRT B, and this was most notable in P3-P5.
- A lower percentage of children at all stages, except for P3, achieved 'average' scores, and this was particularly notable in P7.
- A higher percentage of children at all stages achieved 'high' and 'above average' scores in NGRT B.

Chart 1: Percentage point difference in NGRT stanine groups by stage



### Progress Test in English (PTE) Results for P4 and P7: Changes in Attainment

Analysis of the Progress Test in English (PTE) provides further evidence of a significant improvement in the average literacy attainment of pupils. PTE data was used to compare the attainment of the P4 (intervention) cohort with the P4 cohort from the previous year, most of whom had not experienced the intervention. The P4 sample was based on all schools with 1,872 children tested in May or June 2016 and 1,784 children tested in May or June 2017. Analysis of the PTE shows that the intervention cohort attained a higher average SAS than the P4 cohort from the previous year. Table 5 shows that the average SAS for the earlier cohort (2015-16) was 100.3 compared with 102.6 for the intervention cohort. An independent samples T-test shows that the difference between the average SAS is significant at the 99% confidence level ( $p$  value < 0.01), which means that this increase is very unlikely to have happened by chance. This indicates that, on average, P4 pupils across Renfrewshire did significantly better in 2017 than in 2016. However, as these are different cohorts of pupils there are a number of factors in addition to the intervention that might explain results (e.g. the socio-demographic make-up of the two cohorts or different teachers).

Table 5: Differences between PTE average Standardised Age Score, P4 only

Mean SAS 2015-16	N 2015-16	Mean SAS 2016-17	N 2016-17	Mean difference	Independent samples T-test	P value (two-tail)
100.3	1872	102.6	1784	2.3	4.4	0.00



Similarly, we analysed the PTE results for the P7 cohorts from all schools in 2015-16 (n=1740) and 2016-17 (n=1774) and found a small, but statistically significant overall improvement in the average SAS among P7s in the intervention cohort (Table 6). The difference is significant at the 95% confidence level (p value < 0.05). The smaller shift among P7s is consistent with the NGRT results (Table 2) and is likely due to the timing of implementation (older children received the intervention later) coupled with it being harder to shift older children who may have experienced a longer period of making less satisfying progress in literacy, with consequences for their self-esteem, aspirations and attitudes towards reading and themselves as readers.

Table 6: Differences between PTE average Standardised Age Score, P7 only

Mean SAS 2015-16	N 2015-16	Mean SAS 2016-17	N 2016-17	Mean difference	Independent samples T-test	P value (two-tail)
97.2	1740	98.3	1774	1.1	2.3	0.02

## Results by Gender

### NGRT: Attainment Results by Gender

To understand whether the intervention had the same or a differential impact for boys and girls we compared the average NGRT SAS according to gender (Table 7). On average, girls attained higher scores than boys in both NGRT A and B. This is consistent with both national and international patterns of literacy acquisition. However, the analysis shows that the average SAS for both boys and girls improved significantly between NGRT A and NGRT B. Average differences were significant at the 99% confidence level for both and were broadly similar in size (around 4.5), suggesting that the intervention is working well for both boys and girls.

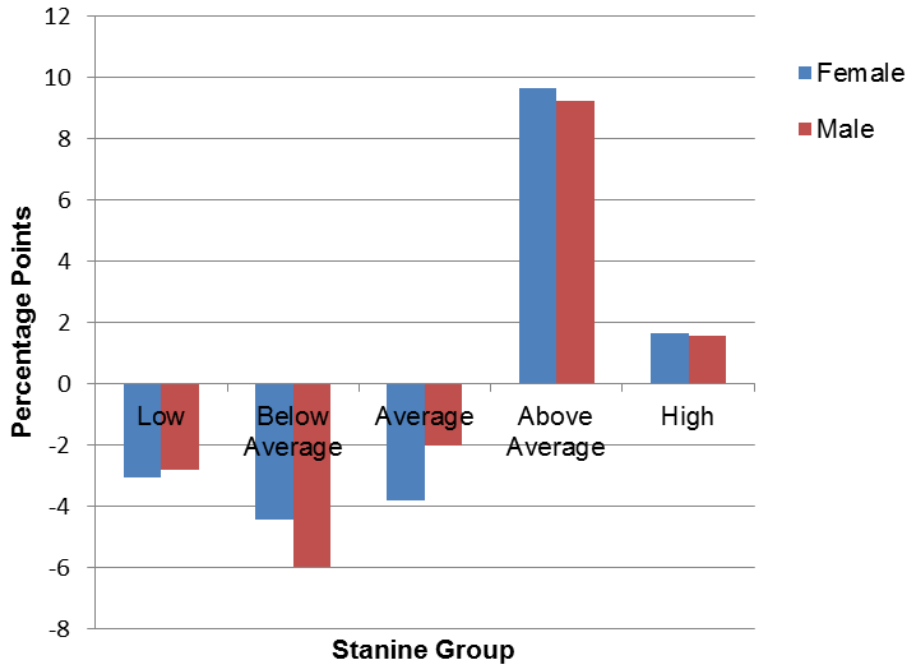
Table 7: Differences between NGRT average SAS by gender

Gender	Mean SAS NGRT A	Mean SAS NGRT B	N	Mean difference	Paired sample T-test	P value (two-tail)
Female	97.7	102.4	1871	4.7	23.5	0.00
Male	95.1	99.5	1856	4.4	20.1	0.00

### Differences in NGRT Stanine Groups by Gender

Chart 2 below shows the percentage point difference between the percentage of boys and girls in each stanine group in NGRT A and B. We see that the percentage of boys and girls attaining 'high' and 'above average' scores increased between tests, while there was a fall in 'average', 'below average' and 'low' scores. The fall in average scores was greater among girls, while the fall in 'below average' scores was greater among boys. This suggests that perhaps there is a drift of boys moving from 'below average' to 'average', whilst girls are shifting into the 'above average' stanine group.

Chart 2: Percentage point difference in NGRT Stanine Groups by Gender



### Progress Test English (PTE): Attainment Results by Gender

We also compared the PTE results by gender. Consistent with the NGRT results, girls, on average, attained higher scores than boys in both P4 cohorts (Table 8). Again, the average SAS for both boys and girls was higher in the intervention cohort (2016-17) and differences were significant at the 99% confidence level for both boys and girls. The average difference was slightly larger for boys (2.6) than girls (2.2), suggesting a slightly larger improvement among boys.

There were no significant differences between the P7 cohorts when we split the samples by gender.

Table 8: Differences between PTE average SAS by gender, P4 only

Gender	Mean SAS 2015-16	N 2015-16	Mean SAS 2016-17	N 2016-17	Mean difference	Independent samples T-test	P value (two-tail)
Female	102.2	968	104.4	871	2.2	3.0	0.00
Male	98.1	904	100.8	913	2.6	3.6	0.00

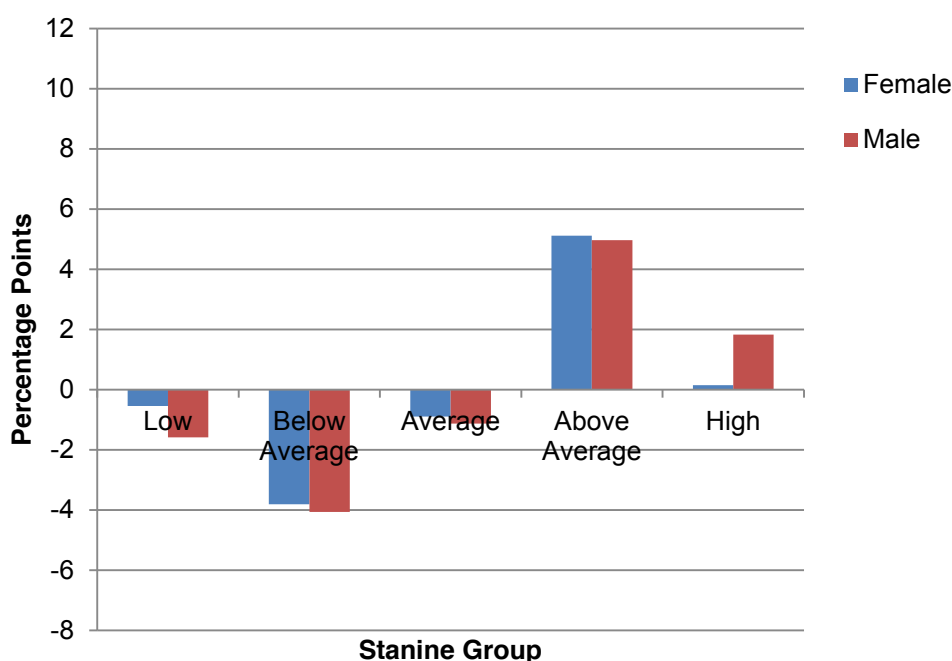
### Differences in PTE Stanine group by Gender (P4)

Chart 3 shows the percentage point difference between the percentage of P4 children in each PTE stanine group in the comparison (2015-16) and intervention (2016-17) cohorts by gender. It shows:

- A slightly smaller percentage of boys and girls attained 'low' scores and the fall was greater among boys.

- A smaller percentage of boys and girls attained 'below average' and 'average' scores and differences were similar in size.
- A larger percentage of boys and girls attained 'above average' scores and differences were similar in size.
- A larger percentage of boys attained 'high' scores in the intervention cohort, while the percentage for girls remained approximately the same.

Chart 3: Percentage point difference in PTE Stanine Groups by Gender



## Results: Economic Disadvantage and Attainment

A second aim of the intervention was to narrow the attainment gap in literacy between pupils from economically advantaged and less advantaged backgrounds. Measuring this is complex because families tend to move in and out of poverty and because there is no single reliable measure of poverty. We therefore analysed attainment using three measures: Scottish Index of Multiple Deprivation (SIMD) which captures the level of multiple deprivation present in the area where a child lives; eligibility for Free School Meals (only for children in P4-P7 since all P3 children are entitled to Free School Meals), and eligibility for a School Clothing Grant (for children in P3 to P7). These latter two measures capture families whose income is sufficiently low to attract benefits. None of the measures is perfect: the SIMD often misses poor families who live in private rental accommodation within less deprived areas, for example, and eligibility for Free School Meals and Clothing Grants misses poor families who do not access the benefits to which they are entitled.

A second kind of complexity comes from analysing patterns of 'gap narrowing'. Reasonable literacy levels are required to access a wide number of curricular areas. Children who cannot read and write

as well as their peers are automatically placed at a disadvantage and getting these children to the class average so they can participate fully in the curriculum is an important sub-aim. We therefore analysed the relationship between economic (dis)advantage and Standardised Age Scores, but also the movement of children in the ‘low’ and ‘below average’ stanine groups.

### NGRT Results by Scottish Index of Multiple Deprivation (SIMD) Quintiles

The SIMD quintiles split all of Scotland’s data zones (small areas) into five equal groups, each containing 20% of the data zones. Quintile 1 contains the 20% **most** deprived areas in Scotland and quintile 5 contains the 20% **least** deprived.

Table 9 shows that in both NGRT A and B, the average SAS increases incrementally as we move from quintile 1 (children living in the 20% most deprived areas in the country) to quintile 5 (children living in the 20% least deprived areas). This reflects the well-established relationship between deprivation and attainment; children from low-income families do not do as well as children from high-income families.

However, children in all SIMD quintiles did significantly better in NGRT B than A, making over and above the progress we would expect within a school year. Differences were significant at the 99% confidence level for all quintiles (p value < 0.01) and were broadly similar in size (ranging from 4.3 in quintile 5, to 5.1 in quintile 3). The similarity in the size of differences suggests that the average size of improvement was largely consistent across quintiles, although it may have been slightly larger for children in quintile 3.

*Table 9: Differences between NGRT average SAS by SIMD Quintile*

SIMD quintile	Mean SAS NGRT A	Mean SAS NGRT B	N	Mean difference	Paired sample T-test	P value (two-tail)
1 (20% most deprived)	91.1	95.6	873	4.5	14.1	0.00
2	94.4	98.8	707	4.4	12.3	0.00
3	96.1	101.2	755	5.1	16.1	0.00
4	100.1	104.5	596	4.4	12.4	0.00
5 (20% least deprived)	101.5	105.8	781	4.3	13.7	0.00

### The Pattern of Movement: Differences in NGRT Stanine Groups by SIMD quintile

Again, to understand these improvements in more detail we looked at the percentage of children achieving ‘high’, ‘above average’, ‘average’, ‘below average’ and ‘low’ scores (i.e. in each of the NGRT stanine groups) and the changes between NGRT A and B for each SIMD quintile. Tables 10 and 11 below show the percentage of children in each stanine group by SIMD quintile for NGRT A and B. The broad pattern is one of improvement between tests, with fewer children attaining ‘below average’ and ‘low’ scores and more children attaining ‘high’ and ‘above average’ scores in NGRT B.

