Evaluation of the Effectiveness of the Letterbox Club in Improving Educational Outcomes among Children Aged 7-11 Years in Foster Care in Northern Ireland

Karen Winter, Paul Connolly, Irene Bell and James Ferguson

April 2011
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Evaluation of the Letterbox Club
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Executive Summary

Introduction

The Letterbox Club is an intervention that provides direct support to children in foster care aged 7-11 years to improve their educational outcomes. The intervention comprises once-monthly personalised parcels posted between May and October of each year to children in their foster homes and containing reading materials, story CDs, stationery and mathematics games. The aim of the intervention is to improve ‘looked after’ children’s educational attainment levels in reading and number skills.

In England, Booktrust manages the Letterbox Club in conjunction with the University of Leicester. In 2007-2008 Booktrust received financial support from the Department for Children, Schools and Families to extend its programme to 1,600 children. In 2009 the Letterbox Club opened to every Local Authority in the UK. There has been further expansion in 2010 with 4500 children and 140 Local Authorities now involved.

The Letterbox Club was introduced as a pilot scheme in Northern Ireland in 2009. It is funded through a partnership between charities, Booktrust and the Fostering Network’s Fostering Achievement Scheme. The Fostering Achievement Scheme aims to equip and support foster carers so that they can help those children and young people in care achieve their potential. Since its commencement, over 272 ‘looked after’ children in Northern Ireland have participated. Alongside the delivery of the parcels, the Fostering Network in Northern Ireland has also arranged a number of additional supporting activities for the children that tend to take place at local libraries and involve activities such as reading and storytelling.

As part of the delivery of the programme, the Fostering Achievement Scheme has collected detailed information on the children’s levels of English and Mathematics competence before they took part in the Letterbox Club, and then again at the conclusion of the programme. The Centre for Effective Education at Queen’s University Belfast has been commissioned by Fostering Network Northern Ireland to analyze these data in order to undertake a rigorous and independent evaluation of the effectiveness of the Letterbox Club intervention as delivered in Northern Ireland.

Objectives

The objectives of the evaluation were to:

- Ascertain whether the Letterbox Club is effective in improving literacy and numeracy outcomes for children in foster care;
• Assess whether the Letterbox Club is more or less effective for boys and girls and also for those with differing lengths of time in care;
• Assess whether the additional supporting activities offered as part of the Letterbox Club programme in Northern Ireland have had any additional effects on improving the children’s literacy and numeracy outcomes; and
• To make recommendations regarding the future development and delivery of the Letterbox Club in Northern Ireland.

In meeting these objectives the evaluation took the following form:

• A quantitative analysis of the pre-test/post-test dataset supplied by the Fostering Network Northern Ireland; and
• A focused literature review of the findings from evaluations of similar programmes for children in care and for disadvantaged children more broadly. Due to limited time and resources the literature search will be confined to a review of existing published systematic reviews and meta-analyses.

Methodology

Personalised parcels were sent to foster children at their foster homes once monthly between May and October each year for the years 2009 and 2010. The parcels contained a mixture of books, stationery and mathematics games.

Children were tested prior to their involvement in the Letterbox Club and again once the programme had finished. Pretesting and posttesting took place in a three week period before the intervention began (between 26 April and 14 May) and after the intervention had finished (8 November and 26 November) each year. Tests involved the use of the Neale Measurement of Reading Ability (Neale 1997) and a bespoke mathematics measure (Griffiths 2005). The tests were administered by teachers from Helping Hand Tutoring and involved the completion of reading and mathematics exercises by children. Raw scores were recorded. In total, data were made available on 268 children aged 7-11 years old.

Findings

The Letterbox Club materials

Overall, it is clear that the materials sent out in the Letterbox Club packs to the children have been very carefully designed so as to meet the children’s developmental needs while also being fun and engaging. In relation to the reading materials, they are thematically wide-ranging, attractive and should help to encourage a sense of pride in their ownership and an enjoyment of reading among the children. Some of the issues covered in the texts have been sensitively chosen to reflect some of the feelings and life events that ‘looked after’ children may have experienced. This careful selection should therefore help promote ‘looked after’ children’s sense of personal connection with the reading material.
Similarly, the mathematics games have been carefully designed to promote skills in number as well as problem solving and greater fluency in mental arithmetic. While being tailored to reflect the differing ability levels of the ‘looked after’ children, the games are also varied and fun to play. However it would be beneficial if the existing mathematics materials could be more diverse and incorporate additional contemporary mathematics games.

**Gains made by children in reading and number skills**

There is clear evidence that the children who participated in the Letterbox Club made significant progress during that period in relation to their reading accuracy and comprehension and also their number skills. In particular, the children made an average gain of 3.6 points on their standardised accuracy scores and 3.5 points on their standardised comprehension scores. Similarly, 35% of the children improved their number skills by the equivalent of one National Curriculum level.

These improvements are encouraging in two respects. Firstly, they have occurred over a six month period that includes the long school holidays over summer. This is typically a period where children’s progress tends to stagnate, if not regress. The fact that the children are making such significant gains during this time is therefore noteworthy. Secondly, the size of these gains is similar in order to the findings reported from the three other evaluations conducted of the Letterbox Club to date (two in England and one in Northern Ireland). There is thus a growing body of evidence now to suggest that the size of the gains made by the children in reading and number during the period they participate in the Letterbox Club can be regarded increasingly as a reliable predictor of what one can expect.

Beyond these main effects, it is also worth noting some of the variations that emerged in the rates of progress made between different groups of children. More specifically, there is some evidence that:

- Boys made greater progress in relation to number skills than girls, with 38.1% of boys having increased a National Curriculum level in number compared to 25.4% of girls;
- Attending the Fostering Network Summer Scheme is associated with higher gains in reading accuracy, with those attending the Scheme experiencing a average increase of 5.4 points over the period of the Letterbox Club programme compared to an average increase of 3.1 points for those who did not; and
- Attending additional Letterbox events is also associated with higher gains in reading accuracy, with those attending at least one of these events experiencing an average increase of 5.5 points in their scores over the Letterbox period compared to an average 3.5 point increase for those who did not.

The above patterns need to be treated with some caution however as they relied upon multiple statistical testing (that increases the risk of producing some spurious results) and also some of the evidence was only reaching statistical significance. However, these findings do suggest that the gains made by children during the period they are engaged with the Letterbox club may vary in relation to particular background factors and also any additional activities they are involved in over the period. As such, this would be an area worthy of further investigation with a larger sample.
**Interpretation of the findings**

However, and beyond these key findings, a significant limitation to the study is noted associated with the lack of any control group to compare progress against. Without such a control group of similar ‘looked after’ children, there is ultimately no way of knowing definitively whether some or all of the progress made would have happened in any case. Moreover, even if it can be established that progress in reading and number has been made above and beyond what would typically be expected of ‘looked after’ children over this period, there remains the problem of determining how much of this progress is due to the children’s participation in the Letterbox Club and how much it is due to the effects of other policies and initiatives targeted at ‘looked after’ children (such as involvement in schools peer mentoring and reading schemes for example).

In this regard it is disappointing to note that while four evaluations now exist of the Letterbox Club, none has made use of a control group and thus there remains a lack of any robust and valid evidence of the actual effects of the programme that would meet the acceptable standards for evidence of effectiveness by international educational bodies such as the *What Works Clearinghouse* or the *Best Evidence Encyclopedia*.\(^1\) Neither would any of these evaluations be likely to be recognised or feature in a wider systematic review of existing evidence of the effectiveness of reading and number programmes.\(^2\)

Moreover, it is worth noting that it is quite possible and straightforward to undertake an evaluation of the Letterbox Club that would provide the type of robust evidence required to meet these international standards. More specifically, it would be possible to undertake a simple randomised controlled trial where the number of eligible children in foster care across the UK were randomly split into two groups: one that received the packs during the year in question and the other that acted as a control group and who would receive the packs the following year and once the trial was completed. Moreover, such a trial need not be overly expensive.\(^3\)

### 7.2 Recommendations

Given the findings reported above, a number of recommendations can be made for the future development of Letterbox Club:

1. In relation to the existing materials sent our in the Letterbox Club packs, Fostering Network in conjunction with Booktrust should consider extending the variety of mathematics games included to reflect more contemporary materials and methods.

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\(^2\) See, for example, the Campbell Collaboration that is the leading international organization for the production of systematic reviews of evidence in education: [http://www.campbellcollaboration.org/](http://www.campbellcollaboration.org/)

\(^3\) See O’Hare and Connolly (2010) for an example of a relatively inexpensive randomised controlled trial completed recently in relation to an evaluation of the effects of the Bookstart+ programme in Northern Ireland.
2. Booktrust should commission a full national randomised controlled trial of the Letterbox Club in order to provide robust evidence of its effectiveness in improving educational outcomes for ‘looked after’ children.

3. In any future evaluation of the Letterbox club, alongside the inclusion of standardised reading measures, it would be worth considering incorporating a more standardised and comprehensive measure of children’s numeracy skills as well as other related measures of children’s attitudes towards education.
Acknowledgements

This evaluation was conducted in partnership with the Fostering Network Northern Ireland. The research team would like to acknowledge the guidance and support from Emma McAleer and Kate Lewis from the Fostering Network Northern Ireland.

April 2011
1. Introduction

1.1 Background

The Letterbox Club is an intervention run by Booktrust in conjunction with the University of Leicester that aims to improve the educational outcomes in reading and number for children in foster care aged 7-11 years old. Initially ran as a government-funded pilot scheme in England in 2007-2008, the Letterbox Club has since expanded and is now delivered by Booktrust in conjunction with local partners in Wales, Scotland and Northern Ireland.

The Centre for Effective Education at Queen’s University Belfast was commissioned by the Fostering Network Northern Ireland to undertake a secondary analysis of the monitoring data collected by Fostering Network over the previous two years to perform a rigorous and independent evaluation of the effectiveness of the Letterbox Club in improving the educational outcomes of ‘looked after’ children ages 7-11 years living in foster care in Northern Ireland.

1.2 The Letterbox Club

The Letterbox Club intervention consists of personalised parcels delivered once per month over a six month period, between May and October each year, to children in foster care aged 7-11 years. Each parcel consists of a large, brightly coloured envelope personally addressed to the child and into which are placed: a personalised letter to the child; 2 books (carefully selected by the panel at Booktrust); items of stationery (such as pencils, felt tip pens, rubbers, pencil case, exercise/drawing books, bookmark or stickers); and a mathematics game at the child’s own level of attainment.

