Learning To Read, Reading To Learn

The Benefits Of The Butterfly School

Alister Wedderburn

The Educational Research Trust

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FOREWORD BY BARONESS COX

Before his illness Professor John Marks and I commissioned this research from Alister Wedderburn. We wanted to find out what long-term benefits were gained by the disadvantaged children who had attended The Butterfly Saturday Reading School, run since 1999 by the literacy charity, Real Action. This had long registered outstanding short-term results in rapidly improving the reading levels of the 5-12 year old pupils who attended its 2-hour Saturday literacy classes: children's reading levels improved, on average, by over a year in an average twenty hours' teaching.

The results of the longitudinal study, *Learning to Read, Reading to Learn,* are impressive. They testify to the extraordinary educational power of the Butterfly approach to teaching systematic phonics and to the outstanding achievement of Real Action's ground-breaking Butterfly Saturday Reading School. They make a compelling case for Real Action to set up Butterfly schools, using Irina Tyk's superb Butterfly Book, in other disadvantaged areas.

The findings of the research proclaim a strong message:

No matter how 'disadvantaged' the child, we have only to teach the child to read and write, properly, for that child to have every chance of success.

It simply is not true, as has recently been suggested, that a child's educational fate can be fixed by the age of three, with underprivileged children irretrievably doomed to educational failure. However, the research may back up the old Jesuit claim about influencing a child in his first seven years: it was the children who entered the Butterfly programme in Key Stage One who gained the most educational advantage.

The lessons of the research are clear. Children should be taught reading and writing systematically, in well-ordered classes, as soon as they enter school. As this is not the norm, emergency action should be taken. The charity Real Action call their new initiative to set up a Butterfly school in other deprived neighbourhoods - The Butterfly Effect.

This research suggests that it should be supported.

Contents:

Key Findings:

- The aim of this study is to investigate the effects of The Butterfly School, a literacy project based in Queen's Park, London which teaches a systematic synthetic phonic programme to children between the ages of 5 and 12 in an area of high deprivation.

- It was found that pupils who had attended The Butterfly School were over 25% more likely to achieve a level 4 or higher in reading at Key Stage 2 than local children who had not attended the programme.

- Pupils who had attended The Butterfly School were over 35% more likely to achieve a level 4 or higher in English at Key Stage 2 than local children who had not attended the programme.

- Pupils who had attended The Butterfly School were over 90% more likely to achieve a level 4 or higher in both English and Maths at Key Stage 2 than local children who had not attended the programme.

- It was found that pupils who attended The Butterfly School in Key Stage 1 had a higher level of attainment than pupils who attended later in their school careers. 83% achieved a level 4 or higher in both English and Maths, over twice the figure for local children who had not attended the programme and eleven percentage points above the statistic for pupils nationally.

- The Butterfly School was found to be able to reduce the importance of deprivation, special educational need and gender as a determinant of educational achievement at Key Stage 2.

- Pupils who had attended The Butterfly School were more likely than their peers nationwide to achieve 5 GCSEs graded A* C; however, more research would be required to establish further conclusions.

- Pupils who had attended The Butterfly School had a better attendance rate at school between 2005-2010 than would be expected from national figures; however, more research would be required to establish further conclusions.

- Pupils who had attended The Butterfly School had a worse exclusion rate at school between 2005-2010 than would be expected from national figures; however, more research would be required to establish further conclusions.

- It can be concluded that The Butterfly School has had a real, tangible and long-lasting influence on the educational attainment of the pupils it works with, and that it has effectively helped combat educational problems associated with social factors such as deprivation. It is to be hoped that similar programmes can be initiated elsewhere.

1: Introduction

1.1 The Myth of Universal Literacy

"Of all the things you can learn at school, reading matters most"
Economic and Social Research Council, *Our Society Today* (2006)

- The UK does not compile official literacy statistics – the closest to an official literacy rate we have is the arbitrary 99% given by UNESCO to any developed country who do not compile their own figures.
- In reality, between 17% and 27% of people in the UK cannot read as well as they need to and 44000 pupils leave school each year illiterate, statistics illustrating a cavernous disparity with to the UNESCO figures.
- Children cannot read to learn before they have learnt to read – without literacy knowledge remains inaccessible, learning hugely frustrating, achievement almost impossible.
- As illiteracy feeds educational and economic problems, so it feeds social ones: poor literacy is associated with truancy, exclusions, arrests in adult life and deprivation.
- If access to knowledge is to be 'democratised', as the coalition government has declared, then improving literacy will be an important part of the battle.