Table 10: NGRT A: Stanine Group by SIMD Quintile

SIMD Quintile	Low	Below Average	Average	Above Average	High	Total (n)
<b>1 (most deprived)</b>	13.5%	28.3%	51.2%	6.4%	0.6%	100% (873)
<b>2</b>	9.6%	25.6%	52.6%	11.3%	0.8%	100% (707)
<b>3</b>	7.5%	19.9%	58.9%	12.8%	0.8%	100% (755)
<b>4</b>	4.5%	14.5%	61.0%	18.0%	2.0%	100% (595)
<b>5 (least deprived)</b>	4.1%	13.9%	56.8%	23.0%	2.2%	100% (782)
<b>All</b>	8.1%	20.8%	55.8%	14.0%	1.2%	100% (3712) <sup>28</sup>

Table 11: NGRT B: Stanine Group by SIMD Quintile

SIMD Quintile	Low	Below Average	Average	Above Average	High	Total (n)
<b>1 (most deprived)</b>	9.6%	23.0%	51.4%	14.9%	1.0%	100% (873)
<b>2</b>	6.9%	17.0%	56.6%	17.5%	2.0%	100% (707)
<b>3</b>	4.5%	14.4%	54.8%	24.2%	2.0%	100% (755)
<b>4</b>	1.7%	12.1%	49.5%	32.9%	3.9%	100% (596)
<b>5 (least deprived)</b>	2.0%	10.0%	51.9%	30.5%	5.6%	100% (781)
<b>All</b>	5.2%	15.6%	52.9%	23.5%	2.8%	100% (3712)

Goodman and Kruskal's gamma<sup>29</sup> was run to assess the strength of the association between SIMD and attainment in the NGRT, as measured by stanine group. There was a positive association between SIMD and attainment in both NGRT A and B, i.e. as we move from SIMD quintile 1 (most deprived) to quintile 5 (least deprived), attainment goes up. The association was statistically significant at the 99% level in both NGRT A and B (p value < 0.001); however the gamma value in NGRT B (.279) was slightly smaller than the gamma value in NGRT A (.293). The smaller gamma in NGRT B suggests a slight weakening in the relationship between SIMD and reading attainment over the course of the school year.

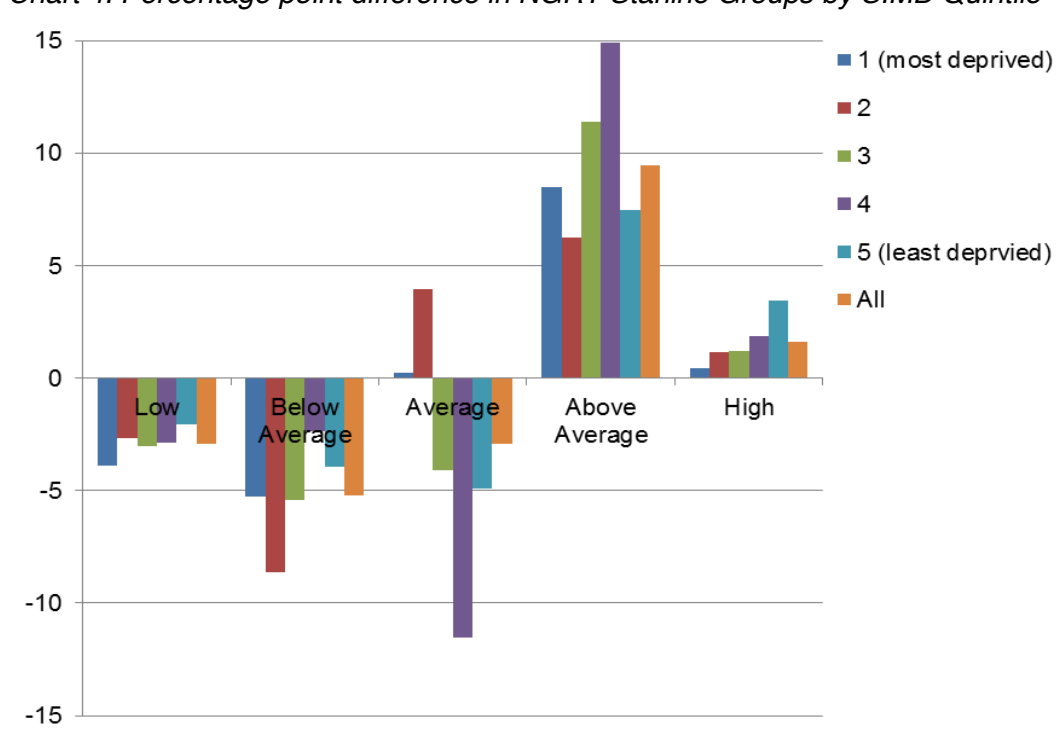
The pattern of change can be seen more readily in Chart 4 which shows the shifts based on the **percentage point difference** between NGRT A and B for each category (i.e. the simple difference between NGRT B% minus NGRT A%). Where the bars lie below zero, it shows a fall in the percentage of children in that category. Where the bars lie above zero, it shows a rise in the percentage of children in that category. The chart shows that:

<sup>28</sup> The overall sample size is slightly smaller as SIMD was not recorded for 15 children.

<sup>29</sup> Gamma is a statistical measure that summarises the overall strength and direction of the association between two ordinal variables. It is a Proportional Reduction in Error-based measure that shows the improvement in being able to predict the order of pairs of cases on one variable from the order of pairs of cases on the other variable, as opposed to ignoring the order of the pairs of cases on the other variable.

- A slightly lower percentage of children in all quintiles achieved 'low' scores in NGRT B.
- A lower percentage of children in all quintiles achieved 'below average' scores in NGRT B and differences were greatest (>5 percentage points) among children from quintiles 1 to 3.
- A slightly larger percentage of children in quintiles 1 and 2 achieved 'average' scores, while a lower percentage of children in quintiles 3 to 5 achieved 'average' scores.
- A larger percentage of children in all SIMD quintiles achieved 'above average' scores; differences were greatest (>10 percentage points) among children living in quintiles 3 and 4.
- A slightly larger percentage of children in all SIMD quintiles achieved 'high' scores in NGRT B.

Chart 4: Percentage point difference in NGRT Stanine Groups by SIMD Quintile



### Primary Test in English: Results by SIMD Quintile

Consistent with the NGRT results, Table 12 shows that in both P4 cohorts (2016-17 and 2015-16), the average SAS increased incrementally as we move from quintile 1 (most deprived) to quintile 5 (least deprived).

There was a significant increase in average SAS for P4 children who received the intervention and lived in deprived and middling areas (quintiles 1 to 3). These children did significantly better than the previous year's P4 cohort. Mean differences were significant at the 99% confidence level for quintiles 1 and 2 (p value less than or equal to 0.01), and at the 95% level for quintile 3 (p value less than 0.05). Differences were around 3 points, suggesting that the average size of improvement was broadly consistent across quintiles 1 to 3.

The average SAS for the intervention cohort of economically advantaged children living in the least deprived areas (quintiles 4 and 5) were very similar to their counterparts in 2015-16, indicating that, on average, this group sustained their level of attainment between years.

Table 12: Differences between PTE average SAS by SIMD Quintile, P4 only

SIMD quintile	Mean SAS 2015-16	N 2015-16	Mean SAS 2016-17	N 2016-17	Mean difference	Independent samples T-test	P value (two-tail)
1	95.0	533	98.3	500	3.3	3.4	0.00
2	98.3	379	101.3	340	3.0	2.6	0.01
3	101.8	327	104.5	317	2.8	2.3	0.02
4	104.3	287	104.4	281	0.2	0.1	0.90
5	105.7	340	106.6	343	0.1	0.8	0.44

There were no significant differences between the P7 cohorts when we split the samples by SIMD.

### The Pattern of Movement: Differences in PTE Stanine Groups by SIMD Quintile

Again, to understand these improvements in more detail we looked at the changes in the percentage of children achieving 'very high', 'above average', 'average', 'below average' and 'very low' scores (i.e. the stanine groups) in the PTE P4 cohorts, according to SIMD quintile. Tables 13 and 14 below show the percentage of children in each stanine group by SIMD quintile in the comparison (2015-16) and the intervention cohorts (2016-17). Consistent with the results in Table 12 above, the broad pattern is one of improvement between years for children from deprived and middling areas (quintiles 1 to 3), with a slightly more mixed picture for children in quintiles 4 and 5.

Table 13: PTE 2015-16 (comparison cohort) stanine group by SIMD quintile, P4 only

SIMD 2016 Quintile	High	Above Average	Average	Below Average	Low	Total
1 (20% most deprived)	2.2%	15.2%	46.1%	28.5%	8.1%	100% (534)
2	3.2%	17.7%	49.3%	26.4%	3.4%	100% (379)
3	6.1%	20.8%	51.1%	18.7%	3.4%	100% (327)
4	5.9%	28.9%	49.1%	15.0%	1.0%	100% (287)
5 (20% least deprived)	11.2%	26.5%	50.0%	11.5%	0.9%	100% (340)
Total	5.3%	20.9%	48.8%	21.1%	3.9%	100% (1867)

Table 14: PTE 2016-17 (intervention cohort) stanine group by SIMD quintile, P4 only

SIMD 2016 Quintile	High	Above Average	Average	Below Average	Low	Total
1 (20% most deprived)	3.2%	18.6%	50.1%	23.4%	4.8%	100% (505)
2	5.3%	25.8%	45.2%	20.8%	2.9%	100% (341)
3	7.3%	29.0%	48.6%	13.2%	1.9%	100% (317)
4	8.9%	27.0%	47.0%	13.9%	3.2%	100% (281)
5 (20% least deprived)	8.5%	32.4%	46.6%	11.7%	0.9%	100% (343)
Total	6.2%	25.8%	47.8%	17.3%	2.9%	100% (1787)

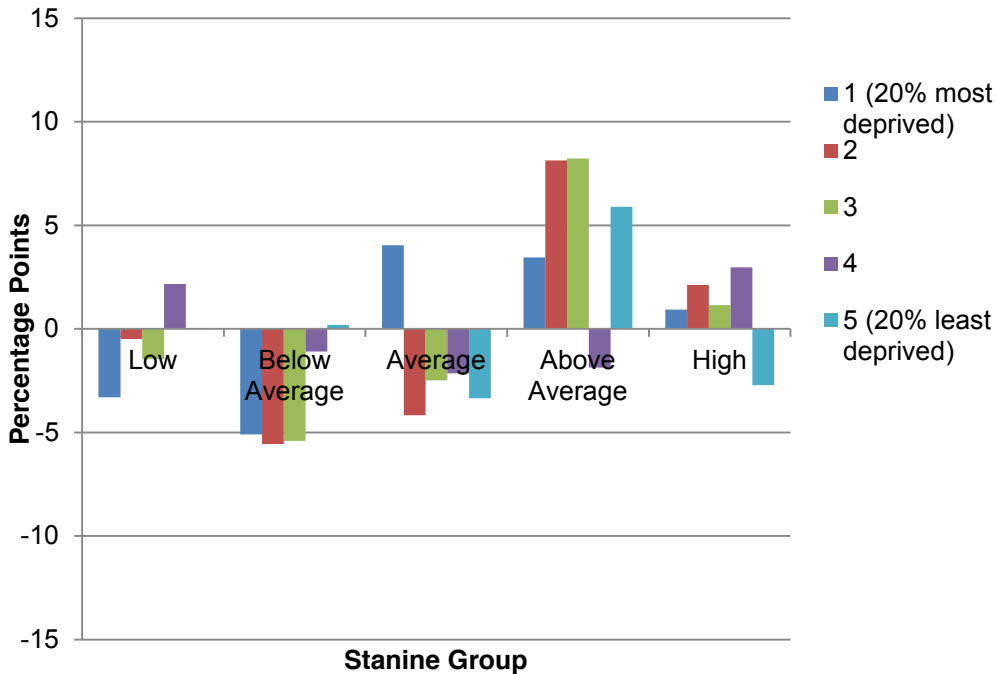
Again, Goodman and Kruskal's gamma was run to assess the strength of the association between SIMD and attainment in the PTE, as measured by stanine group. There was a positive association between SIMD and attainment in both the intervention and comparison cohorts, i.e. as we move from SIMD quintile 1 (most deprived) to quintile 5 (least deprived) attainment goes up. The association was statistically significant at the 99% level in both cohorts ( $p$  value  $< 0.001$ ); however the gamma value in the intervention cohort (.205) was smaller than the gamma value for the comparison cohort (.292). The lower gamma in the intervention cohort suggests a possible weakening in the relationship between SIMD and attainment, though we must remember the earlier caveats noted about the PTE analysis as it compares different cohorts of children.