Over the six month period the children may also receive other items such as letters from authors. At the end of the six month period each child will have built up a collection of books, numbers games and stationery items. The intervention does not rely on the participation of foster carers in reading and playing games alongside their foster carers but does hope that they will become involved.

Parcel contents vary slightly depending on region of the United Kingdom, age of child and year of delivery but typically children in P4-P5 in Northern Ireland (equivalent to Years 3 and 4 in England) who received parcels between May and October 2009 will have received:

- two non-fiction texts (Eyewonder Human Body and Dinosaur);
- three activity-based texts (DK Animal Sticker Book, Usborne Sticker Atlas of Britain and Northern Ireland, Ladybird Scooby-Doo Sticker Book);
- one fun-based text (Where’s Wally?);
- one book of poetry (Michael Rosen’s Mustard, Custard, Grumble Belly and Gravy);
- eight story-based texts, three contemporary (Horrid Henry, Me and My Cat, The Story of Tracy Beaker), five classic, in the loose sense of outlasting the period in which they were written (Puss in Boots, Horton Hears a Who!, Fantastic Mr. Fox, Wizard of Oz, The Snowman);
• a book and letter from Northern Ireland Letterbox Patron Malachy Doyle, such as the *Hound of Ulster*;
• a calculator;
• six Mathematics games (puzzle sheets or practice sheets);
• one die;
• plastic coins; and
• A CD player.

During the same period, children in P6-P7 (Years 5 and 6 in England) will have received:

• two non-fiction texts (*Teach Your Granny to Text and Other Ways to Change the World*, *Usborne See Inside Your Head*);
• two activity-based texts (*Doctor Who Funfax*, *DK Egypt Sticker Book*);
• two fun-based texts (*Laugh-Your Socks-Off Joke Book*, *Where’s Wally?*);
• one book of poems (Roger McGough’s *The Bee’s Knees*);
• eight story-based texts, five contemporary (*The Worry Website*, *Whizzziwig* and *Whizzziwig Returns*, *Michael Rosen’s Sad Book*, *Spy Dog: Rocket Rider*), two classic (*Danny, Champion of the World*, *Hansel and Gretel*) and one Irish mythology (*The Hound of Ulster*); and
• six Mathematics games.

The key aims underpinning the Letterbox Club are:

• To improve children’s educational outcomes in reading and number;
• To support children’s learning at home;
• To support children’s engagement in their own learning;
• To improve children’s attitude towards and enjoyment of learning; and
• To improve children’s confidence and self esteem.

1.3 Report outline

This evaluation report begins, in Section Two, by providing the context for the present report. It describes the key characteristics of ‘looked after’ children in education in Northern Ireland as well as the key policy developments that have taken place regarding them. Section Three then provides a wider review of existing research regarding ‘looked after’ children’s educational outcomes. Section Four describes the Letterbox Club in more detail, outlines findings of previous evaluations and sets out the methodology used for the present evaluation. The findings of the present evaluation are then presented in Section Five before the main conclusions and drawn and recommendations made in Section Six.
2. ‘Looked after’ children and education in Northern Ireland

2.1 ‘Looked after’ children in Northern Ireland

The term ‘looked after’ child has its basis in legislation and, under Article 25(1) (a) (b) Children (Northern Ireland) Order 1995, refers to ‘a child who is in the care of the authority; or provided with accommodation by the authority for a continuous period of more than 24 hours’. The term ‘looked after’ child (LAC) is often used interchangeably with the term ‘children in care’ (CiC). Several key themes emerge from an analysis of the most recently published figures regarding children in care in Northern Ireland (DHSSPSNI 2010; 2010a).

Firstly, as a whole, this group of children makes up a small proportion of the total child population under the age of 18 years in Northern Ireland. For the period 2008-2009 there were 1,653 children in care representing a figure of approximately one child in every 250 or 0.39 children per 100 (DHSSPSNI 2010: 7). Further sub divided by age bands, about a third of ‘looked after’ children (31%) is of primary school age (5-11 years), or 507 children in total (see Table 1).

Table 1. Characteristics of ‘looked after’ children in Northern Ireland (2008-2009)*

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percentage (%)**</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>860</td>
<td>52</td>
</tr>
<tr>
<td>Girl</td>
<td>793</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>1,653</td>
<td>100</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 5</td>
<td>213</td>
<td>13</td>
</tr>
<tr>
<td>Aged 5-11</td>
<td>507</td>
<td>31</td>
</tr>
<tr>
<td>Aged 12-15</td>
<td>573</td>
<td>35</td>
</tr>
<tr>
<td>Aged 16 and over</td>
<td>360</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>1,653</td>
<td>100</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>810</td>
<td>49</td>
</tr>
<tr>
<td>Protestant</td>
<td>777</td>
<td>47</td>
</tr>
<tr>
<td>Other or Unknown</td>
<td>66</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>1,653</td>
<td>100</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1,598</td>
<td>97</td>
</tr>
<tr>
<td>Mixed</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Irish Traveller</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>1,653</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: DHSSPSNI (2010a: pp. 7-8). **Percentage columns may not sum to 100 due to rounding.
Table 1 also shows that the proportions of children in care by gender and religion are fairly evenly spread. With regard to ethnicity, although the figures overall are very small, it would appear that children in this group (that includes those from mixed backgrounds, Travellers and other ethnic backgrounds) are over-represented in the ‘looked after’ children population for Northern Ireland.

Table 2. Location and placement type of ‘looked after’ children in Northern Ireland (2008-2009)*

<table>
<thead>
<tr>
<th>Health and Social Care Trust</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belfast</td>
<td>403</td>
<td>24</td>
</tr>
<tr>
<td>Northern</td>
<td>407</td>
<td>25</td>
</tr>
<tr>
<td>Western</td>
<td>314</td>
<td>19</td>
</tr>
<tr>
<td>South Eastern</td>
<td>290</td>
<td>18</td>
</tr>
<tr>
<td>Southern</td>
<td>239</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>1,653</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Placement</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Accommodation</td>
<td>165</td>
<td>10</td>
</tr>
<tr>
<td>Foster Care</td>
<td>1,174</td>
<td>71</td>
</tr>
<tr>
<td>Placed with Family</td>
<td>231</td>
<td>14</td>
</tr>
<tr>
<td>Other</td>
<td>83</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>1,653</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: DHSSPSNI (2010a: pp. 7-8)

Secondly, as highlighted in Table 2, most ‘looked after’ children (71%) were placed in foster care with this care arrangement either being provided by extended family or non-family members. While there are only 10% of ‘looked after’ children in residential care there are differences in placement type that relate to age, with children aged 12 years and under more likely to be in foster care and children aged 12 and over more likely to be in residential care. According to the figures the majority of ‘looked after’ children, regardless of Trust area, had experienced stable placements for the preceding 12 months with 67% not having moved placement at all. Of the 23% that had experienced a placement move this had consisted of one change only. These figures challenge the commonly held assumptions that most ‘looked after’ children live in state owned residential homes and that most experience placement instability.

A persistent concern, both historically and presently, across the UK and further afield has been the outcomes for ‘looked after’ children and young people. Available statistics indicate that children in care (and adults who have been in care) tend to do less well in terms of employment and overall social and emotional well being (Stein 2009). A particular focus of concern has been the poor educational outcomes of ‘looked after’ children. These outcomes are measured in a number of ways including: attendance rates; suspensions; exclusions; attainment in Key Stage tests for Mathematics and English; and formal qualifications including GCSEs and A Levels. Up until recently, statistics have tended to focus on ‘looked after’ children in secondary schools. However data are now being collected regarding children in care in primary school settings as described further below.
2.2 Primary school children who are ‘looked after’ in Northern Ireland

According to figures for 2008/2009, 78% (1,282) of all ‘looked after’ children were of compulsory school age. This was less than 0.03% of the total school population. Similar proportions of girls (77%) and boys (78%) were of compulsory school age.

As outlined in Table 3, the educational profile of ‘looked after’ children of compulsory school age shows that ‘looked after’ children experience higher rates of special educational need, suspension and exclusions and days of non-school attendance. Table 3 also shows that that rates of absence increase as these children enter post primary schooling.

<table>
<thead>
<tr>
<th></th>
<th>‘Looked After’ Children</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children with statements of special educational needs (SEN)</td>
<td>24</td>
<td>4</td>
</tr>
<tr>
<td>Suspensions from School</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Excluded from School</td>
<td>1</td>
<td>0*</td>
</tr>
<tr>
<td>Proportion of Half-Days Absent (Primary School)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Proportion of Half-Days Absent (Post-Primary School)</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>

*Source: DHSSPSNI (2010a: pp. 9-11) **Actual percentage is 0.01%

Of those 24% children in care with special educational needs, nearly half of them (48%) had a learning or severe learning disability, a further 12% were noted as having behavioural problems and the remaining 40% were recorded as other reasons. It is interesting to note in Table 3 that absence rates for ‘looked after’ children in primary schools do not vary notably from the school population as a whole.

In terms of schooling experience, 89% ‘looked after’ children had experienced no school changes in the previous year, 10% had experienced one change and 1% two or more changes. A further way that school stability has been measured has been to consider the educational history of new entrants to post primary schooling. Figures here reveal that of the 174 ‘looked after’ children entering secondary schooling 68% had attended the same primary school until transfer age and 30% had changed primary schools at least once. Data were unavailable for the remainder.

2.3 Educational outcomes for primary school ‘looked after’ children in Northern Ireland

Primary school children in Northern Ireland are taught the Revised Curriculum which became law following the implementation of the Education (Northern Ireland) Order 2006 in July that year. The
curriculum is structured and delivered according to the age of the child as follows: Foundation Stage (4-6 years); Key Stage 1 (6-8 years); Key Stage 2 (8-11 years); Key Stage 3 (11-14 years); and Key Stage 4 (14-16 years).

Formal testing on Language and Literacy and Mathematics and Numeracy takes place at the end of each Key Stage under the Education (Levels of Progression for Key Stages 1, 2 and 3) (Transitional) Order (Northern Ireland) 2010. Measurements for each Key Stage are divided into different Levels (CCEA 2010). Children at the end of Key Stage 1 are expected to attain Level 2 and, at the end of Key Stage 2, Level 4 is the standard that most children in this age group are expected to attain in their tests.

The most recent statistics (DHSSPSNI 2010a) report that of the 1,282 ‘looked after’ children of school age in 2009, 72 (6%) were eligible for assessment at Key Stage 1 in 2008/09 and a quarter of these had a statement of Special Educational Need (SEN). The analysis of outcomes excludes those with a severe learning disability. Table 4 shows that attainment levels of ‘looked after’ children compared with the school population as a whole are poor and that they worsen the older the children become.