Illiteracy is the hidden shame of the British educational system: it is a failure that has far-reaching and catastrophic effects, most of which are focused on the poor, and it is a failure the true extent of which is cloaked in smoke and mirrors.

The UK does not compile official statistics on its literacy rate – the UNESCO figure of 99.0% is arbitrarily ascribed to all high-income countries who do not report information[1]. However, in contrast to this, The National Literacy Trust estimates that "One in six people in the UK cannot read, write or communicate as well as

[1] Klugman, J. (dir.) (2009): *Human Development Report 2009 - Overcoming Barriers: Human Mobility and Development* (United Nations Development Programme, New York), p.171

they need[2]", an estimate reinforced and indeed exceeded by the 1999 Moser Report, which puts the figure at 1 in 5[3]. The 2010 Millennium Cohort Study uses different terminology but reports that 27.4% of children across all backgrounds "have some difficulty with reading[4]", a percentage that finds material expression in the 44,000 illiterate school leavers each year[5]. The disparity between these figures and the arbitrary UNESCO percentage is cavernous, and betrays a certain complacency surrounding literacy. It seems that in the UK there is an unfounded assumption that a formal education in itself equals an automatic competence in reading and writing. Reality shows such assumptions to be hollow. A hugely significant proportion of children and adults struggle with literacy skills both during and after school, and the effects not only for those individuals but the nation as a whole are potentially ruinous.

Literacy is a nucleus of educational achievement, a branch upon which many baubles hang. The common aphorism – quoted by Michael Gove – that "children cannot read to learn before they have learnt to read[6]" makes clear the fate of children for whom literacy teaching has not had an impact: knowledge remains inaccessible, learning hugely frustrating, achievement almost impossible. The academic outcomes of this are obvious – educational failure and thus poor economic prospects in adulthood – but illiteracy also has social consequences. Jean Gross writes about the disillusionment with school and the educative process rife amongst children for whom literacy teaching has not worked: more than half of all pupils permanently excluded from school fall into the lowest 2% of the population for literacy and/or numeracy attainment[7], whilst pupils who enter secondary school

[2] http://www.literacytrust.org.uk/about (accessed July 2011)
[3] Moser, C. (1999): *A Fresh Start - Improving Literacy and Numeracy* (DfEE)
[4] Hansen, K; Jones, E; Joshi, H; Budge, D (eds) (2010): *Millennium Cohort Study Fourth Survey*: (Centre For Longitudinal Studies, Institute of Education, London), p.138
[5] Hansard, answer to written question from John Hayes, May 22 2006
[6] Gove, M. (2010): Speech to Westminster Academy, 9 September 2010 – available at http://www.michaelgove.com/content/michael_gove_speech_westminster_academy (accessed July 2011)
[7] Gross, J; McChrystal (2001): *The Protection of a Statement? Permanent Exclusions and the SEN Code of Practice*, Educational Psychology in Practice, Vol. 17, no. 4 pp. 347-359; Gross, J (2008): 'The Need for a Focus on Literacy and Numeracy', in *Getting In Early: Primary Schools & Early Intervention* (CSJ/Smith Institute, London)

with very low literacy skills have an exclusion rate five times that of pupils entering at average levels, and are four times more likely to truant. After school, poor literacy scores are a significant predictor of the number of times males are arrested over the course of their lives[8], and there are several other studies linking adult participation in crime with the level of general educational achievement of those individuals[9]: "almost every aspect of social breakdown crime, substance abuse and unemployment is linked to educational failure[10]".

It is a stark indictment of the British education system that even when the stakes are so high, potentially a sixth or more of its graduates are unable to read well after eleven years in the system. The current coalition government describes the priority of education as "the democratisation of access to knowledge"[11]. They must remember that this democratisation cannot happen without universal literacy, for without literacy knowledge remains inaccessible.