Chart 5 below shows the percentage point difference between the percentage of P4 children in each stanine group in the comparison (2015-16) and intervention cohorts (2016-17) by SIMD quintile. It shows:

- A smaller percentage of quintiles 1 to 3 attained 'low' scores, while there was an increase in the percentage of children in quintile 4 attaining 'low' scores (though note that few children from high income families fall into this category; the increase equates to only 6 children who may have had recognised needs).
- A smaller percentage in quintiles 1 to 4 attained 'below average' scores; the slight rise in quintile 5 equates to only 1 child.
- A smaller percentage of quintiles 2 to 5 attained 'average' scores.
- A larger percentage of quintile 1 attained 'average' scores.
- A larger percentage of quintiles 1 to 3 and 5 attained 'above average' scores, with the largest differences in quintiles 2 and 3.
- A slightly smaller percentage of children from quintile 4 attained 'above average' scores.
- A larger percentage of the intervention cohort attained 'high' scores, except for quintile 5 (least deprived).



Chart 5: Percentage point difference in PTE Stanine groups by SIMD quintile



### NGRT: Results by Clothing Grant Eligibility

Clothing grant eligibility is used as opposed to free school meal entitlement for the NGRT analysis because the NGRT sample contains children in P3, all of whom are eligible for free school meals.

In both NGRT A and B, the average SAS for children eligible for a clothing grant was lower than children not eligible (Table 15). This is consistent with the relationship between poverty and attainment. However, both children eligible and not eligible for a clothing grant did significantly better in NGRT B (both differences significant at the 99% confidence level), making over and above the expected level of progress within the school year. The average difference in SAS between NGRT A and B was slightly larger for children claiming a clothing grant (4.9 versus 4.5), suggesting that the size of improvement may have been slightly larger children from low-income homes.

Table 15: Differences between NGRT average SAS by Clothing Grant Eligibility

Clothing grant eligibility	Mean SAS NGRT A	Mean SAS NGRT B	N	Mean difference	T sample (paired T-test SPSS)	P value (two-tail)
Yes	89.3	94.2	607	4.9	12.6	.000
No	97.8	102.3	3,120	4.5	28.1	.000

### The Pattern of Movement: Differences in NGRT Stanine Groups by Clothing Grant Eligibility

Tables 16 and 17 below show the percentage of children in each stanine group by whether or not children were eligible for a clothing grant. We see that the percentage of children attaining 'high' and 'above average' scores increased between tests, while there was a fall in those attaining 'low' and

'below average' scores. This pattern was consistent both for children eligible and not eligible for a clothing grant.

Table 16: NGRT A: Stanine Group by Clothing Grant Eligibility

Clothing grant eligibility	Low	Below Average	Average	Above Average	High	Total (n)
Yes	16.9%	31.4%	45.4%	6.0%	0.3%	100% (617)
No	6.4%	18.7%	57.9%	15.6%	1.4%	100% (3110)
Total	8.1%	20.8%	55.8%	14.0%	1.2%	100% (3727)

Table 17: NGRT B: Stanine Group by Clothing Grant Eligibility

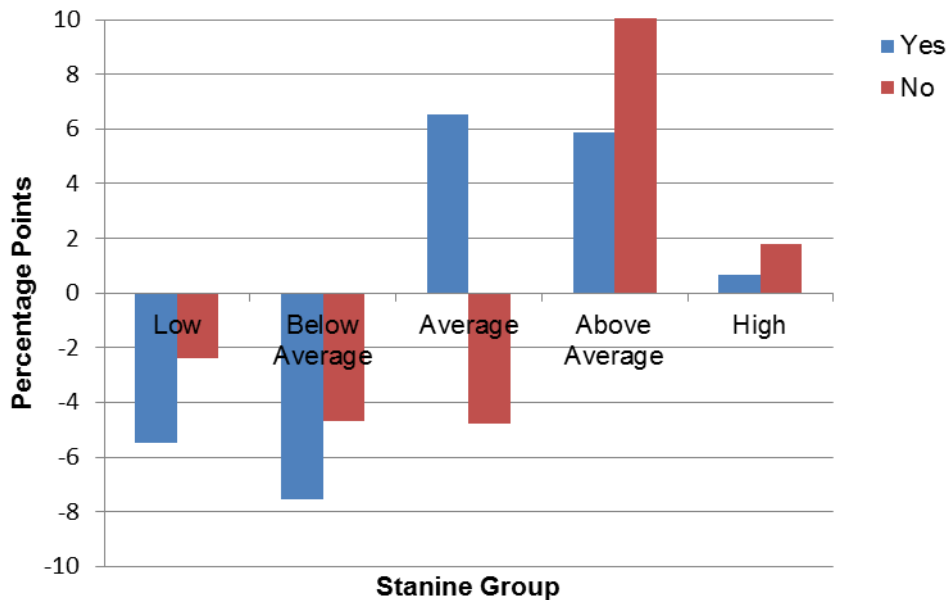
Clothing grant eligibility	Low	Below Average	Average	Above Average	High	Total (n)
Yes	11.4%	23.9%	51.9%	11.9%	1.0%	100% (607)
No	4.0%	14.0%	53.1%	25.7%	3.2%	100% (3120)
Total	5.2%	15.6%	52.9%	23.5%	2.8%	100% (3727)

The pattern of change can be seen in Chart 6 which shows the shifts based on the **percentage point difference** between NGRT A and B for each category (i.e. the simple difference between NGRT B% minus NGRT A%) by whether or not children were eligible for a clothing grant. It shows that:

- A lower percentage of children in both groups achieved 'below average' and 'low' scores in NGRT B, and the fall was greater among children eligible for a clothing grant.
- A larger percentage of children receiving a clothing grant achieved average scores, while a smaller percentage of children **not** receiving it achieved average scores.
- A larger percentage of children in both groups achieved **above** average scores and differences were greater among children **not** receiving for a clothing grant.
- A slightly larger percentage of children in both groups achieved high scores in NGRT B.

This indicates that children from low-income homes may have made a greater shift from getting 'below average' and 'low' scores than more advantaged children, with a consequent rise in the children in this group achieving an 'average' score. The greater shift in the more advantaged group was away from the 'below average' and 'average' scores into the 'above average' scores.

Chart 6: Percentage point difference in NGRT Stanine Groups by Eligibility for Clothing Grant



### Progress Test in English: Results by Free School Meal Entitlement

The PTE results show that the average SAS for P4 children from low-income homes (i.e. those eligible for free school meals) was lower than the SAS for more economically advantaged children (not eligible for free meals) in both the intervention and comparison cohort (Table 18). Average scores for both groups were higher for the intervention cohort (2016-17); however, the difference between cohorts was significant only for more advantaged children (i.e. those **not** eligible for free school meals; p value < 0.01). This is likely to be a function of the smaller sample of children eligible for free school meals. Although the mean difference for both groups was similar (around 2 points), a larger difference is needed to be statistically significant among children eligible for free school meals because of the smaller sample size.

Table 18: Differences in PTE average SAS by free school meal entitlement, P4 only

FME	Mean SAS 2015-16	N 2015-16	Mean SAS 2016-17	N 2016-17	Mean difference	Independent samples T-test	P value (two-tail)
Yes	93.3	352	95.3	315	2.0	1.7	0.08
No	101.8	1520	104.1	1469	2.2	3.9	0.00

Mean differences in SAS between the two cohorts were smaller in the P7 than the P4 cohorts (Table 19). Consistent with the P4 analysis, only more advantaged children in P7 (i.e. **not** eligible for free school meals) did significantly better in the intervention cohort; the difference was significant at the 95% confidence level (p value = 0.05). Although the mean difference for children from low-income homes was actually larger (1.7) than more advantaged children (1.0) it was not significant due to the smaller sample size.

Table 19: Differences in PTE average SAS by free school meal entitlement, P7 only

FME	Mean SAS 2015-16	N 2015-16	Mean SAS 2016-17	N 2016-17	Mean difference	Independent samples T-test	P value (two-tail)
Yes	90.1	280	91.8	297	1.7	1.6	0.12
No	98.6	1460	99.6	1479	1.0	2.0	0.05

### The Pattern of Movement: Differences in PTE Stanine Group by Free School Meal Entitlement

Tables 20 and 21 below show the percentage of children in each PTE stanine group by whether or not children were eligible free school meals. We see that the percentage of children attaining 'high' and 'above average' scores was higher in the intervention cohort (2016-17), while there was a fall in children attaining 'average', 'below average' and 'low' scores. This pattern was consistent both for P4 children eligible and not eligible for free school meals.

Table 20: PTE 2015-16 (comparison cohort) stanine group by free school meal entitlement, P4 only

	High	Above Average	Average	Below Average	Low	Total
<b>Yes</b>	1.4%	9.7%	49.7%	29.8%	9.4%	100% (352)
<b>No</b>	6.2%	23.6%	48.6%	19.1%	2.6%	100% (1520)
<b>Total</b>	5.3%	20.9%	48.8%	21.1%	3.9%	100% (1872)

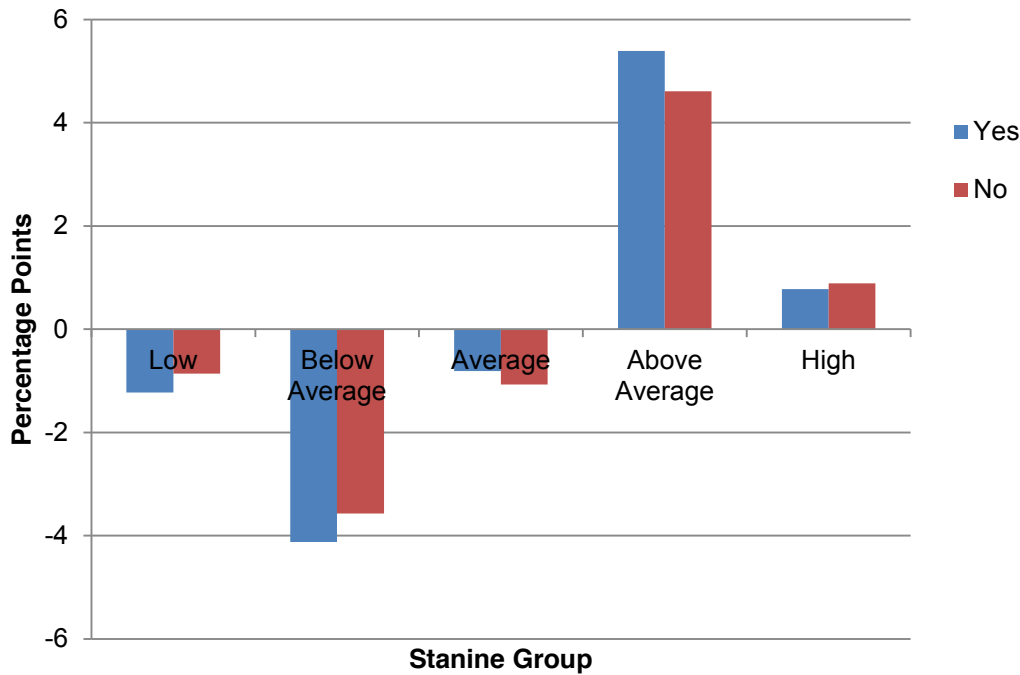
Table 21: PTE 2016-17 (intervention cohort) stanine group by free school meal entitlement, P4 only

	High	Above Average	Average	Below Average	Low	Total
<b>Yes</b>	2.2%	15.0%	48.9%	25.7%	8.2%	100% (319)
<b>No</b>	7.1%	28.2%	47.5%	15.5%	1.8%	100% (1470)
<b>Total</b>	6.2%	25.8%	47.7%	17.3%	2.9%	100% (1789)

Chart 7 below shows the percentage point difference between the percentage of children in each stanine group in the comparison (2015-16) and intervention (2016-17) P4 cohorts according to whether or not they were eligible for free school meals. It shows a similar pattern of differences among children from low-income homes and more advantaged children:

- A smaller percentage of both groups attained 'low', 'below average' and 'average scores' in the intervention cohort.
- The fall in 'below average' scores was slightly larger among children eligible for free school meals.
- A larger percentage of both groups attained 'above average' scores in the intervention cohort, though the increase was slightly larger among children eligible for free school meals.
- A slightly larger percentage of both groups attained 'high' scores in the intervention cohort.