**Table 4. Educational attainment of ‘looked after’ children compared to the total population in Northern Ireland (2008/2009)**

<table>
<thead>
<tr>
<th></th>
<th>‘Looked After’ Children</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Stage 1 (8 year olds)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Children achieving Level 2 or above)</td>
<td>English</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Maths</td>
<td>70</td>
</tr>
<tr>
<td><strong>Key Stage 2 (11 year olds)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Children achieving Level 4 or above)</td>
<td>English</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Maths</td>
<td>37</td>
</tr>
<tr>
<td><strong>Key Stage 3 (14 year olds)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Children achieving Level 5 or above)</td>
<td>English</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Maths</td>
<td>27</td>
</tr>
<tr>
<td><strong>GCSEs (16 year olds)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 or more (A*-G)</td>
<td>61</td>
<td>99</td>
</tr>
<tr>
<td>5 or more (A*-G)</td>
<td>37</td>
<td>92</td>
</tr>
<tr>
<td>5 or more (A*-C)</td>
<td>16</td>
<td>71</td>
</tr>
</tbody>
</table>


However it is also important to note that between 2007/08 and 2008/09, the percentage of ‘looked after’ children in Northern Ireland achieving Level 2 or above in Key Stage 1 English increased by 12 percentage points, whilst the proportion achieving Level 2 or above in Key Stage 1 Mathematics increased by 18 percentage points (DENI 2010). There were also increases at Key Stage 2 with the number of ‘looked after’ children achieving Level 4 or above in Key Stage 2 English and Maths both increasing by 7 percentage points (DHSSPSNI 2010: 12-13).

**2.4 Policy developments in Northern Ireland regarding education and ‘looked after’ children**

In Northern Ireland, policy developments regarding ‘looked after’ children and education have emerged from various government departments including the Department of Education Northern
Ireland (DENI), the Department of Health, Social Services and Public Safety Northern Ireland (DHSSPSNI), as well as the Office of the First Minister and Deputy First Minister (OFMDFM).

In 2006 the ‘Strategic Plan for Education in Northern Ireland’ was published (DENI 2006). It has four strategic themes: valuing education; fulfilling potential; promoting equality and inclusion; and resourcing education. More recently ‘Every School a Good School: A Policy for School Improvement’ was published (DENI 2008) that centered on six key areas: effective leadership and an ethos of aspiration and high achievement; high quality teaching and learning; tackling the barriers to learning that many young people face; embedding a culture of self evaluation and self assessment and of using performance and other information to effect improvement; focusing clearly on support to help schools improve; and increasing engagement between schools, parents and families recognizing the powerful influence they and local communities exercise on educational outcomes. Both have a focus on groups of children who have a tendency to fare less well and specifically mention ‘looked after’ children within this.

Also of relevance to ‘looked after’ children and their education is the 10 year strategy ‘Our Children and Young people: Our Pledge’ (OFMDFM 2006). It sets out a 10 year plan to improve the lives of children and young people in Northern Ireland and to narrow the gap between those who do best and worst. It is underpinned by six high level outcomes one of which is enjoying learning and achieving. More recently 14 priority areas have been agreed that should form the focus regarding the achievement of the six high level outcomes. One of the chosen priority areas is children and young people in alternative care and leaving care (OFMDFM 2010).

The clearest policy statements regarding the education of ‘looked after’ children in Northern Ireland are ‘Care Matters in Northern Ireland – a Bridge to a Better Future’ (DHSSPSNI 2007); and the ‘Care Matters Consultation Summary Report’ (DHSSPSNI 2009). The Northern Ireland Executive endorsed the Care Matters policy agenda in 2009. These two documents have a particular focus on educational outcomes for ‘looked after’ children and are underpinned by four key themes: empowerment of education services to deal with ‘looked after’ children; foster carers to be supported to engage with schools like any other parent; inter-agency information sharing with information sharing about a child’s care status informed by the best interests principle and respect for privacy; and equal access to the full range of learning opportunities.

Several specific recommendations have been made in these two documents including: the establishment of Looked After Children Education (LACE) teams led by a senior Education Welfare Officer (EWO) and staffed by two EWO’s and a youth worker; the expansion of the Fostering Achievement Scheme which supports foster carers to access educational equipment and resources such as computers and out of school support in the form of tutoring (DHSSPSNI 2007: 67); and the full implementation and monitoring of Personal Education Plans (PEPs) for ‘looked after’ children. There was also a suggestion that statutory guidance should be introduced on this and other related issues, including prioritising the admission of ‘looked after’ children into schools as takes place in England and Wales.

Finally, regarding ‘looked after’ children in Northern Ireland, it is worth noting that the Northern Ireland Literacy Strategy (DENI 1998) and the Northern Ireland Numeracy Strategy (DENI 1998) have been the subject of review. The report ‘Literacy and Numeracy of Pupils in Northern Ireland’,
(PricewaterhouseCoopers 2007) states that among the lessons from schools successful in promoting literacy and numeracy were the following characteristics:

- a culture of high expectations;
- personalizing learning;
- making learning creative and enjoyable;
- stimulating materials and resources; and
- involving parents and the wider community (PricewaterhouseCoopers 2007: 53-61)

These themes are expanded upon in the proposal for a revised Northern Irish literacy and numeracy strategy ‘A Strategy for Raising Achievement in Literacy and Numeracy’ (DENI 2008). This was developed as part of the ‘Every School a Good School’ policy agenda in Northern Ireland and should be introduced sometime in 2011.
3. Review of wider research

3.1 Research regarding ‘looked after’ children’s educational outcomes and contributory factors

There exists a body of research that has highlighted the poor educational outcomes for ‘looked after’ children and possible contributory factors. Longitudinal studies (Essen et al. 1976; St Claire and Osborn 1987; McClung and Gayle 2010) have drawn attention to the differences between educational outcomes for ‘looked after’ children and the child population as a whole and have attempted to unravel some of the possible causes.

In their analysis of data from the Child Health and Education Study, which consisted of a longitudinal study of children born 5th-11th April 1987, St Claire and Osborn (1987) confirmed the low performance of children in care and concluded that this was mainly due to ‘pre care’ factors namely their family backgrounds that were characterised by deprivation. Later research explored this further. The findings, reported in Heath et al. (1994) and Aldgate et al. (1992) revealed that even those foster children who were in the most favourable situations, with settled and long-term placements, were performing well below national norms for their age group. The main conclusion from these studies was that even long-term and settled placements, where variables such as socio-economic background were controlled for (Bebbington and Miles 1989; Winter and Connolly 2005), did not seem to have overcome the educational disadvantages of ‘pre-care’ variables, in this case, early child abuse or neglect.

In addition to the influence of ‘pre care’ variables on the educational attainment of children in care, other research has explored the influence of ‘in care’ variables including: placement stability (Aldgate et al. 1992); placement type (Gallagher et al. 2004); disrupted schooling; lack of inter-agency cooperation (Jackson 1987; Fletcher-Campbell and Hall 1990); low expectations by social work staff working with children in care (Francis 2000; Jackson and Sachdev 2001; Jackson et al. 2002); and the impact of discrimination and social exclusion (Fletcher 1993; Harker et al. 2004).

Not all research comes to the same conclusion regarding the influence of ‘in care’ variables. Gallagher et al. (2004), for example, note that, based on an analysis of the combined broad variables of ‘engagement’ with school, educational attainment and educational structures/processes, residential care can influence education positively. They identified that the key factors helping in this were: giving children a sense of the value of education; clear and consistent messages about expectations in relation to education; a well-structured re-integration programme; and providing
support for children and staff when children are in school and developing a learning culture within the home.

Another study by Aldgate et al. (2002) found a positive relationship between reading, mathematics and vocabulary scores, care plans and length of placement. In particular they found that a planned, long-term care placement appeared to help raise attainment. However, the research found no direct relationship between the number of placements – another common measure of continuity – and test scores.

The researchers monitored the progress over two years of the children in the study population and found attainment to be unrelated to the amount of contact with birth parents. Children who returned home during the study appeared to improve their attainment, compared with those remaining in foster care, while moves to residential care produced declines in performance, although this particular effect was not statistically significant. Children who entered care because of suspected child abuse or neglect had lower attainment than those who were admitted for other reasons, supporting a view that pre-care experiences should be regarded as important in determining adjustment to schooling.

In Northern Ireland the first research project regarding ‘looked after’ children and their educational outcomes was carried out by Save the Children, First Key and Voice of Young People in Care (VOYPIC) and supported by both the DHSSPSNI and DENI (McLaughlin 2002). Findings, based on qualitative interviews of 25 professionals and 52 ‘looked after’ children (ages 9-17 years), highlighted ‘in care’ variables that acted as barriers to attainment including: placement and school changes; higher levels of school suspensions and expulsions; and lack of awareness of the importance of educational success.

Most recently the work of McClung and Gayle (2010), analysing data collected for one fifth of the total care population discharged from care over a 5 year period in Scotland, has suggested that a complex inter-play of ‘pre-care’, ‘in-care’ and structural variables (such as exclusion and discrimination) had an impact on the educational attainment of ‘looked after’ children concluding that:

The overall finding was that looked-after children perform less well academically than their counterparts in the general school population. The empirical data indicated that factors such as placement type, reason for becoming ‘looked after’ and age on becoming ‘looked after’ were significant in determining educational achievement. Empirical results further indicated that looked-after children suffered from discrimination and social exclusion in many areas of their lives, including school and where they lived (McClung and Gayle 2010: 1).

A range of available statistical data regarding the educational outcomes for ‘looked after’ children that has been collected by governments in the United Kingdom for several years now confirms this complex picture. In addition this same statistical evidence confirms that those who have been in care have much less chance of entering higher education, have higher levels of unemployment and, if they obtain jobs, are more likely to be in the less well paid and skilled jobs.
3.2 Research evidence regarding structural interventions and educational outcomes

Accompanying the policy initiatives there has been a growth in practice initiatives aimed at improving educational outcomes for ‘looked after’ children (SEU 2003; Connelly et al. 2008; DHSSPSNI 2007: Berridge et al. 2009; Condie et al. 2009).

Across the UK some initiatives are delivered at the macro level with the aim of improving structures, procedures and processes for the management and strategic development of educational services for ‘looked after’ children. They include among many:

- the appointment of designated teachers in schools (with a proactive role regarding the assessment, monitoring and review of ‘looked after’ children in their school);
- the implementation of a Personal Education Plan (PEP) for every ‘looked after’ child including those of pre-school age (which aim to consider stability of educational provision, early identification of special needs, access to learning opportunities);
- the establishment of a ‘Virtual School Head’ (VSH) in each Local Authority for ‘looked after’ children (with a strategic oversight);
- the establishment of ‘Looked After’ Children Education (LACE) teams;
- annual bursaries for schools that have ‘looked after’ children on the school roll;
- targeted bursaries allocated on a one off basis each year to schools for each ‘looked after’ child attending the school;
- the development of out of school activities; and
- access to additional funding streams.