[8] Gross, J (2008): 'The Need for a Focus on Literacy and Numeracy', in *Getting In Early: Primary Schools & Early Intervention* (CSJ/Smith Institute, London)
[9] Machin S, Marie O, Vujic S (2010): *The Crime Reducing Effect of Education*, CEP Discussion Paper no. 979 (LSE, London) see also: Farrington (1986, 2001), Sabates (2008, 2009), Sabates & Feinstein (2008), Lochner & Moretti (2004).
[10] Ryan Robson (dir.) (2006): *Breakdown Britain: Educational Failure* (CSJ/Smith Institute, London) p. 24
[11] Gove, M. (2010): Speech to Westminster Academy, 9 September 2010 – available at http://www.michaelgove.com/content/michael_gove_speech_westminster_academy (accessed July 2011)

1.2 The Symbiosis of Poverty and Failure

- There is a link between poor literacy and deprivation which is also reflected in general educational results across subjects and across age groups.
- Despite vast expenditure, pupils from deprived backgrounds are less than half as likely to achieve good GCSEs as their better-off counterparts, and five times more likely to achieve no GCSEs at all.
- This low educational achievement linked to illiteracy feeds into a vicious cycle: social problems including crime, substance abuse, unemployment and poverty in turn providing obstacles to the educational achievement of the next generation.
- Education is supposed to be formative and transformative – clearly for too many pupils it is not, and this must be addressed if headway is to be made with the associated wider social problems.

Illiteracy is not evenly spread through society, and it is in areas of deprivation that it is most rife. Studies from the 70s as well as the 00s have found correlation between social background and word reading ability[12], and the same school problems linked to low literacy levels are also linked to a deprived background. Children in the poorest 10% of areas (defined by the IDACI) are nine times more likely to be excluded than children in the wealthiest 10%, whilst in 2007 pupils eligible for Free School Meals made up 14% of pupils but 38% of exclusions[13].

The link between deprivation and illiteracy is reflected in general educational results across subjects and across age groups. Pupils from deprived backgrounds are more likely to have trouble reading, and significantly less likely to achieve the levels expected of them across the curriculum. In 2009, 54.2% of students not claiming Free School Meals achieved 5 GCSEs at grades A*-C or equivalent, including English and Mathematics. Of students claiming Free School Meals, just

[12] Davie, R. et al; (1972): *From Birth to Seven: The Second Report of the National Child Development Study*; (Longman/Prentice Hall); Duncan, L. & Seymour, P. (2000*)*: *Socio-Economic Differences in Foundation Level Literacy*; British Journal of Psychology, 91, pp. 145-166.

[13] Skidmore, C. & Leslie, C. (2008): 'Tomorrow Begins Today – Bridging the Gap Between the Fortunate and the Forgotten', in *Getting In Early: Primary Schools & Early Intervention* (CSJ/Smith Institute, London); *How Fair Is Britain? Equality, Human Rights and Good Relations in 2010* (Equality and Human Rights Commission, London 2010).

26.6% reached the same benchmark[14]. These attainment figures are reinforced by those relating to the Income Deprivation Affecting Children Indices (IDACI): 72.2% of pupils in the least deprived 10% of areas achieved 5 or more GCSEs at grades A*-C or equivalent including English and Mathematics, compared with 33.3% in the most deprived 10% of areas[15]. To complete a rather disheartening statistical triangle, The Centre for Social Justice reports that "children from disadvantaged backgrounds are five times more likely to fail academically [get no GCSEs at all] than their peers[16]".

Deprivation and socio-economic background thus bear all-too heavily not only on literacy, but also on the chances of a child's general educational success or failure an educational success or failure which will in turn contribute towards the socio-economic situation in which that child's own children will be raised and educated[17]. Educational failure inevitably limits access to well-paid jobs and indeed employment opportunities generally, which in turn increases the likelihood of living in deprivation as an adult and as a parent. This creates a vicious and potentially ever-repeating inter-generational cycle of failure and deprivation to an extent rooted in illiteracy but by no means limited to it.