Chart 7: Percentage point difference in PTE stanine groups by free school meal eligibility, P4 only



Tables 22 and 23 below show the percentage of P7 children in each PTE stanine group by whether or not children were eligible free school meals. The results for P7 suggest a more mixed picture than P4 and can be seen more readily in Chart 8.

Table 22: PTE 2015-16 (comparison cohort) stanine group by free school meal entitlement, P7 only

	High	Above Average	Average	Below Average	Low	Total
<b>Yes</b>	0.4%	3.9%	51.1%	34.6%	10.0%	100% (280)
<b>No</b>	1.6%	15.9%	58.4%	22.3%	1.8%	100% (1460)
<b>Total</b>	1.4%	14.0%	57.2%	24.3%	3.2%	100% (1740)

Table 23: PTE 2016-17 (intervention cohort) stanine group by free school meal entitlement, P7 only

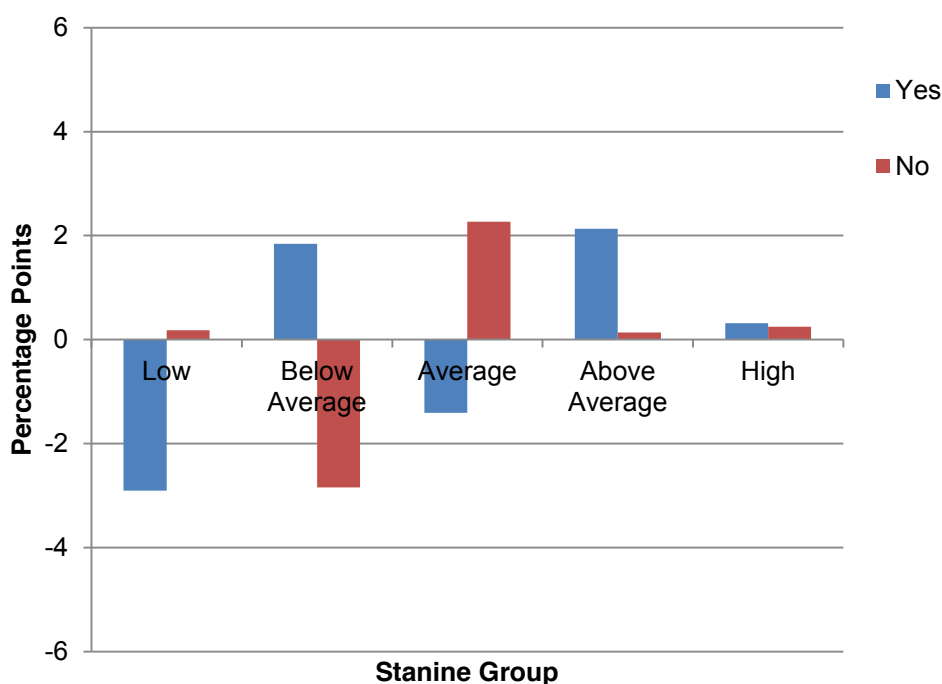
	High	Above Average	Average	Below Average	Low	Total
<b>Yes</b>	0.7%	6.1%	49.7%	36.5%	7.1%	100% (297)
<b>No</b>	1.8%	16.0%	60.7%	19.4%	2.0%	100% (1479)
<b>Total</b>	1.6%	14.4%	58.9%	22.3%	2.9%	100% (1774)

Chart 8 below shows the percentage point difference between the percentage of P7 children in each stanine group in the comparison and intervention cohorts according to whether or not they are eligible for free school meals. Overall, it shows smaller shifts than the P4 cohort and a different pattern among those eligible and not eligible for free school meals:

- There was a fall in 'low' scores among children eligible for free school meals, while the percentage of those not eligible remained approximately the same.

- A larger percentage of children eligible for free school meals and a smaller percentage of those not eligible attained 'below average' scores, while the opposite was true for 'average' scores.
- A larger percentage of children eligible for free school meals attained 'above average' scores in the intervention cohort, while the percentage of children not eligible and attaining 'above average' scores was approximately the same.
- The percentage of children in both groups attaining 'high' scores was approximately the same in the intervention and comparison cohort.

Chart 8: Percentage point difference in PTE stanine groups by free school meal eligibility, P7 only



### The Evidence for Narrowing the Gap

The evidence as to whether the intervention narrowed the attainment gap between children from advantaged and less advantaged backgrounds is mixed, depending on the indicators used to identify poverty and the measure of attainment. NGRT results by SIMD quintile suggest that in its first year, the intervention improved average attainment for all children, regardless of background, and that the size of improvement was broadly consistent across differing levels of deprivation.

However, the average size of improvement in NGRT scores for children claiming clothing grant was slightly larger. In addition, improvements in PTE were significant only among children from deprived and middling areas (quintiles 1 to 3) and the gamma statistic suggested a possible weakening in the relationship between SIMD and attainment in NGRT B and for the PTE intervention cohort. These findings suggest that the intervention may have had a greater impact on children from poorer backgrounds.

In any statistical analysis however, it is important to remember what the numbers may mean for children's real-life chances. National surveys consistently show a 'long tail' of literacy

underachievement in Scotland and that this 'tail' contains a disproportionate number of children from lower SIMD quintiles (living in more deprived areas). The size and composition of this 'tail' is a matter of national concern because literacy is the gateway to many other curricular areas and any child with 'low' and 'below average' literacy scores risks experiencing problems in accessing the rest of the curriculum. This is a significant source of inequality and wasted talent.

The data reported here show a general shift of children out of the 'low' and 'below average' stanine groups. In terms of improving children's long-term prospects for wider educational achievement, this general shift is an important result for Renfrewshire's children; whether rich or poor, children who struggle to read will find it harder to achieve their potential and every child who moves from the 'low' and 'below average' stanine groups is an important success. While shifts are evident across all SIMD quintiles; the larger shifts out of 'low' and below 'average' groups tend to come from children from economically deprived families. This is an important result for equity. Although there is clearly still inequality in the system, this analysis indicates that Renfrewshire has made a promising start to tackling the attainment gap.

## **Results: Changes in Teaching**

During the course of the primary school literacy intervention, data were collected from Head Teachers and class teachers via questionnaires, classroom observations, telephone and face-to-face semi-structured interviews. We also collected documentary data from the Literacy Clinic files comprising teachers' and Head Teachers' written summary notes. Qualitative analysis of these data explored how teachers and Head Teachers engaged with various elements of the Literacy Programme, the extent of changes to their thinking and practices and the challenges identified.

A questionnaire was completed by teachers (n=48) and Head Teachers (n=43). This provided information at the start of the intervention and included: teachers' confidence in teaching literacy and in their school's literacy curriculum; views on reading attainment; and operational and strategic challenges faced by their school. A longer follow-up questionnaire was completed by teachers (n=28) after the Literacy Clinic stage of the implementation, which asked about the extent to which teachers had adopted different elements of the *Strathclyde Three Domain* model; views on the usefulness and importance of each element; and questions on poverty and attainment. In place of the follow-up questionnaire, Head Teachers took part in semi-structured telephone interviews (n=33) lasting between 30 and 90 minutes. These focused on how the Literacy Programme had affected strategic thinking, priorities for literacy attainment, and views on the attainment gap. Semi-structured face-to-face interviews were also carried out with a purposive sample of 6 teachers (3 early and 3 late adopters) after the Literacy Clinic and lasted between 60 and 75 minutes. These interviews asked how the programme had influenced classroom practice; attitudes to teaching children in poverty; and facilitators and obstacles to implementation. We also analysed 18 Literacy Clinic files comprising teachers' (n= 31) and Head Teachers' (n= 28) hand-written summary notes from each teaching session, their reflections on working with the *Strathclyde Three Domain Model* in relation to the child they worked with in the Clinic, and their reflections and responses to the 'running records' that they used to monitor the child's reading.

To analyse these data we used open coding to develop coding frameworks directly from the data but within the schema of the *Strathclyde Three-Domain Model*. We are reporting this analysis as

*Changes in Teacher Knowledge and Changes in Teaching Practices and the Challenges Teachers Faced.*

## Changes in Teacher Knowledge

There were changes to both teacher knowledge and to how teachers used this knowledge to inform their teaching. The changes to teacher knowledge were demonstrated in a deeper awareness and use of a wider range of evidence to inform teaching decisions. Across the interviews, questionnaires and written accounts there was clear evidence of increased understanding. For example, all teachers taught cognitive knowledge and skills from the start of the Literacy Clinic, and around two thirds of these attended and responded to a wider range of cognitive evidence by the end of their Literacy Clinic experience.

The Literacy Clinic experience helped some teachers to recognise the assumptions they made about children's reading experiences and knowledge of the world, or 'cultural capital'. One teacher told us:

*Working with the [Literacy Clinic] child has really opened my eyes. I hadn't realised how far apart they can be the minute they walk in the door. I've assumed they've all had some knowledge of books, a person reading to them. But working with the Literacy Clinic, our boy was saying he didn't have books at home. Some children are at advantage: they've read stories, talked about stories, know some words. Others are coming in with nothing like that. Also their backgrounds: can relate to books because they've experienced that setting, had that experience. I'm more aware of this now.*

Some staff explained that their new knowledge about cultural and social capital helped them reframe past observations as evidence that required action. One teacher said:

*[The] cognitive domain. That's what I focussed on [before]. Didn't pay attention to the other two, certainly not consciously. Not in my planning or my teaching. I may have been aware of children who didn't go to the library or some parents not getting so involved but I didn't do anything with that information. I didn't really think about it.*

Cultural/social capital was the domain that required most reflection and practical exploration. It is always easy to spot what a child can't do and what they don't know. To avoid amplifying differences educators need to reposition the reading process so that it better connects with individual children and 'bridge' from this to 'school reading'. Teachers reported that overly-strict adherence to teaching isolated literacy skills, such as phonics or word recognition, or to getting through the 'levels' of a reading scheme, made this hard:

*The children [in our school] who struggle are in [SIMD] Deciles 1 and 2. What we have done is given them more phonics and learning words out of context. We are questioning this now. Now we are thinking they need to be talking about books.*

Other teachers became more aware of the need to create opportunities to 'check out' the funds of knowledge children bring. This is illustrated by an extract from the summary notes of a teacher interview:



*Consideration now placed on the child's background. Realising how different they are and how that can affect their reading, attitudes to reading, and literacy. Working with boy [in Literacy Clinic] brought this to front of mind. Hadn't been in front of mind. That's something I've tuned into more. Girl in class [now] ... never heard of an alien. Couldn't guess what it was. I'm now thinking about what they're bringing to the class rather than just what I'm doing in class. Assumed their knowledge before - that everyone would know it was an alien. Some of them didn't pick up that it was creature from outer space.*

The idea that reading comprehension is about what children know from out of school, and not only about skills or the text, re-balanced teachers' understanding of what good comprehension teaching might look like, as this teacher explains:

*Reading is all about what they bring to it. Reading is not just the story in your hand. They make meaning from what they have experienced, their lives in school and out of school.*

## **Changes in Teaching Practices and the Challenges Teachers Faced**

This section reports on the evidence of some of the changes teachers made to how they went about teaching reading in class, what made this easy or hard, and the benefits they noted for children.