Other initiatives are delivered directly to ‘looked after’ children and include:

- prioritization in admissions to schools;
- purchase of individual computers;
- access to private tuition;
- involvement in schemes aimed to improve literacy and numeracy;
- entitlement to personal education allowances (PEA);
- the development of alternative education provision (AEP); and
- access to higher education taster courses for care leavers.

A primary concern for practitioner and policy makers is the availability of research regarding the effectiveness of these interventions. The next section begins by outlining the research evidence regarding macro structural interventions and educational outcomes for ‘looked after’ children. It then moves on to consider the research evidence regarding the effectiveness of interventions delivered directly to ‘looked after’ children.
3.2.1 Research evidence regarding macro structural interventions and educational outcomes

Fletcher-Campbell et al. (2003) conducted qualitative research to evaluate the impact of the English government guidance regarding the education of ‘looked after’ children that was introduced in 2000. In the findings, that involved interviews with lead professionals in eight Local Authorities and a small sample of ‘looked after’ children, it was noted that Local Authorities had implemented this guidance but to varying degrees. There were therefore challenges in terms of measuring success/effectiveness although some optimism that the guidance would increase priority given to this issue.

Harker et al. (2004) produced a similarly wide ranging evaluation of The Taking Care of Education Project (run by National Children’s Bureau and funded by the Gatsby Charitable Trust) that was designed to support 3 Local Authorities in England in implementing the then available policy and practice initiatives to promote better educational outcomes for ‘looked after’ children. Using statistical data regarding the educational attainment of this group of children, they found improvements at specific Key Stages and that these improvements were greater that those apparent in national trends (Harker et al. 2004: 242).

Furthermore the evaluation, which also involved qualitative interviews with a range of stakeholders and ‘looked after’ children themselves, concluded that the project had generally been very well received by all involved. Given that the project was so wide ranging, supporting developments at both a policy and a practice level, it was difficult, in the evaluation, to disentangle which parts of the project had been the most effective in terms of raising the educational attainment of this group of children.

More recently in England, Berridge et al. (2009) have evaluated the effectiveness of the ‘Virtual School Head’ (VSH) in raising the educational outcomes of ‘looked after’ children. A VSH, as explained by Berridge et al. (2009: 6):

is a senior individual working for a local authority, who has responsibility for overseeing a coordinated system of support for ‘looked after’ children and improving their educational achievements [...] The virtual school is not a ‘teaching’ institution but a model whereby authorities can provide services and support and hold to account those providing the services.

Using information from a range of sources including statistical returns, Berridge et al. (2009) found that the 11 pilot Local Authorities generally performed well when compared to the national picture regarding the educational attainment of ‘looked after’ children (Department for Children, Schools and Families 2009: 23-24). However improvements were noted prior to the VSH scheme being implemented and it was not possible to attribute any improvement directly to the VSH pilot schemes.

In Scotland, Connelly et al. (2008) conducted an evaluation regarding the different types of pilot scheme that were introduced by 18 Local Authorities following the government making money available to support the educational attainment of ‘looked after’ children. Pilot schemes included
those delivered at the macro level and those delivered directly to ‘looked after’ children. As such the report grouped the interventions into the following categories:

- the provision of direct work with/support to ‘looked after’ children (such as extra tuition, involvement in literacy schemes such as the postal reading book scheme, ‘reading fairs’ and storytelling, off-site education, work placements);
- personal education planning;
- emotional and/or practical support for children at transition points in the education system; development of staff/carer capacity through training/provision of resources; and
- the use of information technology/computer based approaches.

Part of the analysis involved collating baseline and outcome data which was obtained for 722 children and young people ranging from ages 5-15 years plus. Once matched this sample reduced to 636 (Connelly et al. 2008: 53). The study measured the overall impact of the pilot projects on the educational outcomes of ‘looked after’ children (as opposed to measuring the impact of each project individually) and impact was measured in terms of attendance, exclusion and attainment. Changes in these measures between baseline and outcome data were compared.

The results showed that overall attendance increased from 78% to 81% but that days of exclusion increased marginally from 3.5 to 3.7. However there were differences between sub groups of children ‘looked after’ dependent on age with changes being most marked in children aged 9-10 years and over 15 years. With regards to attainment levels, scores were measured using the Scottish National Assessments and Levels A-F (with level A being attained by some children in P2 but most in P3) and based on the assumption that most children should advance by one Level for each chronological age.

The findings showed that:

children and young people participating in the pilots advanced by one 5-14 National Assessment level (38% in Reading; 41% in Writing; 38% in mathematics), much better than the average progress for ‘looked after’ children and similar to the advances made by non-‘looked after’ children nationally [and that] these findings are statistically significant.

(Connelly et al. 2008: 61).

The findings also showed that younger children with higher levels of involvement made more progress in one year as opposed to others.
3.2.2 Research evidence regarding direct interventions and educational outcomes

There is other research which considers the effectiveness of interventions targeted directly at ‘looked after’ children with most having as their focus efforts to improve the literacy and numeracy skills of these children. With regards to interventions focused on literacy, Menmuir (1994) considered the impact of the PRAISE Reading Project on ‘looked after’ children’s enjoyment of, confidence in and frequency of reading. The project, funded and ran by the local council, involved foster carers and residential workers in reading activities with the children in their care who ranged from age 5-17 years. Reading activities consisted of ‘shared reading’ (the child and/or the carer reading out loud) and ‘partnered silent reading’ (reading in the vicinity of each other but silently).

The evaluation was qualitative and involved residential staff and foster carers completing a weekly reading record sheet which indicated what type of reading material had been used, the length of reading time each day and any additional written observations. The findings showed that, with regard to residential units, ‘looked after’ children had engaged in reading on average five times per week, for periods of 10-15 minutes and that all children (bar one) were enthusiastic to be involved. The preferred method in residential settings was silent paired reading. This was in contrast with foster homes where the preferred method was paired reading. Reasons for the differences in preferences were not investigated but it was surmised that it could be the combined influence of the age of the child, placement type overall well being. In summary it was felt that the programme had beneficial effects for all children involved regardless of setting. The findings are limited by the fact that there were no control groups and that no pretest or post test measures were used.

In another project that aimed to improve the enjoyment of reading by ‘looked after’ children in residential homes through storytelling (Stevens 2007), residential workers were appointed as literacy coordinators for their unit. They were trained in storytelling and then engaged in this activity with the children in their unit. In total eight units took part in the programme and four in the evaluation. The evaluation was qualitative and responses were gathered via questionnaire, interviews and observation from literacy coordinators, unit managers and ‘looked after’ children. Specific improvements were perceived to have occurred in terms of ‘looked after’ children’s involvement and progress in literacy related activities and in the quality of their relationships with their main carers. Again the findings are limited by the fact that there were no control groups and that no pre-test or post-test measures were used.

Other literacy projects have been run by voluntary organisations. For example The National Literacy Association has run three well known projects for ‘looked after’ children. The first ‘Right to Read’ involved, in five Local Authorities, equipping 40 children’s homes and secure units with a ‘Starter Library’ of 50 books, ran Reading Road shows for carers, and organised Creative Achievement Days to reward this group of children for their progress.

In a qualitative evaluation of the impact of the project, where ‘looked after’ children were asked to complete a questionnaire at the start and end of the project, findings showed that while at the start 40 per cent of young people said they were ‘not bothered’ about the ‘Starter Library’, at the end of the project 84 per cent had used it, with 51 per cent having read four or more books. Carers also felt
that the project had not only improved children’s literacy skills but had improved their relationships with each other.

The second, called ‘Time for Children’, recruited volunteers to read with ‘looked after’ children in their residential homes or in school if they were fostered. The project operated in the North West, the West Midlands and Kent. It has been reported that the project was well received but its effectiveness has not been determined.

Finally the third project called ‘Reading Stars’ is a 3 year partnership project between the National Literacy Association and Kirklees Education Support Team for ‘looked after’ children and young people. Its aim is to develop a range of initiatives to help increase the enjoyment and reading skills of this group of children. Again its effectiveness has not been fully determined.

Most recently Osborne et al. (2011) report the findings of a paired reading literacy intervention involving 35 foster carers and foster children over a 16 week period. The results revealed an average improvement in reading age of 12 months during this time. Other noted benefits from the qualitative feedback from carers included improvement in children’s confidence and motivation levels. The findings of this research are limited by the lack of control groups.

Reviews of varied practice initiatives have been carried out by Condie et al. (2009) and Brodie et al. (2009). Both conclude that there is a lot of activity in terms of policy and practice to improve the educational outcomes for ‘looked after’ children but that research evidence regarding effectiveness is limited by the fact that many initiatives are ‘small scale and localised [and] they frequently lack systematic evaluation’ (Condie et al. 2009: 6).

It is within this context that the Letterbox Club has emerged as a specific intervention aimed directly at ‘looked after’ children aged 7-11 years and designed to improve their educational outcomes in the areas of literacy and numeracy. The next section considers the Letterbox Club specifically, its methods, findings of evaluations carried out to date and the implementation of the Letterbox Club pilot project in Northern Ireland in 2009.
Evaluation of the Letterbox Club
4. Methodology

4.1 Background to the Letterbox Club

The Letterbox Club project began at the University of Leicester in 2002. Small scale pilot work took place in two Local Authorities in England from 2003 to 2006 and, during this period, a partnership with Booktrust, the national charity that runs Bookstart and other book-gifting schemes, was established. This was followed by a successful bid for a national pilot for 2007 and 2008, funded by the then named Department for Children, Schools and Families (DCFS).

In 2007, and for the national pilot, 540 children ages 7–11 in 23 Local Authorities in England received parcels once a month for 6 months, addressed to them in their foster home or other residence. The parcels included reading books, stationery items and a mathematics game at the child’s own level of attainment (for National Curriculum levels 1 to 4). Parcels were sent from June to November, to cover the summer holidays when there is perceived to be a dip in the attainment, attitude and engagement of some children in the 9–14 age group. While it was hoped that many foster carers would join in by reading or playing games with the children this was not required.