### ***Reading Engagement***

An important aspect of using a wider range of evidence about children as readers is that it led schools to focus on the level of satisfaction that children were gaining from reading. Both the teacher and Head Teacher interviews provided evidence that they were re-evaluating that 'what mattered' was becoming a reader and that learning to read was not enough. They recognised that reading schemes were not an end in themselves but a resource to help children become readers. One Head Teacher explained that:

*She now looks at reading schemes from the perspective of how much potential they have for ... discussions to emerge. Looking at Storyworlds now she feels they are 'rubbish stories' whereas before she evaluated them in terms of phonological progression.*

The data showed that after the initial professional development sessions, both the teachers and Head Teachers began to re-think the role of reading engagement:

*There was a realisation that reading [in school] was being framed as a task, with the inevitable 'book review' to follow. It is refreshing to be thinking of the pleasure of reading, purposeful reading and literacy-rich environments again.*

The shift in attitudes towards the value and importance of reading in the classroom and beyond came for some teachers and Head Teachers from walking round the class/school and thinking about the messages that were being sent to children:

*But it wasn't till after the course that I thought, I'm not putting any kind of importance on reading in this school, in my class. I didn't think there was any room so I didn't bother. We had a wee library but it was always a mess. And the big library... that was a dumping ground to be honest. I was fine with it before. Now, since the course, I cannot believe what little emphasis we put on reading... it's not going to be motivating at all for them. Now, they love to read,*

*(having created a book area in the classroom) they always want to read in golden time now rather than go on to the computer or play with the Lego.*

Providing a good range of quality texts, attractive spaces to display them, and time for all children to access those spaces are all necessary for reading engagement, but are not sufficient. It also requires: changes to how reading is taught; attention to the 'social spaces' for children to socialise around their reading; teachers who know their children and who know children's books, who work at fostering children as individual readers and at creating reading networks so that reading becomes part of the social fabric of the classroom. The dominant ethos has to be inclusive and non-judgemental (because few activities are pleasurable if one feels one's performance is being judged). The teacher has to be aware of children's interests and reading preferences and recognise that there can be many pathways to success.

Understanding children's engagement with reading requires educators to understand how children position themselves as readers, and are positioned by others, including teachers, parents and peers. One teacher said:

*There are different ways of being readers. It's about finding the hook that works for each child. It's important to keep up to speed with what children like to read.*

Evidence that an emphasis on reading engagement was a significant change in practice came from the re-vamped book corners and libraries seen in school observations; from the new stocks of books that schools ordered; from the number of teachers reading to the class for pleasure; from the 27 teachers who signed up for M.Ed modules on 'Children's Literature'; from the schools that established 'reading cafes', lunch-time reading clubs, 'reading-and-pizza' routines and 'late-night story reads'. They did this not as one-off events, but as a regular part of the school's reading provision, building it in ways that were sustainable and that changed between year groups and seasons to keep it fresh. Schools reported that both library membership and book borrowing levels have increased.

Importantly, there was evidence that many staff recognised that the key to getting reading engagement is not just providing beautiful resources, spaces and displays, but children having really good conversations about exciting books. Teachers realised that they had to find new 'ways in' to nurture children's interest in books if they were to build successful reading networks:

*The conversations with children prompted her to consider how she shares a love of reading with the children. Many children spoke of films but few of books. She said 'I'll tell you where I was last night... in an enchanted forest.' Quickly the children were hooked in and wanting to know more. She then said 'I'll bring the book in and you can find out.'*

### ***Responsive Teaching and Coaching***

Analysis of questionnaires, field notes and interviews showed that another shift in classroom practice was a move to responsive teaching based on coaching children to problem-solve and work out words using a range of textual cues and reading strategies. There is evidence that prior to the Literacy Intervention, there was a heavy, and not always helpful, focus on decontextualized phonics instruction and prescriptive reading programmes. Typical practice in many schools was that teachers would 'prepare a text' in class by reading the book to children, discussing 'tricky words' and using the

pictures to retell the story. The child might read tiny parts to the teacher before the book would be sent home for the child to read in full for the first time to a parent. Later in the week, teachers would 'hear' each child read a section of the text in turn. The *Literacy Coaching Programme* challenged these practice norms, suggesting that teachers hear the child read the text first. This allowed them to coach children in strategy use and check that the text presented an appropriate level of challenge. It was a big shift in school practice

One highly experienced teacher said:

*The programme has turned everything on its head. This has challenged all the ways we have taught reading for years, and we thought we had it sussed.*

The field notes from another school record:

*The Head Teacher said later that the shift they have to make is a major one as, for as long as she can remember, teaching reading has been pre-learning words from a reading book and phonics. It's never been questioned before. 'This is new. It shouldn't be', she said, 'but it is'.*

However, it was a shift that most teachers embraced, starting with those taking part in the initial training sessions. Analysis of data from the follow-up Literacy Clinic questionnaire shows that nearly all teachers (25 out of 28) said they were coaching for strategy use fairly regularly or most times while children were reading in class and 22 out of 28 were reminding children at the start of the reading session about the strategies they could use.

Learning to do things differently undoubtedly takes time and effort, but there was overwhelming evidence from a range of sources that teachers wanted to go the extra mile because of the positive effects on children. One teacher told us:

*I was always using the same things. This has now opened up a whole new range of strategies that I'm now using. It's catching loads of different children. Like the other day I was doing testing, it's the end-of-primary-one testing and I couldn't believe it. I was actually there for ages with some of them because they kept being able to read and read and read. And they were using the strategies that I had taught them since the course because before that I was not doing them, definitely, I wasn't doing them. [What were you doing before?] Really, just the same kind of things, it was the phonics, sounding out, that was the main kind of thing, 'use the picture' or 'sound it out'. But now, you know, we're talking about all the other things we talked about on the course and it's made such a difference.*

The field notes made during a visit to another school tell the same story:

*She realises, through participation in the Literacy Programme, that a lot of her thinking has been misdirected. The practice of preparing the text thoroughly in school has been taken for granted as being effective... She hadn't questioned this but now does. What she realizes is that children need to do the work and know that they can do the work, that they are the problem-solvers and that they have the strategies.*

Changing to a more responsive teaching pedagogy is not easy and was described by some teachers as moving from 'hearing reading' to 'teaching reading'. 'Hearing reading' can be done while the teacher multi-tasks on other things. Teaching reading is far more demanding and requires close

attention not just to what children do, but to how they do it. With a large class there are always one hundred and one things to do; teachers need time to form a habit of focusing so that they teach well. As one teacher explains:

*When I'm "hearing reading" I'm filling out markers. Markers, markers, markers. And [I say to the child] 'You're finished. Can you read that again? I didn't see you reading the words'. Then I go sticker, sticker, sticker [giving one to each of the children in the group]. 'Go put them in your folders'. And I think 'I didn't coach'; 'I didn't teach'; 'I didn't help'.*

Teachers recognised the benefits of a coaching model for all children, but particularly for those from low-literacy homes, or homes where everyone is just too busy or stressed to do the reading homework:

*I think that's why we're doing the reading, it is more the onus is now definitely on the teacher to be doing the reading in class and we're teaching them the skills of how to read and they're not doing it at home, because there are children who don't get any homework done and this way it won't affect them as much because we're doing it with them.*

### **Getting the Text Level Right: Value and Challenges**

Ensuring that the texts children were reading were at an appropriate level of challenge required teachers to check the readability level for children at regular points. There was variability in how often this was done, and with which children. Teacher questionnaire data showed that around half of the teachers who participated in the Literacy Clinic experience were carrying out running records and miscue analysis 'fairly regularly' or 'most times' they heard a child read, 12 used them with 'struggling children', and 3 had carried them out 'once or twice to try it.' Teachers had different approaches to these tools:

*I completed these with my whole class to begin with and now all children are reading texts that are suited to their ability. As I have P4 most of the class is fluent readers so I mainly keep running records of the bottom two groups.*

*Using the running records have been fantastic in the class, to allow the children to then move on further if we feel they're not being challenged enough and there are children that we have discovered where they are finding the books just that wee bit challenging... Getting the level of book is key.*

*I have used this in a traditional group setting where it helped to confirm that the group were reading at the correct level of challenge. I also intend to use it with an individual who is struggling to keep up in a group. It will provide evidence should it be necessary to move [children in their] groups.*

*Not just with struggling children – also with children I intend to challenge to help find the correct level of book. I have moved children to higher levels of reading scheme.*

While running records and miscue analysis were successfully employed by many teachers, others highlighted practical and logistical obstacles. Difficulties concerned resource availability (a limited number of scheme-books at each level), the way resources were distributed in the school (book levels allocated to specific year groups); the size and number of groups in a class and the requirement that

writing and reading progress at a similar pace. For some teachers, practical implications like these presented barriers:

***Interviewer:** What do you feel about the link between experiencing success and reading at easy difficulty? What did you make of that idea?*

***Teacher:** Do agree with it in principle. But in practice, it's a different matter. If you really looked you'd have ten different books.*

***Interviewer:** So you have to accept many will read at frustration level [i.e. books that are too hard]?*

***Teacher:** Yes, but it's not ideal. He was the main one in that group so I thought of seeing if coaching with his group would bring [him] up ... Failing that, get him extra support. Scores did go up: 87%, 89% on unseen texts. He's still struggling though so don't think that's the right group for him.*

### **Increasing Children's Time on Task: Changing Classroom Routines**

To increase children's time on task, teachers were advised to show children how to do independent simultaneous reading rather than 'reading round the group'. Whereas some teachers found this easy, others were worried it would increase noise levels or make it hard to ensure others in the class remained on task. Those who tried it, however, universally reported gains in the children's focus, quantity, satisfaction and fluency in reading. One teacher noted:

*It gave me a more realistic impression of each child as a reader. Children spent more time on task, were engaged for longer periods of time and read with increasing fluency and understanding.*

### **Comprehension Teaching: Incorporating a Cultural and Social Identity Approach**

In comprehension-focused teaching, teachers were asked to adopt a 'Reader Response' approach and focus on the children's different interpretations of a text, making meanings that relate to the reader's life, their funds of knowledge and experiences. This often replaced worksheet-based activities and literal comprehension questions, and teachers had to learn to 'work the class', using different contributions to build children's vicarious knowledge and model how readers think. Teachers reported positive results and highlighted particular benefits for less experienced readers, and for those lacking in confidence. This came through in a selection of interviews, field notes and questionnaire comments:

*The children certainly learn from each other and myself in this way and enjoy talking about their experiences. It deepens their understanding of what is read (Teacher comment)*

*Children ask unusual questions. Children enjoy relating it to own experiences. Children who rarely contribute are more confident. (Teacher comment)*

*One girl's dyslexic, behind the rest of class, reading was a chore. ... Now, much more involved in the discussion. Knowledge of words is growing too. She's like different child. She's become more confident in talking about the books. Realised it's not just about struggling with words, it's all you get out of it. (Summary Notes of conversation)*

*Definitely, particularly the poorer readers. Wouldn't have answered questions. Not looking up at teacher. "Don't ever pick me". [Now they're ] more involved. More positive outlook. It's not hard. And you can see if they've understood by the connections they make. (Summary Notes of interview)*

However, the ease with which teachers negotiated this pedagogical shift was mixed. Success was more likely when teachers:

- Replaced worksheets with generic but more meaningful comprehension activities that had a real communicative purpose (for example, story re-tells and story-maps).
- Acknowledged that reading and writing can develop independently, and that slower writing development should be directly addressed rather than be allowed to constrain reading progress.

## **Making Change Happen: Drivers and Enablers**

Reducing the literacy attainment gap associated with poverty necessarily requires a complex mix of interventions coupled with a strong, responsive implementation strategy. This section highlights some features of the *Renfrewshire Literacy Approach's* design that facilitated this.

### **A Knowledge-Driven Intervention**

The key design feature of the *Renfrewshire Literacy Approach* is that it is fundamentally a knowledge-based intervention. The professional knowledge of those working with children was deepened and broadened to create complex, research-informed understandings about reading as a social and cultural practice, as well as a cognitive one. It was their wider, more grounded knowledge of the reading process and pedagogies that equipped teachers to notice new kinds of evidence and develop new ways of responding.

Core professional knowledge connected cognitive, identity and socio-cultural research about children's literacy to how teachers teach. The professionals were then invited to use these insights to re-balance the literacy curriculum. School staff created a new literacy learning mix, with responsive and focused teaching, coaching and planning. The learning mix is different in every school because the children are different, and so are their families and communities. The school staff required professional and intellectual imagination to examine and re-imagine school and classroom systems, rethinking how teachers select and frame tasks, how they provide support and instruction within tasks, and how they deploy social networks and resources to support children in learning to read and in becoming readers.

Knowledge promoted quality texts, offering intellectual challenge and emotional-social engagement, along with physical and social spaces that foster readers' voice and agency. Professional knowledge was also required for wider reading and discussion to build learners' funds of knowledge, to treat comprehension as a social and cultural process as well as a cognitive one, and to create social networks around reading. The results were an increase in enthusiasm for reading, an increase in the quantity of reading, adoption of more effective reading behaviours and improved fluency, all of which contributed to the rise in attainment.

The knowledge-driven approach used in Renfrewshire is distinct from resource or programme-driven interventions which offer shortcuts that frequently undercut teachers' professional and intellectual imaginations. It is also sustainable, appropriate and cost efficient.

## Understanding the Problem

Novices and those lacking specific expertise tend to either oversimplify or skip the problem-scoping stage of an intervention. Experts on the other hand, although they do everything else more quickly than non-experts, spend a longer time identifying the complexities in the problem to be addressed: they think about what the issues are, how these issues are weighted and balanced in context, they consider the potential effects of different interventions (identifying potentially positive and negative effects), and they consult other experts before they decide what course of action, in these particular circumstances, will give the best payoff.

The design of this initiative included a long 'scoping' phase. It began by using the *Strathclyde Three Domain Model* to build professional knowledge about how and why poverty affects reading. Professionals then scoped these issues further, thinking about them in the context of team-teaching one child and again in the context of teaching a class. The *Strathclyde Three Domain Model* functioned as a tool to help teachers and Head Teachers attend to a range of evidence and think about what it might mean. Only then did they decide what their own school needed to do, and how they might begin the process of change. Each phase was accompanied by a lot of discussion with other professionals and with academic experts at the University of Strathclyde. The academics brought specific expertise about literacy research and access to the wider knowledge networks that reside in universities. Careful scoping meant that the schools each articulated their own issues and adapted the intervention to meet local conditions.

## Co-producing Solutions

Curriculum for Excellence allows school professionals to do what is best for the communities they serve. Co-production allows them to create the curriculum in conversation with expert academics and service users.

In the literacy intervention, co-production occurred at two levels:

- Between school professionals and University academics, as a consequence of deepening knowledge, problem-scoping and data-use.
- Between school professionals and the children they teach, as a consequence of pedagogical strategies that emphasise responding to children's voice, choice, cultural capital and social identity rather than simply responding to their cognitive knowledge and skills.

The principle of co-production between University academics and school staff was enacted across a variety of platforms: feedback from individual Professional Development tasks, small-group discussions, literacy clinic activities, classroom visits, and discussions, surveys and interviews with teachers, HTs and central office staff. Although not systematically tracked, co-production between teachers and pupils also occurred across a variety of platforms.

## Developing a Theory of Change

A theory of change indicates a project's aims and then identifies the specific activities and the causal links that convert a project's inputs to outputs. It articulates why and how each activity should gain traction in context and the 'risks' or conditions necessary to effect change. Having an explicit theory allows the activities and strategies to be tested during implementation, using many types of data to ensure that each is gaining the kind of traction expected. The Theory of Change helps 'troubleshoot' the project implementation and provides early feedback that can inform the nature and depth of support required, as well as ensuring the overall direction of travel. The University of Strathclyde academics had a prototype theory of change for the scoping phase of the *Renfrewshire Literacy Approach*. Renfrewshire Local Authority staff and Strathclyde academics worked with an academic from Newcastle University to develop this and articulate a theory of change for further stages and the roll-out phase (see Appendix 3).

## Using Data to Understand and Inform Change

Analysis of large-scale quantitative data from standardised tests is a robust way to establish the strength of the relationship between poverty and literacy attainment. It was also necessary to evaluate the impact of the intervention on attainment, both overall and in narrowing the gap between children from more and less advantaged backgrounds.

However, qualitative data are also needed to explain how and why poverty exerts its effects, and what kinds of practical interventions are likely to work. In Renfrewshire, the systematic collection and analysis of qualitative data from interviews, observations, and surveys was crucial in two ways. Firstly, in shaping the intervention by illuminating implementation issues, generating conversations with professionals, and identifying the nature of support teachers require to make specific changes; and secondly, in understanding the depth and breadth of implementation and how the intervention was changing teacher knowledge and practice.

To assist this process, Children's Services in Renfrewshire are now using a variety of data sources to better inform their understanding of schools and the relationship between poverty and attainment. One outcome of this work has seen schools being grouped into families of schools with similar characteristics. This organisation of data is supporting focused conversations between groups of schools to promote: better analysis and identification of interventions likely to gain traction in particular contexts; improved practitioner learning within and across schools; benchmarking groups of identified children and young people against similar groups in other schools; and greater dialogue in identifying and overcoming the challenges across schools with similar pupil intakes.



## CONCLUSIONS AND RECOMMENDATIONS

This report details key aspects of the design, implementation and impact of the *Renfrewshire Literacy Approach* in its first two years. The *Renfrewshire Literacy Approach* aims to raise literacy attainment and to narrow the gap in literacy attainment associated with poverty.

The secondary school interventions were well-received by teachers and provide some evidence that a whole-school approach to Disciplinary Literacy offers potential to improve attainment.

There has been a statistically significant impact on attainment in primary school literacy. Standardised test data (NGRT) show that average attainment rose from 96.4 (below the national average of 100) at the beginning of the roll-out year to 101.0 (slightly above the national average) in its first full academic year of implementation. Further analysis shows that children in Renfrewshire from all levels of economic deprivation and advantage (measured by SIMD), and at all stages in primary schooling, have benefited and that these increases are statistically significant. Particularly important is the very clear pattern that shows fewer children with 'low' and 'below average' literacy scores. Low literacy can block success in other curricular areas and, whether rich or poor, children with 'average' or 'above average' literacy attainment are in a much better position to do well in school.

There is some evidence that the attainment gap between poor and more advantaged children narrowed, but results depend on the attainment and poverty measures used. A comparison between children receiving clothing grant and those who are not shows a statistically significant increase in attainment for both groups, with a slightly larger increase for those receiving a clothing grant. In addition, improvements in Progress Test English were significant only among children from deprived and middling areas. Analysis of the New Group Reading Test, however, found that the average increase in attainment was similar for economically advantaged and disadvantaged children. Overall, these are promising results and show that Renfrewshire has made a start to tackling underachievement associated with poverty.

Renfrewshire schools, teachers and children have won a number of national and UK awards and accolades for literacy this year. These include:

- National Literacy School of the Year (Awarding body: Education Scotland; Winner: Todholm Primary).
- Teacher Award for 'My Class Loves this Book' (Awarding body: UK Literacy Association; Winner: Ms Simpson, Newmains Primary).
- 'Pupil Who Reads the Most Books' (Awarding body: First Minister's Reading Challenge; Winner: Thomas Macfadyen, Lochwinnoch Primary).

Alongside these accolades, there is clear evidence that teacher knowledge and teaching practices have changed. Teachers reported improved understanding of the subtle ways that poverty impacts on literacy attainment and a greater emphasis in their classroom practices on fostering reading engagement, comprehension, instructional text levels, responsive coaching and increasing time on task. All of these practices are associated with increased equity.

With good stewardship and support from Renfrewshire Council, it is reasonable to expect that attainment will continue to rise as children accrue cumulative gains as they move through their school

careers. The local authority will need to continue its focus on literacy as both a social practice and a cognitive skill, encouraging all staff to attend to a broad range of evidence to scope 'what's needed' before they engage in thinking about 'what works'.

The intervention should continue to deliver improvements in attainment over the next six years as new practices become embedded. Good stewardship is likely to involve:

- A continued focus on developing a broad professional knowledge about literacy teaching and learning. This will be evidenced by Head Teachers sharing challenges, solutions, innovations, and new practices during Head Teachers' meetings as well as by continued regular meetings of school-based Literacy Champions with support for their work at school and council level.
- Continued active and visible support from senior Renfrewshire Council officers, and celebration of success.
- Head Teachers and council staff continuing to use a wide range of literacy data and high-quality texts, resisting any pressure to narrow the focus, challenge or to be seduced by resources and commercial interests.
- Careful induction of new central council staff, Head Teachers and teachers, including probationer teachers. This induction needs to support new staff in building professional knowledge and pedagogical skills, broadening their vision of the curriculum, and the range of evidence to consider in mapping pathways for raising literacy attainment.
- Continued efforts to ensure that both school and council staff are connected to wider literacy networks of researchers and professionals within Scotland, within the UK and internationally.

Building on work to date, the partnership between Renfrewshire Council and Strathclyde University will continue with three new initiatives. These are currently underway and have been funded by Scottish Government under its Scottish Attainment Challenge Programme.

- ***Dive into Writing*** is building on approaches to reading developed in the Literacy Intervention. Teachers are drawing on the *Strathclyde Three Domain Model for Literacy Teaching and Assessment* (Figure 1 above) to scope how the curriculum can shape children as writers. The intervention will build the teachers' capacity to use a wider variety of pedagogic tools specific to the writing curriculum and an understanding of their application in different classroom contexts. It focuses on developing more meaningful contexts and purposes for writing; increased engagement and time on task; a wider range of pedagogies; and more flexible and responsive teaching to improve the fluency, quality and quantity of pupils' writing.
- ***Data-Based Assessment and Pathways to Impact*** is focussing on effective data use by middle managers and teachers as they work to identify and address the needs of children who are not making sufficient progress in literacy. It is investigating the heuristics that teachers and middle-managers use to notice and navigate qualitative and quantitative data, the links to professional knowledge and the wider implications for quantitative data-use in the school. Strathclyde University academics will work with school staff to help identify and understand how data from standardised literacy tests can be used alongside wider evidence from the three domains to determine pathways to impact for children who are harder to shift.
- **The Classroom Assistant Project:** is investigating the valuable knowledge that classroom assistants often have about pupils that stretches across the three domains, how this is accessed and utilised in schools, how it can be enhanced through professional development,

and the wider systemic changes that can help to ensure best utilisation of classroom assistants. This is important because research shows that classroom assistants amass considerable knowledge about children and that this is often not drawn on by teaching staff or school managers. The project will determine how to maximise their impact in making a positive contribution to children's attainment.

## Appendix 1: Professional Attendance

### Primary Literacy Coaching Programme Attendance

Group	Number of Participants		
Primary Head Teachers	52 (49 substantive & 3 acting HTs)		
Primary Class Teachers	<u>Core Programme</u> 49	<u>Twilight CPD</u> 30	<u>NQT Training</u> 59
Primary Class Teachers & Classroom Assistants	<u>In-service Training</u> 670		
Scottish Attainment Challenge Advisor	1		
Education Managers	1		
Development Officers	3		
Educational Psychologists	6		
Early Years Teacher Team	20		
Community Learning & Development Officers	3		
Secondary Support for Learning Teachers	6		
Specialist Support Services Teachers	<u>Peripatetic Services</u> 6	<u>E.A.L Teachers</u> 1	<u>L.A.C Teachers</u> 5
Pre-5 Officers	5		
A.S.N Teachers	1		
TOTAL NUMBER OF ATTENDEES:	918		

***Secondary Disciplinary Literacy Programme Attendance***

<b>Group</b>	<b>Number of Participants</b>
Secondary Teachers, Cohort 1	35
Secondary Teachers, Cohort 2	28
Probationer Teachers	65
<b>TOTAL NUMBER OF ATTENDEES</b>	<b>128</b>