The children were divided into two cohorts: those in Years 3 and 4 (ages 7-9); and those in Years 5 and 6 (ages 9-11) and the two cohorts received a different selection of materials in their parcels to reflect their differing ages. Each year cohort had their reading and mathematics scores measured before they received their parcels and then again after the 6 month intervention had finished. Their reading levels in relation to accuracy and comprehension were measured using a standardised reading instrument (Neale Analysis of Reading Ability 1997) and a bespoke mathematics measure was created by the University of Leicester to measure attainment in number, to reflect the particular skills associated with the mathematics games. The measure was designed to be converted into equivalent National Curriculum Levels in relation to these specific skills (see Griffiths 2005).

4.2 Previous evaluations of the Letterbox Club in England

There have been two previous evaluations of the Letterbox Club in England, undertaken by the programme developers at the University of Leicester (Griffiths et al. 2008; Griffiths et al. 2010; 2010a). The initial evaluation focused on the first year of the nationally funded pilot scheme that took place in 2008. It comprised qualitative interviews with the children as well as the analysis of quantitative data gathered in relation to the children’s reading and mathematics levels.

As regards the qualitative element, it was found from the 221 questionnaires completed by children that 84% responded positively to receiving the books, rating each book as ‘liked it’ or ‘it was OK,’ and the remaining 16% responded less positively rating each book as ‘didn’t use it’. A similar spread of
responses was received from children in relation to the mathematics games with 77% satisfied and 23% rating each game as ‘didn’t use it’. Other qualitative comments revealed that children enjoyed receiving personalised parcels and that they engaged in the reading and mathematics activities with their carers and/or social workers.

In relation to the quantitative element, of the 316 children that data were received for, children were found to have made statistically significant gains in relation to their standardised reading scores over the period of their participation in the Letterbox Club. In particular, children in Years 3/4 made a mean gain score of 4.35 points in their reading scores and children in Years 5/6 a mean gain score of 2.53 points. In relation to the children’s number scores, the evaluation found that about 40% of the children had increased by at least one National Curriculum level during the same period (late May to early January). The evaluators went on to explain that:

For children progressing at an average rate, the usual expectation over that time would be that about 33% of pupils would make such an improvement. Since the period of the intervention included several weeks of school holiday, and many of the children have quite entrenched difficulties, this is encouraging.

(Griffiths et al. 2008: 8)

Similar findings were gained in the second, and more recent, evaluation report (Griffiths et al. 2010). The findings showed that at the beginning of Letterbox Club, the children demonstrated lower reading scores than would be expected for children of their age nationally. More specifically, 6% of the children at the beginning of the study had not yet started to read, compared with just 2% nationally. Following participation in the Letterbox Club the Year 3 children made a mean gain score of 4.4 points and the Year 5 children made a mean gain score of 3.5 points. For their number scores, 28% of the 2008 cohort had scores that increased by at least one National Curriculum level.

4.3 The Letterbox Club in Northern Ireland

The Letterbox Club in Northern Ireland began as a pilot project in 2009 funded by the Fostering Achievement Scheme. As with the scheme in England, personalised parcels were sent to foster children at a rate of one per month between the months of May and October for the years 2009 and 2010. Each parcel consists of a large brightly coloured envelope personally addressed to the child and into which are placed: a personalised letter to the child; two books (carefully selected by the panel at Booktrust); items of stationery (such as pencils, felt tip pens, rubbers, pencil case, exercise/drawing books, bookmark or stickers); and a mathematics game at the child’s own level of attainment.

Over the six month period the children may also receive other items such as library joining cards and letters from authors. At the end of the six month period each child will have thus built up a collection of books, numbers games and stationery items. The intervention did not rely on the participation of foster carers in reading and playing games alongside their foster carers but did hope that they would become involved.
Parcel contents vary slightly depending on region of the United Kingdom, age of child and year of delivery but typically children in P4-P5 (equivalent to Years 3 and 4 in England) in Northern Ireland will have received the following over the period between May and October:

- two non-fiction texts (Eyewonder Human Body and Dinosaur);
- three activity-based texts (DK Animal Sticker Book, Usborne Sticker Atlas of Britain and Northern Ireland, Ladybird Scooby-Doo Sticker Book);
- one fun-based text (Where’s Wally?);
- one book of poetry (Michael Rosen’s Mustard, Custard, Grumble Belly and Gravy);
- eight story-based texts, three contemporary (Horrid Henry, Me and My Cat, The Story of Tracy Beaker), five classic, in the loose sense of outlasting the period in which they were written (Puss in Boots, Horton Hears a Who!, Fantastic Mr. Fox, Wizard of Oz, The Snowman);
- one Irish mythology (The Hound of Ulster);
- a calculator;
- six Mathematics games (puzzle sheets or practice sheets);
- a die; and
- plastic coins

Similarly, children in P6-P7 (equivalent to Years 5 and 6 in England) will have received:

- two non-fiction texts (Teach Your Granny to Text and Other Ways to Change the World, Usborne See Inside Your Head);
- two activity-based texts (Doctor Who Funfax, DK Egypt Sticker Book);
- two fun-based texts (Laugh-Your Socks-Off Joke Book, Where’s Wally?);
- one book of poems (Roger McGough’s The Bee’s Knees);
- eight story-based texts, five contemporary (The Worry Website, Whizziwig and Whizziwig Returns, Michael Rosen’s Sad Book, Spy Dog: Rocket Rider), two classic (Danny, Champion of the World, Hansel and Gretel) and one Irish mythology (The Hound of Ulster); and
- six Mathematics games.

The Northern Irish pilot scheme was also the subject of an evaluation in 2010 (Griffiths et al. 2010a). The findings from this evaluation were similar in order to those achieved in England. Overall, and in relation to reading accuracy, the P4/P5 children made a mean gain score of 1.02 points and the P6/P7 a mean gain score of 5.03 points. With regards to reading comprehension the mean gain scores were 2.3 points for the P4/P5s and 7.1 points for the P6/P7s. In relation to number skills, 39% of the children gained one National Curriculum level over the period of their participation in the Letterbox Club. The evaluation also found very similar satisfaction rates among the children compared to the evaluations conducted in England, with 89% stating that they ‘liked it’ or thought ‘it was OK’ and just 11% saying that they ‘didn’t use it’.

4.4 The present evaluation

The Centre for Effective Education at Queen’s University Belfast has been commissioned to undertake an independent evaluation of the Letterbox Club in Northern Ireland using outcomes data
that Fostering Network had already collected during its delivery in 2009 and 2010. This evaluation has comprised the following two elements:

- A review and assessment of the materials sent out to the children in terms of their appropriateness in relation to the age of the children and their specific circumstances and experiences; and
- A secondary analysis of the data gathered by Fostering Network in relation to the children’s pretest and posttest scores in reading and mathematics during the delivery of the programme in 2009 and 2010.

4.5 Secondary analysis of quantitative data

Just as with the evaluation reported earlier in relation to the 2008 national pilot of the Letterbox Club in England, Fostering Network collected data on the children’s reading and number scores prior to the children receiving their first parcel in May and then again at the end of the programme in October. They did this in 2009 and then again in 2010. In relation to the two scores:

- The Neale Analysis of Reading Ability (Neale 1997) was used to gather raw scores on the children’s reading accuracy and reading comprehension. The research team then converted these scores into standardised scores prior to analysis.
- The bespoke mathematics test that the University of Leicester had developed to measure the children’s number skills was used to gather raw scores that were then converted into National Curriculum level equivalents using the instructions provided by the University of Leicester.

Alongside these outcome measures, data were also gathered in relation to the children’s background characteristics, including:

- Age;
- Gender;
- Type of placement they were in; and
- Health and Social Care Trust area.

Furthermore, data were also collected in relation to their potential engagement in other related activities during the period of the Letterbox Club programme, including:

- Whether they received additional tuition in mathematics and/or English;
- Whether they attended the Fostering Achievement Summer Scheme, which was run for a week during the summer to help young people aged 8 to 11 with numeracy and literacy in fun based ways and
- Whether they attended any of the additional Letterbox Club events organised by Fostering Achievement. These events took place in libraries, involving a variety of activities such as a book reading or treasure hunt for example.
The findings of this secondary analysis are provided in the following section of this report and are based on:

- An analysis of the overall change in reading and number scores of the children during the period of their participation in the Letterbox Club; and
- An analysis of whether the rate of such changes differed in relation to the characteristics of the children and/or their engagement in any of the additional activities outlined above.

There are a number of limitations associated with this approach to evaluating the effectiveness of the Letterbox Club, most significantly in terms of the lack of any control group, and these need to be borne in mind when interpreting the findings. These limitations, and their implications for what claims can or cannot be made about the effectiveness of the programme, will be discussed in the next section.

4.6 The sample

Overall, and in relation to the secondary analysis of quantitative data, data were available on a total of 268 children. The main characteristics of these children are summarised in Table 5. As can be seen, the sample was fairly evenly split in relation to gender with 45.2% being boys and 54.9% girls. There were slightly more children in the older cohort of P6-P7s (53.4%) compared to the younger cohort (35.4%) and the vast majority of the children were placed either with a stranger (69.4%) or with extended family (26.5%). In terms of location, it can be seen that the children were fairly evenly distributed across the five Health and Social Care Trusts in Northern Ireland.

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<td>Not Specified</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
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*Columns may not sum to 100.0 due to rounding.
The proportions of children engaged in additional activities during the period of the Letterbox Club are summarised in Table 6. For those children for whom data were available it can be seen that around a quarter (25.8%) had received additional tuition while participating in the Letterbox Club. Nearly all of these had received tuition in both Mathematics and English and had received an average of 5.8 lessons (standard deviation = 4.2\(^1\)). In addition it can be seen that just over half of children (56.6%) had attended the Fostering Network Summer Scheme and over three quarters (79.9%) had attended at least one of the additional Letterbox Events organised.

| Table 6. Proportion of children engaged in additional activities during the Letterbox Club period* |
|-------------------------------------------------|----------|----------|
| Additional Tuition Received?                     | Number   | Percent (%) |
| Yes                                             | 68       | 25.8      |
| No                                              | 196      | 74.2      |
| Total                                           | 264      | 100.0     |
| Attended Fostering Network Summer Scheme?        | Number   | Percent (%) |
| Yes                                             | 94       | 56.6      |
| No                                              | 72       | 43.4      |
| Total                                           | 166      | 100.0     |
| Attended Additional Letterbox Club Events?       | Number   | Percent (%) |
| Yes                                             | 127      | 79.9      |
| No                                              | 32       | 20.1      |
| Total                                           | 159      | 100.0     |

*Percentages presented are based only on the proportion of the sample where data were available in relation to these three activities

\(^1\) The standard deviation is a measure of how spread the scores are around the average. Typically, about two thirds of the sample will be within one standard deviation of the average score. In this present case, the average number of lessons is 5.8 and the standard deviation is 4.2. As such, we can assume that about two thirds of the children received a number of lessons between 1.6 and 10.0 (i.e. 5.8 ± 4.2).
5. Findings

5.1 Review of reading materials

In examining the materials provided by Booktrust, the following assessment is based on five aspects that relate specifically to the Revised Northern Ireland Curriculum for Language and Literacy at Key Stages 2 and 3 (NIC 2007):

1. range of types of text;
2. range of reading purposes;
3. reading in a variety of contexts;
4. ownership of the reading process; and
5. using reading to reflect on personal experiences and extend horizons.

5.1.1 Range of types of text

A shared aim of the Letterbox Club and the Northern Ireland Curriculum is that children at Key Stages 2 and 3 should view reading in a whole range of forms as an essential part of everyday life. Using a typical six month Booktrust provision as an example (May – October, 2009), children receive a range of texts geared towards their developmental needs at P4/P5 and P6/P7 respectively.

In their landmark book on readability, What Makes a Book Readable (Gray and Leary 1935) identified four elements that make for effective promotion of reading among the general public: content; style (semantic and syntactic features of written text); format (or design of the text); and organizational features. The non-fiction books meet all of these criteria very well. They are an attractive mix of text and visuals, with interesting content and different levels of reading challenge within the one text. Much of the content is relevant to topic work that Key Stage 2 children are experiencing at school.

In terms of presentational style, format or design, with good quality paper and well laid out typography and colourful illustration, and reader-friendly organizational structure, these are books that children would feel pleased to own and which they can use for a variety of purposes. There may be a case for more non-fiction texts to be made available over the six months of the project. The activity-based texts are well chosen, with topics like the sticker atlas of the UK and the sticker book of ancient Egypt very suitable for this age group, linking simple enjoyment with useful learning topics.

The books of poetry can open up a new area of reading and offer children the chance to see that poetry can be a rich and enjoyable reading resource. The way in which poetry works through sensory images to bring together thinking, feeling and imagining makes it a crucial resource at Key Stage 2 to
let children experience both the joy and the power of language. These books, together with the Puffin books of poetry provided in other six monthly lists, are an essential part of good reading experience for children.

The majority of texts provided are story-based texts, and the belief that story is a key resource for the target group of children is very understandable. It may be ambitious to expect children to keep up with the amount of reading involved, with at least five of the eight story texts presenting challenging but enjoyable reading, but the aim is to put the texts in their hands and give them tasters of different kinds of story.

The balance between contemporary, popular texts and more classic stories is good, but one could make a case for more balance between non-fiction and fiction texts. Overall, Booktrust’s contribution towards the need for a ‘book-rich environment’ (MacDonnell, 2004, p.30) to encourage reading is very well addressed by the provision of texts.

5.1.2 Range of reading purposes

Among the many positive effects that Clark and Rumbold (2006: 8-9) claim for reading for pleasure are:

- literacy benefits of all kinds, including comprehension, writing and vocabulary development;
- greater community participation; and
- greater insight into human nature and decision-making.

There is clear evidence that enjoyment of books is at the forefront of the thought that Booktrust puts into selecting texts. Proven popular writers such as Roald Dahl, Jacqueline Wilson, Phillipa Pearce, Malorie Blackman, Michael Rosen and Roger McGough are able to draw many children into reading once their books are placed in children’s hands.

Quirky and fun-based texts, activity books involving stickers or art work, and the inevitable Where’s Wally? (with even the mini editions, complete with magnifying glass, appealing to children) show good awareness of what works. Attractive books that provide learning opportunities on topics that link with school study, such as Ancient Egypt, the human body and mammals are particularly useful for linking learning with good visual illustration.

The Anthony Browne books introduce children to ways of reading that give picture and text equal attention. Browne shows that picture books are for readers of all ages, and that pictures do much more than just illustrate the written text. The Northern Ireland parcels include books by Malachy Doyle, and as well as providing local contexts for the stories, they also blend text and illustration in ways that encourage children to engage fully with the stories.

The books provided allow for a good range of reading purposes, and give children opportunities to develop personal preferences in a particular genre or for a particular author, with the hope that they might take the initiative to follow up their discoveries.
5.1.3 Reading in a variety of contexts

The Northern Ireland Curriculum emphasizes the importance of seeing reading as a communal as well as individual activity. The Letterbox Club materials provide good opportunities for children to read on their own or for an adult carer, who is sensitive to children’s needs, to encourage and support the children’s progress in reading.

The involvement of carers cannot be taken for granted by the project, but contributions in the forms of developing language around texts, creating motivation and encouraging aspiration are significant in helping children develop literacy skills. The strong links between home life, parental or carer aspiration, and educational attainment are well demonstrated (Dugdale and Clark 2008, Dymoke and Griffiths 2010).

Some of the books provided are accompanied by CDs, and the children can be encouraged either to choose between listening and reading or to engage in both. Other longer texts can be used, with an adult reading some parts aloud to the child, to create the intimacy of reading as an interpersonal relationship. Other texts lend themselves to sharing enjoyment with peers or siblings in carrying out tasks or activities.

5.1.4 Encouraging ownership of the reading process

A key aim of the project is to give children possession of books and through that to encourage them to feel ownership of the reading process as real readers. Intrinsic motivation is crucial to the success of the project, so that children develop a pride in owning books, and a pride in seeing themselves as readers.

Visual appeal is a key part of creating such intrinsic motivation, and, in most cases, the attractiveness of front and back covers, the uses of colour, the mix of text and illustration, the size of the book and the print, the quality of paper and the presentation of text in clear, manageable sections are of a very high standard.

5.1.5 Using reading to reflect on personal experiences and extend horizons

Enabling readers to reflect on their own experiences and develop an understanding of themselves and their contexts are important contributions for the children who receive the books, and this is clearly part of the thinking behind providing them with a good range of story books.

Two factors often associated with the effects of being ‘in care’ are anxiety and avoidance, and the results can include not only emotional difficulties, but cognitive deficits as well (Greig et al. 2008: 13). Forming coherent representations of oneself and one’s context is greatly assisted by close relationship between child and caregiver, so that internal models of worth and value become the norm. Many of the texts enable children to relate to real-life difficulties, and show how hope and distress are common human experiences. Developing resilience is part of the learning process for all children as they come face to face with adversity, and it is clearly an important goal for children in care, who may have experienced a range of problems, such as loss, bereavement, separation, discord, violence, abuse and depression. Some of the books have characters like Jacqueline Wilson’s
Tracy Beaker, a child brought up in care, in ‘the dumping ground’, who has already, by the age of 10, been through a whole range of experiences of rejection, of neglect and of unhappiness, and whose hopes and outlook on life are complex and moving.

Many of the other books do what makes children’s literature so loved: they celebrate the victory of those who appear small or weak over the powerful, the privileged and the wealthy, or they appeal to children’s sharp sense of injustice and the hypocrisy of many adult expectations and standards of behaviour.

The National Literacy Trust’s research overview, Reading for Pleasure (Clark and Rumbold 2006: 28) claims that:

Pupils can become reluctant readers for a variety of reasons, including boredom, low self-esteem, or an inability to keep up with their peers. We must therefore address the possible issues that make an individual a reluctant reader and use creative solutions to combat this disengagement.

From the survey of the reading materials, it is clear that the books provided by Booktrust have been selected for the contribution they can make to the needs of the children who receive them. Giving the children ownership of a small library of these well-chosen texts can help create intrinsic motivation to read, and can be a significant support to their potential growth as learners and as people.

5.2 Review of number materials

Mathematics is an area of the curriculum that many find difficult and to which society has attributed certain negative characteristics. Mathematics games which are played in a non-threatening, relaxed environment, in which there is a risk-free atmosphere, create a good learning disposition. Games are learner centred, played for excitement and challenge and can bring enjoyment, success and satisfaction to the child.

In addition to developing and consolidating mathematical knowledge, the use of games within numeracy contributes to the development of social skills through communication and cooperative play by ‘taking turns’ during play, and the child’s creativity and imagination are stimulated. Manipulative skills are also developed through cutting out the playing cards, and dexterity is enhanced using the associated resources of board games.

The mathematics games provided by Letterbox Club are packaged in six differentiated parcels according to the child’s attainment level in mathematics and illustrate progression in the numeracy activities in which children are invited to participate. Although originally designed to complement the National Curriculum in England and Wales, the numerical content is within the Northern Ireland Primary Curriculum (2007).

The dispatched mathematics games are chosen at levels deemed appropriate to the child’s level of attainment in numeracy and mathematics. Although the areas addressed within the games are primarily focused on number – including number facts, place value and the four operations on whole
numbers and money – the games also allow for problem solving and mathematical thinking to be explored and developed.

Some individual games appropriately allow a calculator to be used for checking accuracy of answers. The use of a die and the random selection of numbers for use within games mean that answer sheets are not appropriate, and therefore the inclusion of a calculator is important. It is proper that the calculator is dispatched with the first parcel. This will also allow for experimentation with the calculator by the child. However, the games also allow plenty of opportunity to develop mental strategies in numerical calculation. Additionally the games do not require, but can permit, any written output, which encourages those children who are reluctant to be engaged in written work.

Depending on with whom the child is playing the game, opportunities for communicating mathematically, accurately using mathematical language and exploring different mental strategies within calculations can be developed. These games lend themselves to this form of development and using specific mathematical language with children who are playing allows the precise mathematical vocabulary to become familiar (Pound and Harrison 2003). However, the basic structures and procedures of most games are familiar to children and provide a medium through which those who would otherwise be reluctant to participate in mathematics because of the mathematical or social language involved, can become fully engaged (Way 1999).

Some of the games are mathematically strong and challenging requiring reverse logic, as, for example, in the ‘What’s missing?’ game. These are appropriately more frequent in the later parcels, numbers 5 and 6. Some of the games involve the use of trial and error which can only be comfortably undertaken when the child has developed a level of confidence in his or her own mathematical ability, and therefore it is apt that this type of game is not presented first. This style of trial and error game also facilitates repeated calculation, either mental or written, in search of the correct answer and therefore unknowingly the child is carrying out multiple calculations in search of ‘the answer’.