## Appendix 2: Primary Reader Response and Coaching Networks

READER RESPONSE NETWORK	COACHING NETWORK
<p><b>Bishopton Primary</b> HT: Wendy McNaught Old Greenock Road, Bishopton, PA7 5BE Tel 01505 862203 <i>Teacher: Lorna Hunter P1</i></p> <p><b>East Fulton Primary</b> HT: Gillian Ward Gilmartin Road, Linwood, PA3 3SG Tel 01505 324851 <i>Teacher: Rea Chisolm P5/6</i></p> <p><b>Lochfield Primary</b> HT: Claire MacGregor Duncan Quarry Road, Paisley, PA2 7RD Tel 0141 884 2464 <i>Teachers: Angela Mullen and Jane Crawford (Lunch-time Reading Café)</i></p> <p><b>St Anthony's Primary</b> HT: Jacqui McBurnie Hallhill Road, Johnstone, PA5 0SD Tel 01505 704566 <i>Teachers: Pamela Gray P3, Alison Duffy P5, Gillian McGowan P6, Nicky McMillan P6 Jacqueline Heywood, Unit for Communication Difficulties</i></p> <p><b>St James Primary Renfrew</b> HT: Margaret Convery 10 Brown Street, Renfrew, PA4 8HL Tel 0141 886 2497 <i>Teacher: Karen Wilson, P4B</i></p> <p><b>Woodlands Primary</b> HT: Karen Robertson Abernethy Drive, Linwood, PA3 3EX Tel 01505 <i>Teacher: Laura Coyle P7</i></p>	<p><b>Heriot Primary</b> HT: Hilary Paterson Heriot Avenue, Paisley, PA2 0DS Tel 01505 813504 <i>Teachers: Susan Milne P1; Karen Kerr P3</i></p> <p><b>Newmains Primary</b> HT: Carol Cooke Lang Avenue, Renfrew, PA4 0DA Tel 0141 886 2280 <i>Teachers: Audrey Simpson P2/1; Tracey Millar P3/2</i></p> <p><b>Our Lady of Peace Primary</b> HT: Lesley-Anne Dick Erskinefauld Road, Linwood, PA3 3PR Tel 01505 325 840 <i>Teachers: Emma Richardson P1; Linda Turner P4/5 Ainslie Kinloch P5/6</i></p> <p><b>St Fergus</b> HT: Mhairi McDonald Blackstoun Road, Ferguslie Park, Paisley, PA3 1NB <i>Teacher: Kayley Strang P1 (possibly also P4/5)</i></p> <p><b>West Primary</b> HT: Shirley Ormond Newton Street, Paisley, PA1 2RL Tel 0141 889 5350 <i>Teachers: Vicky Wiszniewski (PT) and Claire Wilson P1</i></p> <p><b>St Anne's</b> HT: Nuala Boyd Park Drive, Erskine, PA8 7AE Tel 0141 812 1845 <i>Teacher: Fiona Robertson P1</i></p>

# Appendix 3: Theory of Change

## Stage 1: Scoping the knowledge and designing the change P1-3/4

### STAGES OF CHANGE

**1A: CORE KNOWLEDGE**  
Explain the knowledge  
Scope the issues  
Determine what's new

**1B: MAKING IT REAL**  
Trialling tools  
Exploring complexity  
Building fluent knowledge

**1C: UNDERSTANDING THE FIT**  
Trialling KE tools in context  
Identifying affordances & barriers in class/stage/school practice  
Deepening technical knowledge, fluency and confidence

### KEY ACTIONS AND PEOPLE

**Strath:** Provide CPD; set tasks/readings; note issues; analyse potential.

**HT:** Identify CT; interview P5 struggler.

**HT & CT:** Try CPD tasks (running recs on P2/3s; reader response; environment audit & reading); identify issues (resources, knowledge, patterns of teaching; planning); increase awareness of books

**CT:** Reading Engagement Survey

**QIO:** Attend CPD; liaise with schools; support knowledge-building; recruit & organize supply & rooms; link with elected members

**HT & CT:** use 3 domains; participate regularly & liaise with Lit Clinic teams; identify/share issues, build knowledge, flexibility, fluency & confidence; aware of affordances of books.

**Strath:** support process; note issues.  
**QIO:** participate regularly in Lit Clinics; identify issues (including resource and organization); book banding; books; organise resources.

**Strath:** Interview HTs; questionnaire to CTs  
Identify & recruit networks: Coaching Engagement, Reader Response Engagement & Management. Support Coaching Network - build technical skill & understanding; identify classroom issues affecting rollout of tools & strategies; identify support required. Identify management issues and levers.  
**HT:** support CTs to try ideas; recruit staff; build CT expertise in school. Use for monitoring.  
**QIO:** Promote conversation in HT meetings & school visits. Support book banding & M.Ed attendance.

### CONDITIONS AND RESOURCES

Supply cover  
Time & disposition to reflect  
Attendance & prioritisation

Buy-in & prioritisation; supply cover.  
Time, disposition & resources.  
Identify suitable child; pos experiences; progress

Willing to try it; buy-in to all aspects; supply cover. QIO: knowledge, data.  
Maintain momentum.

### OUTPUTS: HOW WILL WE KNOW IT'S WORKING?

**HT & CT:** Confident fluent pedagogy informed by 3 Domains; insider's view of reading and reading pedagogies; knowledge & understanding. Professional conversations about books, literacy development & teaching. Use 3 Domains for assessment & planning; resources & processes.

Quality of conversations around tasks.  
Grounded observations.  
Engaged in professional reading.  
Increased professional agency & optimism.

Clear strategy and tools.  
Scoped landscapes for wider implementation.

## Stage 2: Making it happen at scale P1-3/4

### STAGES OF CHANGE

**2A: INSPIRATION**  
 Explain vision, ideas, tools and resources to all

**2B: EXEMPLIFIED BELIEF**  
 Support implementation and change management in all schools/classes. Build strong inquiring prof. networks - RC, HT, T. Reach the tipping point. Get elected members & parental buy-in.

### KEY ACTIONS AND PEOPLE

**Strath:** CPD for all schools, teachers, support staff, Educational Psychologists; Early Years team; Leadership for Learning Network.  
**HT:** School Improvement Plan; staff discussions.  
**QIO:** Book levelling

- Tools for Teaching**
- 3 Domain Model
  - Checklist
  - Running record
  - Miscue Analysis
  - Reading Engagement survey
  - 3 Sharings (& others)
  - Letters for parents
  - Bookmarks (PPP)
  - Testing data (?)

### CONDITIONS AND RESOURCES

Quality CPD and venues; school buy-in; film resource; Julie's sweeties.

### Tools for Prof. Development

- Theory of Change
- Film
- Exemplification network (Coaching)
- Exemplification network (Reader Response)
- Professional reading
- UKLA book awards
- M.Ed modules
- HT network

### OUTPUTS: HOW WILL WE KNOW IT'S WORKING?

**Measures/Data:** high in-service participations; positive evaluations;  
**Professional Identity:** staff more knowledgeable and enthusiastic; raised expectations; deeper professional discussions; individual exploration; probationer support.

**HT Leadership:** School CPD; class observation/ monitoring; pupil progress meetings (3 Domains); plan targets; tool-use and timeline with Literacy Champion; plan for use of supply.  
**Council Officer Leadership:** Agenda item at all HT meetings (discussion of leadership activities, progress, and teaching & learning). Leadership retreats. Collate test data for baseline; teaching & learning visits to classrooms and HTs about data. Probationer/new staff induction  
**Strathclyde:** Theory of Change with HTs, Literacy Champions & Councillors.  
**Literacy Champions:** support network meetings (RC & Uni); plan with HT; talk to teachers (tools used; stumbling blocks; useful activities; celebrate progress); next steps & CPD tools to try.  
**Teachers:** try out ideas; pick up on struggling children; report what is/is not working.

One day supply/school; supply for network schools; books for level supplements; books for libraries; share reading scheme (resource if necessary); regular meetings spaces.

**Measures (LA):** Attainment test data; reading engagement data; depth of implementation (with checklist).  
**Measures (HT & T):** book levels; easy reads; staff CPD activity.  
**Professional Identity:** strong; supportive networks HT/Ts; happy; agency.  
**Professional beliefs:** raising attainment and gap closure is possible; less bitty curriculum; better assessment and task adaptations.  
**Pupil/parent behaviours:** enthusiastic and empowered readers; requesting stories; parents – pause, prompt, praise.



## STAGES OF CHANGE

### STAGE 3: Focus on P4-7

3: Moving up the school, language rich, knowledge-rich curriculum for literacy

### STAGE 4: Normalisation

4: Sustaining changes

### STAGE 5: Integration

5: Integrate with new projects. Data monitoring and?

## KEY ACTIONS AND PEOPLE

**Strath:** CPD (Diving into reading/writing; lang-rich science); developing & trialing tools & principles; teaching & planning strategies; assess network potential; wider CPD for all CTS/HTs.

**HT:** identify key CTS; provide management support/encouragement; create space to trial; use for school-based CPD; regular, positive monitoring; baseline data.

**CT:** try ideas; adapt and expand; spot problems; trial tools; liaise with HT.

**QIOs:** identify 8 schools; book spaces; note, celebrate & analyse success; baseline data P4-7 in 8 schools.

**HT & T:** embed all checklist items into practice; good systems & use of class data; monitoring & pupil progress meetings; link to writing.

**QIOs:** note, celebrate & analyse success; encourage group problem sharing/solving at HT meetings & retreats; promote conversations from school visits; ensure induction of new staff and probationers; link to ToC for P1.

**HT, CT, QIO:** maintain the practices as focus moves; use lessons/methods for other initiatives.

**QIO & HT:** tracking cumulative gains; continue with staff development for Literacy Champions.

## CONDITIONS AND RESOURCES

Quality CPD; venues; school buy-in; supply staff; time and support.

Maintain the focus; QIO support and knowledge; supportive, analytical systems in data and change management; strong induction; contd. conversations and support.

Set-up a self-sustaining system

## OUTPUTS: HOW WILL WE KNOW IT'S WORKING?

Coherent, meaningful P4-7 curriculum; raise reading/writing enjoyment and engagement; HT/CT knowledge. Responsive teaching; raise HT/CT/pupil agency; broad assessment and curriculum; narrowed attainment gap.

Coherent, meaningful curriculum; home-school links; enjoyment; analysis & attainment up; HT/teacher/pupil agency up; regular, positive baseline data monitoring; broad school assessment & curriculum; responsive teaching; narrowed attainment gap

## GOALS OF THE PROJECT

## Appendix 4: Analysis of Comparative Attainment Data for 5 schools in the Renfrewshire Literacy Approach, June 2016.

### Comparative Book Level Data for 'Proof of Concept' and Tracking

All Renfrewshire schools collect attainment data during normal school routines and classwork in the form of book-levels and non-standardised tests. We used this at the end of the 'scoping' year to examine potential impact and issues. Although the sample size was very small it was useful because it acted as a small 'proof of concept' and made us alert to the depth of implementation.

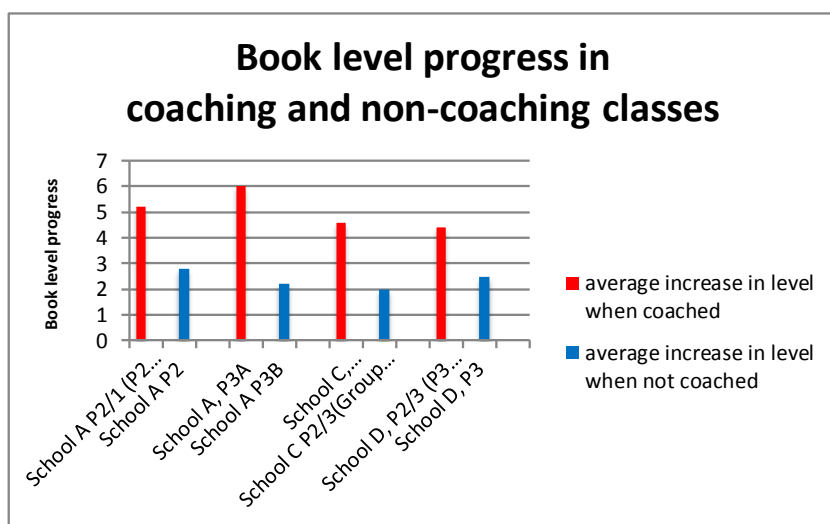
We compared the class attainment data of teachers who were 'early adopters' of the *Renfrewshire Literacy Approach* to historical data from previous years, or to (where the school had two classes at a stage) the data of parallel classes who had yet to experience the intervention. The measures included PIPS scores for P1 classes, book levels for P2 and P3 classes and a non-standardised comprehension test measure comparing historical data for two classes.

The PIPs data showed that P1 pupils in coaching classes made greater progress than those in the parallel non-coaching classes in the same school and generally beat the average progress in local and national samples. The analysis also suggested the importance of depth of implementation; a class with partial implementation did not demonstrate the high gains seen elsewhere.

Book level data showed that P2 and P3 pupils in classes with intervention teachers made greater progress than non-intervention classes in the same school. Children in intervention classes progressed on average 5.3 levels of the reading scheme. Those in non-coaching classes in the same schools progressed on average 2.8 levels. The requirement that children read at 90-95% accuracy on their first reading of the text ensured that children were not simply being 'pushed through the scheme'.

Comprehension data for P5 and P6 classes in one school showed that the pupils who had experienced a greater emphasis on teaching for reader engagement and identity alongside Reciprocal Reading methodologies made greater gains on a non-standardized comprehension test than the previous cohort who had experienced only Reciprocal Reading.