The resource cards for each game have the game title printed on each card to prevent confusion between the different activities. However, there may be some misunderstanding with some of the card resources. For example, each resource card for the ‘fifty pence’ game has illustrations of 5p coins totaling different multiples of five in monetary values. All resource cards have ‘fifty pence’, the game title, written on the side that could mislead some children to believe that, for example, four 5p coins total 50p. This occurs in other games within the pack. It might be worth considering writing the name of the game on the reverse side of the playing cards. The ‘Table Bingo’ game would lend itself to either the inclusion of an instruction to use a calculator, or an included reference sheet listing the times table multiplication facts within 25. The money based games are economically reproduced on different coloured card and the £5, £10 and £50 vouchers have been assigned a graphic, and associated with a bank holding a self explanatory name.

It may be worth considering modifying the size and layout of each of the notes to be more aligned with actual money that the child will use in everyday life, while still maintaining a clear distinction between these notes and real money. Financial education is crucial for children and therefore it is appropriate that there is some emphasis given to games which are money based.
The mathematical games are focused on the attainment target ‘Number’. Their presentation is similar to the mathematical games which the child will have seen used in the classroom in conjunction with a commercial scheme. The continuity which this provides may allow an element of ‘safety’ for the child and can be justified by research suggesting that ‘homes are places where the numeracy practices of the school are to be practiced and reinforced’ (Baker, Street and Tomlin, 2001: 4). However, if the child does not have a positive attitude to numeracy and school, then this could be a negative factor. There could be a concern that any negative attitudes to mathematics which an adult might hold could be transmitted during playing (Ernest 2000: 87; Ma and Kishor 1997: 26).

This applies not only to mathematical games but to all learning of mathematics where ‘there is considerable evidence to suggest that much more needs to be done to deepen children’s interest in mathematics and develop better attitudes to learning the subject’ (Williams 2008: 64). It is hoped that the use of games which are played in a relaxed and supportive environment could counteract this. Games in numeracy are an excellent medium through which a child’s attitude to mathematics can be positively influenced.

It may be worth considering the use of such games as ‘Darts’ (foam based) which contain the mathematics of doubling, trebling, multiplication, addition and subtraction while presenting themselves as not being connected to mathematics in any way. A game such as ‘Connect Four’ requires the development of mathematical thinking and strategy but does not present itself as mathematics.

It might be helpful to consider providing games that are focused on other areas of the numeracy curriculum other than number, such as the everyday activity of ‘reading time’. Alternatively, numeracy can be consolidated into purely practical home situations by incorporating weighing or ratio into a practical session of baking or cooking.

There are several freely accessible mathematical websites that provide resources for numeracy games which have been devised and graded by mathematics experts. They are presented with modern graphics and the resource banks are continually updated and revised, thus allowing a continual flow of such resources. Examples of such web sites have been presented at the end of this section. Alternatively, there are several on-line interactive numeracy game sites which have been created and evaluated by numeracy experts, though these do require internet access.

Some of the resources could easily be used for multiple games by supplying different instruction resource sheets. An example of this is the resources used for the game ‘999’. This in itself is an excellent game. However, consider the following rules:

- Each player secretly selects 3 cards;
- Each player makes the largest (or smallest) possible 3-digit number;
- Both players reveal their cards together; and
- The player with the largest number wins.

These new rules for the resources offer a completely different game and address an alternative aspect of the curriculum, in this case the practice of ‘Place Value’.
The Letterbox Club provision of numeracy games and activities is a valuable resource for children to develop their enthusiasm and motivation for learning particularly over the summer vacation period. Numeracy games allow children to operate at their own level of understanding of the mathematical concepts, and repeated use of a game facilitates the child revisiting the concepts at different cognitive levels of mathematical knowledge.

While accepting that the numeracy games under discussion could be further developed and produced more attractively while incurring a minimum of expense, the concept and resources make a valuable contribution to the mathematical education of the child. They play a constructive and important role in bridging both educational and social gaps in the child’s life.

5.3 Secondary analysis of reading and mathematics outcomes data

5.3.1 Main outcomes

In considering the outcome data provided by Fostering Network, there is evidence that, during the period of the Letterbox Club intervention (May to October), the children who took part in the programme made significant progress in relation to each of the three outcome measures. These improvements were of a similar order to those found in the three previous evaluations of the Letterbox Club as described in the previous section.

In relation to reading accuracy, the children’s mean standardised score prior to taking part in the Letterbox Club was 89.5 (standard deviation = 13.9), which is notably lower than for similar aged children within the population as a whole in England and Wales whose average score is 100 (standard deviation = 15.0). It can be seen from Figure 1 that, by the end of their participation in the Letterbox Club, this gap narrowed by 3.6 points, with the children’s mean score rising to 93.1 (standard deviation = 15.6). This increase was found to be statistically significant.¹

¹ p<.0005, t=8.4421, df=224; Cohen’s d=.24
A similar picture is also evident in relation to the children’s standardised reading comprehension scores. As can also be seen in Figure 1, the mean score for the children at the beginning of the programme was 88.0 (standard deviation = 14.2), 12 points below the average score of 100 (standard deviation = 15.0) for children as a whole in England and Wales. By the end of the children’s participation in the Letterbox Club, this gap had reduced by 3.5 points as the children’s mean score increased to 91.5 (standard deviation = 15.9). This increase was also found to be statistically significant.¹

Finally, and in relation to the children’s estimated Key Stage Mathematics levels in relation to completing number problems and fluency with mental arithmetic, it can be seen from Figure 2 that just over a third of the children increased a level during the period of their engagement in the Letterbox Club (35.9% for P3/P4 children and 34.3% for the P6/P7 children) while nearly all of the remainder stayed at the same level. This change was found to be statistically significant for the sample as a whole.²

While it can also be seen that there is a small proportion of children found to have reduced their number skills by a level, this should not be regarded as a cause for concern in itself. Given the overall numbers, these percentages only relate to a handful of children and may well reflect random variations in the children’s performances on the day in relation to the tests rather than any underlying decline in skills.

¹ p<.0005, t=6.0462, df=224; Cohen’s d=.23
² p<.0005, Wilcoxon Test, Z=6.181, representing an effect size of r=.50 [estimated as Z/sqrt(N)]
Alongside this main analysis, further exploratory analyses were undertaken to ascertain whether the rates of change described above varied in any way in relation to the characteristics of the children and/or whether they had engaged in any of the additional activities outlined in the previous section during the period they were participating in the Letterbox Club.

**Age, placement type and additional tuition received**

No evidence was found of any variations in the rates of improvement of the children with regard to their age, type of placement or whether they had received additional tuition.\(^1\) As such, children’s increases in their reading accuracy, reading comprehension and estimated National Curriculum levels in relation to their number skills were similar regardless of:

- Their age;
- Whether they were on placement with a stranger or extended family; and
- Whether they had received any additional tuition or not.

**Gender**

In a similar vein, no differences in the rates of improvement in reading accuracy or reading comprehension were found between boys and girls participating in the Letterbox Club.\(^2\) However, there was some potential evidence\(^3\) of boys tending to make greater gains in mathematics than girls.

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\(^1\) See the Appendix, Tables 8, 9 and 10 respectively.

\(^2\) See the Appendix, Table 7.

\(^3\) For the purposes of this present study, effects that were found to be statistically significant at the p=.10 level were defined as showing “potential evidence”.
More specifically, and as illustrated in Figure 3, a greater proportion of boys (38.1%) were found to have increased their number skills by one National Curriculum level compared to girls (25.4%).¹

<table>
<thead>
<tr>
<th></th>
<th>Reduced a Level</th>
<th>Stayed the Same</th>
<th>Increased a Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Girls</strong></td>
<td>1.5</td>
<td>73.1</td>
<td>25.4</td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td>3.6</td>
<td>58.3</td>
<td>38.1</td>
</tr>
</tbody>
</table>

*Figure 3. Changes in the children’s estimated Key Stage maths levels in relation to the ability to complete number problems and fluency with mental arithmetic over the period they participated in the Letterbox Club (mean scores)*

**Attendance at Fostering Network Summer Scheme and Attendance at Additional Letterbox Club Events**

Finally, no differences in gains made by the children in relation to reading comprehension or estimated Key Stage Mathematics levels were found between those who did and did not attend the Summer Scheme organised by Fostering Network during the period they were participating in the Letterbox Club.² Similarly, no differences were found in relation to these two outcomes between those who did and did not participate in additional Letterbox Club events organised during this period.³

However, there was evidence that those who attended the Summer Scheme did make greater progress in relation to reading accuracy (an average increase of 5.4 points, standard deviation = 7.3) compared to those that did not (average increase of 3.1, standard deviation = 5.4). This difference, illustrated by Figure 5, was found to be statistically significant.⁴

In addition, and as also illustrated by Figure 5, there was some potential evidence found that those who attended at least one additional Letterbox Club event also made greater progress in relation to

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¹ *p* = .097, Chi-Square = 2.752, df = 1; Cramer’s V = .14
² See Appendix, Table 11.
³ See Appendix, Table 12.
⁴ *p* = .035, t = 2.130, df = 138; Cohen’s d = .36
reading accuracy (a mean increase of 5.5 points, standard deviation = 7.0) compared to those that did not (mean increase of 3.5, standard deviation = 5.5).\(^1\)

![Figure 5. Differences in the children’s mean gain scores for reading accuracy in relation to whether they attended the Summer Scheme and/or other Letterbox Events over the period they participated in the Letterbox Club (mean gain scores)](image)

### 5.3.3 Interpreting the findings

Overall, there is clear evidence that the children have made significant progress in relation to their reading and number scores during the period they participated in the Letterbox Club. However, and because there is no valid control group, it is not possible to interpret these improvements, in themselves, as evidence of the effects of the Letterbox Club. The reason for this is that the lack of a similar group of ‘looked after’ children to compare the progress of these children against presents the current evaluation with two limitations:

1. **It is not possible to determine whether some, or all, of the progress made would have happened in any case for the children in this study.**

   The use of standardised scores in reading do enable us to conclude that this group of ‘looked after’ children have made statistically significant gains compared to the national average for children in England and Wales. However, and without the use of a valid control group of other ‘looked after’ children, it is impossible to determine whether these gains would have happened anyway.

   It may be the case, for example, that ‘looked after’ children’s development of reading skills takes a different path to children more generally. They may, for instance, develop at a slower rate over their middle years (aged 7-11) compared to children more generally; thus tending to fall further and further behind their peers. If this were the case then the findings presented here would have actually under-estimated the progress made. However, it is also

\(^1\) p=.099, t=1.659, df=135; Cohen’s d=.34
conceivable that, following a slower start; ‘looked after’ children’s rate of improvement in reading skills may be higher than children more generally during this middle years period. If this were the case then some or all of the gains reported above may have reflected gains that would have occurred in any case.

Of course, and in relation to the use of an unstandardised bespoke Mathematics test, it is not possible to draw any inferences about the children’s gains in number skills compared to children more generally.

2. **Even if it can be established that the progress made by the children in this study are above and beyond what would be expected of them typically, it is still not possible to determine whether this progress was due specifically to their participation in the Letterbox Club.**

The issue here, and as outlined in previous sections, is that there are now an increasing number of policies and initiatives aimed at improving literacy and numeracy among disadvantaged and vulnerable groups of children, including ‘looked after’ children. It is quite possible that some or all of the progress made by the children in this study could have been due to the combined effects of these wider initiatives.

Moreover, it may be that the wider emphasis on reading and number skills evident in literacy and numeracy strategies for Northern Ireland, as also described in an earlier section, could also be having the effect of improving scores among children in Northern Ireland generally, including ‘looked after’ children, and thus the gains reported here may possibly be partly or totally explained by these wider effects.

One interesting point to note in relation to this is that the gains made by the children occurred during a six month period that included the summer holidays. As the previous evaluation reports have stated, the summer holidays are a time when, typically, children’s academic performance tends to fall back slightly. The fact that the children’s reading and number skills actually improved over this period is therefore notable.

However, it is also worth remembering that the summer holidays only account for about a third of the six month period over which the Letterbox Club operated (eight weeks out of a total of 26). Moreover, and without a valid control group, we have no way of determining the extent to which the summer holidays will have dampened the children’s progress in reading and number over the full six month period. Unfortunately, therefore, we are back to the point that we cannot tell whether the gains made over this period would have happened in any case.
6. Conclusions and recommendations

6.1 Summary and Conclusions

6.1.1 The Letterbox Club materials

Overall, it is clear that the materials sent out in the Letterbox Club packs to the children have been very carefully designed so as to meet the children’s developmental needs while also being fun and engaging. In relation to the reading materials, they are thematically wide-ranging, attractive and should provide the children with every opportunity to encourage a sense of pride in their ownership and an enjoyment of reading. The issues covered in many of the texts have been sensitively chosen to reflect some of the feelings and life events that ‘looked after’ children may have experienced. This careful selection should therefore also help promote ‘looked after’ children’s sense of personal connection with the reading material.

Similarly, the mathematics games have been carefully designed to promote skills in number as well as problem solving and greater fluency in mental arithmetic. While being tailored to reflect the differing ability levels of the ‘looked after’ children, the games are also varied and fun to play. However, and as explained in the previous section, it would be beneficial if the existing mathematics materials could be more diverse and incorporate additional contemporary mathematics games.

6.1.2 Gains made by children in reading and number

It is clear from the findings derived from this present evaluation that the children who participated in the Letterbox Club have made significant progress during that period in relation to their reading accuracy and comprehension and also their number skills. In particular, the children made an average gain of 3.6 points on their standardised accuracy scores and 3.5 points on their standardised comprehension scores. Similarly, 35% of the children improved their number skills by the equivalent of one National Curriculum level.

These improvements are encouraging in two respects. Firstly, they have occurred over a six month period that includes the long school holidays over summer. This is typically a period where children’s progress tends to stagnate, if not regress. The fact that the children are making such significant gains during this time is therefore noteworthy. Secondly, the size of these gains is similar in order to the findings reported from the three other evaluations conducted of the Letterbox Club to date (two in England and one in Northern Ireland). There is thus a growing body of evidence now to suggest that
the size of the gains made by the children in reading and number during the period they participate in the Letterbox Club can be regarded increasingly as a reliable predictor of what one can expect.

Beyond these main effects, it is also worth noting some of the variations that emerged in the rates of progress made between different groups of children. More specifically, there is some evidence that:

- boys made greater progress in relation to the number skills than girls, with 38.1% of boys having increased a National Curriculum level in number compared to 25.4% of girls;
- Attending the Fostering Network Summer Scheme is associated with higher gains in reading accuracy, with those attending the Scheme experiencing an average increase of 5.4 points over the period of the Letterbox Club programme compared to an average increase of 3.1 points for those who did not; and
- Attending additional Letterbox events is also associated with higher gains in reading accuracy, with those attending at least one of these events experiencing an average increase of 5.5 in their scores over the Letterbox period compared to an average 3.5 point increase for those who did not.

The above patterns need to be treated with some caution however as they relied upon multiple statistical testing (that increases the risk of producing some spurious results) and also some of the evidence was only reaching statistical significance. However, these findings do suggest that the gains made by children during the period they are engaged with the Letterbox club may vary in relation to particular background factors and also any additional activities they are involved in over the period. As such, this would be an area worthy of further investigation with a larger sample.

However, and beyond these key findings, there remains the significant limitation that besets this current evaluation and the three other evaluations of the Letterbox Club associated with the lack of any control group to compare progress against. Without such a control group of similar ‘looked after’ children, there is ultimately no way of knowing definitively whether some or all of the progress made would have happened in any case. Moreover, even if it can be established that progress in reading and number has been made above and beyond what would typically be expected of ‘looked after’ children over this period, there remains the problem of determining how much of this progress is due to the children’s participation in the Letterbox Club and how much it is due to the effects of other policies and initiatives targeted at ‘looked after’ children.

In this regard it is disappointing to note that while four evaluations now exist of the Letterbox Club, there remains a lack of any robust and valid evidence of the actual effects of the programme that would meet the acceptable standards for evidence of effectiveness by international educational bodies such as the What Works Clearinghouse or the Best Evidence Encyclopedia.¹ Neither would any of these evaluations be likely to be recognised or feature in a wider systematic review of existing evidence of the effectiveness of reading and number programmes.²

¹ See [http://ies.ed.gov/ncee/wwc/] and [http://www.bestevidence.org/] respectively
² See, for example, the Campbell Collaboration that is the leading international organization for the production of systematic reviews of evidence in education: [http://www.campbellcollaboration.org/](http://www.campbellcollaboration.org/)
Moreover, it is worth noting that it is quite possible and straightforward to undertake an evaluation of the Letterbox Club that would provide the type of robust evidence required to meet these international standards. More specifically, it would be possible to undertake a simple randomised controlled trial where the number of eligible children in foster care across the UK were randomly split into two groups: one that received the packs during the year in question and the other than acted as a control group and who would receive the packs the following year and once the trial was completed. Moreover, such a trial need not be overly expensive.\(^1\)

### 6.2 Recommendations

Given the findings reported above, a number of recommendations can be made for the future development of Letterbox Club:

1. In relation to the existing materials sent our in the Letterbox Club packs, Fostering Network in conjunction with Booktrust should consider extending the variety of mathematics games included to reflect more contemporary materials and methods.

2. Booktrust should commission a full national randomised controlled trial of the Letterbox Club in order to provide robust evidence of its effectiveness in improving educational outcomes for ‘looked after’ children.

3. In any future evaluation of the Letterbox club, alongside the inclusion of standardised reading measures, it would be worth considering incorporating a more standardised and comprehensive measure of children’s numeracy skills as well as other related measures of children’s attitudes towards education.

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\(^1\) See O’Hare and Connolly (2010) for an example of a relatively inexpensive randomised controlled trial completed recently in relation to an evaluation of the effects of the Bookstart+ programme in Northern Ireland.
References


Essen, J., Lambert, L. and Head, J. (1976) 'School attainment of children who have been in care', *Child Care, Health and Development, 2*, pp. 339-51.


Office of the First Minister and Deputy First Minister. (2006) Our Children and Young people: Our Pledge, Belfast: Office of the First Minister and Deputy First Minister.


St Claire, L. and Osborn, A.F. (1987) ‘The ability and behaviour of children who have been in care or separated from their parents: a report of the child health and education study prepared for the Economic and Social Research Council’, Early Child Development and Care (Special Issue).


Evaluation of the Letterbox Club
## Appendix

### Additional statistical tables

**Table 7. Differences between boys and girls in relation to progress in reading**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Mean Gain Score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>Reading Accuracy</td>
<td>3.6 (sd=6.6)</td>
<td>3.6 (sd=6.2)</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>3.5 (sd=8.4)</td>
<td>3.4 (sd=8.8)</td>
</tr>
</tbody>
</table>

**Table 8. Correlations between age of child and progress in reading and mathematics**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Correlation between Gain Score (for Reading) or Change in Key Stage Level (for Maths) and Age (Spearman)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Accuracy</td>
<td>.046</td>
<td>p=.492</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>.071</td>
<td>p=.290</td>
</tr>
<tr>
<td>Estimated Key Stage Mathematics</td>
<td>-.002</td>
<td>p=.979</td>
</tr>
</tbody>
</table>

**Table 9. Differences between placement type in relation to progress in reading and mathematics**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Mean Gain Scores (reading) or Proportion that Increase a Key Stage Level (Maths)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stranger</td>
<td>Extended Family</td>
</tr>
<tr>
<td>Reading Accuracy</td>
<td>3.1 (sd=6.8)</td>
<td>4.4 (sd=5.2)</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>3.1 (sd=8.5)</td>
<td>3.4 (sd=8.3)</td>
</tr>
<tr>
<td>Estimated Key Stage Mathematics</td>
<td>30.7%</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

**Table 10. Correlations between numbers of additional tuition lessons received of child and progress in reading and mathematics**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Correlation between Gain Score (for Reading) or Change in Key Stage Level (for Maths) and Age (Spearman)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Accuracy</td>
<td>.178</td>
<td>p=.164</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>.031</td>
<td>p=.808</td>
</tr>
<tr>
<td>Estimated Key Stage Mathematics</td>
<td>.114</td>
<td>p=.480</td>
</tr>
</tbody>
</table>
Table 11. Relationship between attending Fostering Network Summer Scheme and progress in reading comprehension and mathematics

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Mean Gain Scores (reading comprehension) or Proportion that Increase a Key Stage Level (Maths)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attended</td>
<td>Not Attended</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>4.9 (sd=7.3)</td>
<td>3.3 (sd=8.5)</td>
</tr>
<tr>
<td>Estimate Key Stage Mathematics</td>
<td>31.4%</td>
<td>37.8%</td>
</tr>
<tr>
<td>Level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 12. Relationship between attending additional Letterbox Club events and progress in reading comprehension and mathematics

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Mean Gain Scores (reading comprehension) or Proportion that Increase a Key Stage Level (Maths)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attended</td>
<td>Not Attended</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>5.1 (sd=9.6)</td>
<td>3.6 (sd=7.4)</td>
</tr>
<tr>
<td>Estimate Key Stage Mathematics</td>
<td>25.0%</td>
<td>38.8%</td>
</tr>
<tr>
<td>Level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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