### P3/2 Book Level Data in Coaching and Non-Coaching Classes



An interesting outcome for the P3/2 teacher in School A was that her children made so much progress through the levels of the reading scheme that the books they were reading at easy level (96%) were intended for older primary school children. This meant the content of the books was not age-appropriate. She immediately started to think about this across the 3-domains and came up with the idea of children reading age-appropriate (engaging) non-scheme books once they had reached a certain level of fluency. She was concerned that reading books with so little to engage younger readers would put

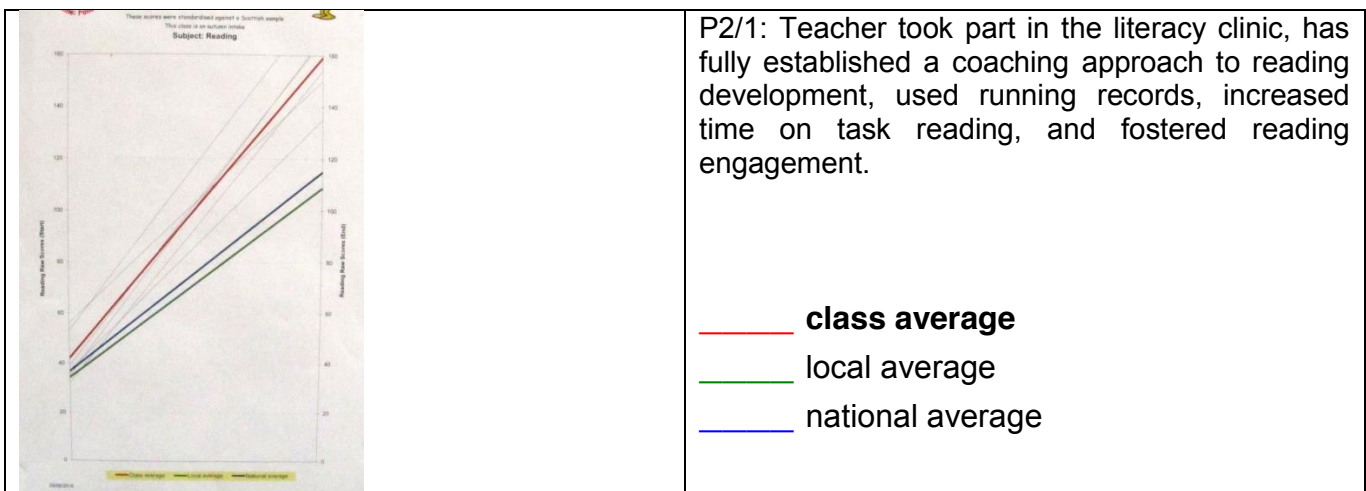
them off reading.

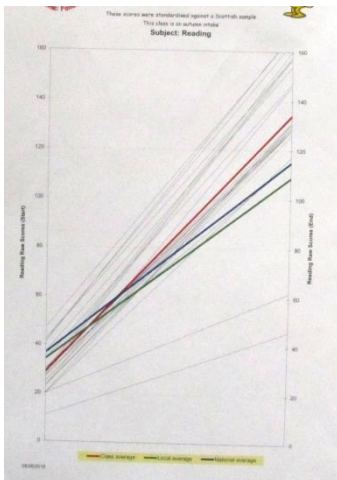
The coaching P2/1 teacher in School A worked with two boys from a P2 (non-coaching) class in her McCrone time twice a week for a term. She also trained an LSA to coach them for half an hour twice a week. She began working with them as their class teacher was concerned that they were not making progress, and she was curious whether using the 3-domain model could help them. The coaching teacher assessed their reading by doing a running record and found that they were reading Stage 5 at frustration level (well below 90%); while they read stage 2 at instruction level (90-95% accuracy). Using coaching strategies, running records, miscue analysis, and tapping into their cultural capital and identity as readers they began making progress. They are currently reading Stage 5 More Stories at instructional level, making 3 levels of progress.

### PIPs Data for P1 Cohorts: Three Schools

#### **School B: Comparative PIPs data for three P1 cohorts (P1A, P1B & P2/1)**

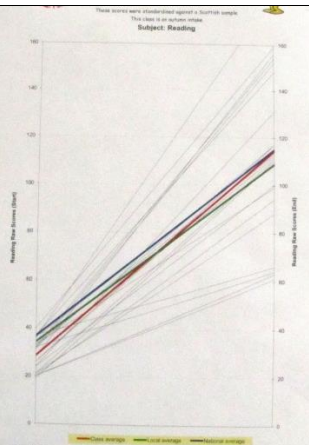
A comparison between these three classes must take into account that one teacher was introduced to the ideas at the earliest point and two teachers were introduced during the 'rollout' of the approach. Of these two teachers, one was an 'early adopter' and instantly tried the approach with her class. The other was more cautious and a 'late adopter', trying the ideas only after others in the school had done so.





P1A: Coaching for reading strategy use is a significant part of this teacher's pedagogy. She uses the *Strathclyde Three Domain* model to consider how children's identity affects the readers they become and makes an informed individual response to this. She was introduced to the 3-domain model later than the P2/1 teacher.

- class average
- local average
- national average

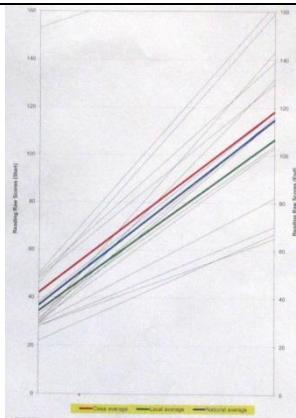


P1B: This teacher has not yet introduced a coaching model into her reading pedagogy, or used running records to check text level suitability. She is less familiar with the 3-domain model.

- class average
- local average
- national average

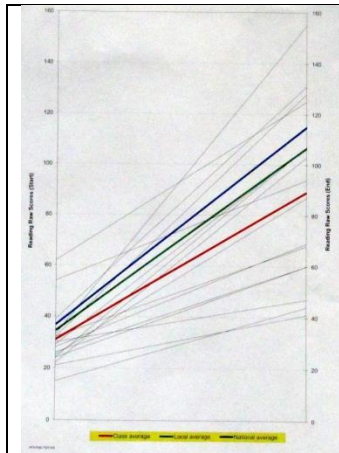
**School C: Comparative PIPs data for two P1 cohorts (P1A & P1B)**

A comparison between these two classes must take into account that in P1A the children's PIPs scores put them above the local and national average at the beginning of P1 and in P1B they were below local and national averages.



P1A: Coaching teacher, part of coaching network, used running records, coached for reading development, and actively promoted reading engagement.

- class average
- local average
- national average

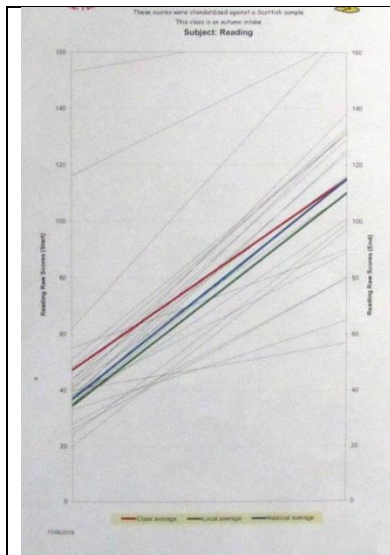


P1B: Teacher not yet using a coaching approach, use of running records or actively promoting reading engagement.

— class average  
 — local average  
 — national average

**School D: PIPs data for one P1 cohort.**

Not all teachers in the initial professional development course were able or willing to make the changes that were required to adopt the approach when teaching the whole class. This was for a number of reasons: some lacked professional knowledge, some lacked agency, some were naturally cautious about change and needed to see ‘worked examples’ from other teachers before they felt confident to change, some felt pressure from internal and external policy directives that predisposed them to resist change.



P1A: This teacher was chosen by the Head Teacher to take part in the initial professional development course, but showed very low application of 3-domain model to her wider pedagogy in class.

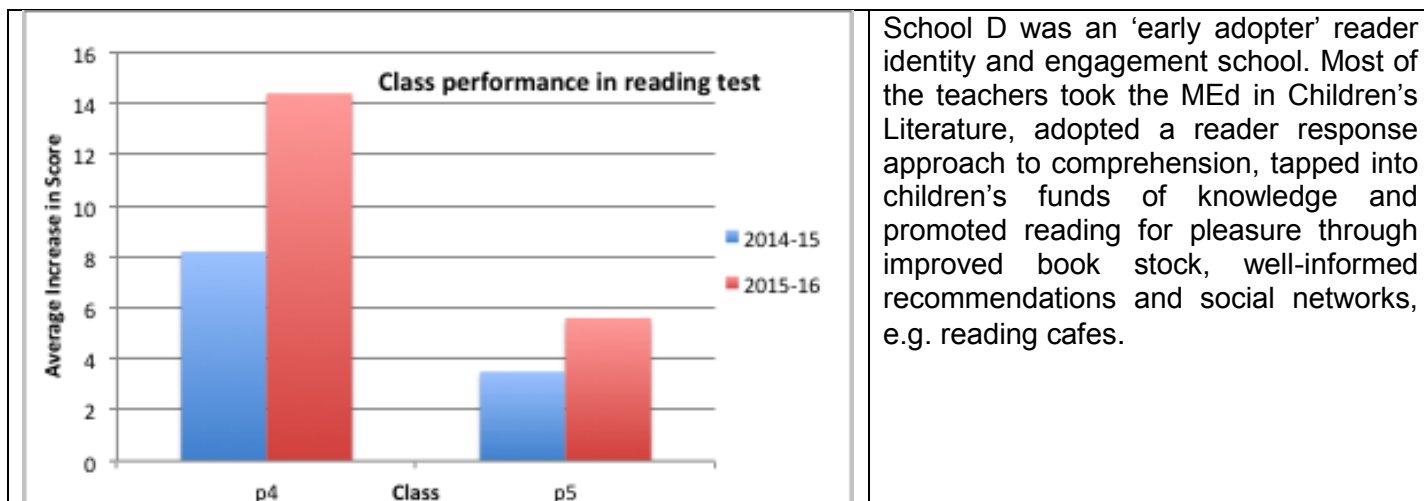
**Comprehension Data P5 & P6: School E**

School E was an ‘early adopter’ of reader Identity & engagement. The data for School E compares comprehension gains in P5 and P6 after the first year of the *Renfrewshire Literacy Approach* against historical data collected the previous year for a different comprehension intervention in these stages. The previous intervention had used ‘Reciprocal Reading’ strategies and had been developed as part of a partnership arrangement with schools in another local authority. In the second year, as a result of the PD



for the *Renfrewshire Literacy Approach*, the school incorporated a strong focus on promoting engagement in reading while continuing with Reciprocal Reading. We calculated the percentage increases in the comprehension scores between the beginning and end of the first ('Reciprocal Reading only') year and these are recorded in blue. Those for the *Renfrewshire Literacy Approach* year are recorded in red. The historical 2014-15 data for P5 showed an average percentage increase of 16% on children's scores whereas in 2015-16, the average percentage increase was 31%. In P6, the historical 2014-15 data showed an average percentage increase of 30% on children's scores whereas in 2015-16, the average percentage increase was 62%. This was in addition to gains made during P5 due to the Reciprocal Reading approach in the previous year. The teachers of both the Renfrewshire classes remained the same. The percentage gain (from beginning and end of year tests) recorded for the year in which the *Renfrewshire Literacy Approach* was used in conjunction with Reciprocal Reading was greater at both stages.

We checked to see if this was a pattern typical in partnership schools that had simply continued with 'Reciprocal Reading'. The Educational Psychologists who led the intervention in the Partnership authority were not collecting the non-standardised test data from the wider group of schools who were implementing Reciprocal Reading, but they made enquiries about the gains on the non-standardised test that all their schools (and the Renfrewshire partnership school) had used. This anecdotal evidence was that schools in the second year of Reciprocal Reading within the partnership authority and with no additional focus on engagement or reader identity, reported sustained rather than increased progress in the second year. Their data showed the results for School D to be an unusual pattern.



School D was an 'early adopter' reader identity and engagement school. Most of the teachers took the MEd in Children's Literature, adopted a reader response approach to comprehension, tapped into children's funds of knowledge and promoted reading for pleasure through improved book stock, well-informed recommendations and social networks, e.g. reading cafes.



September 2017

Report written by University of Strathclyde;  
Published by Renfrewshire Council.  
Copyright Strathclyde University, 2017