New Labour's emphasis on education illustrated a belief in its potential force for social mobility and equality of opportunity, for ironing out the injustices of birth to quote Tony Blair himself, for "the development of human potential, [the] talent and ability and caring in each individual that often lies unnurtured or discouraged[18]". Tragically, as the figures show, these good intentions have not been realised. If the link between poverty and poor educational achievement is to be

[14] Statistics from *GCSE Attainment by Pupil Characteristics, in England 2008/09* (DCSF 2009), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000900/index.shtml (accessed July 2011)
[15] Ibid.
[16] Allen, G. & Duncan Smith, I. (2009, 2nd ed.): *Early Intervention: Good Parents, Great Kids, Better Citizens* (CSJ/Smith Institute, London), p. 29
[17] *Labour Force Survey*, (Office For National Statistics, London 2006-8), available at http://www.statistics.gov.uk/statbase/Source.asp?vlnk=358 (accessed July 2011)
[18] Blair, A. (2001): Speech in Sedgefield, 13 May 2001, available at http://www.guardian.co.uk/politics/2001/may/13/labour.tonyblair (accessed July 2011)

broken then clearly there is much work that must be done with this complex web of cause and effect that has at its heart the frequent failure of literacy teaching to be the formative and transformative force it should and can be.

1.3 Intervening To Improve

- To break this inter-generational cycle of low attainment and deprivation and reduce the importance of social background as an educational determinant there must be intervention to mediate for social factors.
- Some of these interventions will be in the early years of life, but school-level programmes are still important. Learning to read is a formative and hugely influential stage in a child's development and a crucial battleground in the fight against deprivation.
- If children learn to read successfully, they will be able to use their literacy skills to independently access the rest of the curriculum.
- If their experiences learning to read are negative, then it will be this negativity which spills across the curriculum.
- There is no reason why so many children, especially those from deprived backgrounds, should fail to learn to read a very large proportion of those who fail *can* succeed with the right teaching.

The inter-generational cycle of low attainment and deprivation outlined in the previous section must be broken, as the Centre for Social Justice has quite rightly declared in its 'Early Intervention' publications[19]. To quickly clarify the use of the word 'early' here: though many of the recommendations made by the CSJ focus on interventions between the ages of 0-3 a timeframe that cannot accommodate literacy teaching the importance of school-level support is still acknowledged. To return to Jean Gross:

[19] *Breakdown Britain: Educational Failure* (2006); *Getting In Early: Primary Schools & Early Intervention* (2008); *Early Intervention: Good Parents, Great Kids, Better Citizens* (2009) (all CSJ/Smith Institute, London).

> *However excellent the support provided for their language and social development in the early years, children face new cognitive challenges when they are taught to read, write and handle numbers. If they succeed, they will see themselves as learners and school as relevant to their goals. If they fail, and live in areas of high social deprivation, they receive confirmation that, as with most of their acquaintances, education is to be endured rather than enjoyed*[20].

To repeat the aphorism: Learn to read; read to learn. Children who have positive early encounters with literacy will use the skills they have learnt to continue to progress. If their first forays into learning to read are negative then this negativity will spill into other aspects of learning. Those initial engagements with literacy can have formative consequences that have an impact throughout education and indirectly throughout life. For too many children – especially those from deprived backgrounds – these consequences are negative, and unnecessarily so: as Professor Bob Slavin made clear to the Science and Technology Parliamentary Sub-Committee in 2009; "it is absolutely clear that a very large proportion of children who are struggling to read *can* be successful[21]".

It is obvious that effort must be made to reduce the importance of social background as a determinant of educational achievement. It is also clear that this reduction of the 'attainment gap' between wealthy and poor will involve making sure that no child, let alone one in six, leaves school unable to read to an appropriate level and having spent their time at school unable to use literacy skills to further their learning. Likewise it is crucial that their first encounters with reading are positive, that no-one in the class is left behind. The aim of this report is to investigate The Butterfly School, a project that aims to do just this: to provide

[20] Gross, J (2008): 'Why We Need To Target Four to Eight-Year-Olds', in *Getting In Early: Primary Schools & Early Intervention* (CSJ/Smith Institute, London) p. 17
[21] Minutes of evidence taken before Science and Technology Sub-Committee on Literacy Interventions (4 Nov 2009), HC 1081-i and HC 1081-ii, part of HC44 021542861.

children with the reading skills and positive experiences of literacy necessary to reap the long-term benefits themselves.

The methods of The Butterfly School as well as the demographic of its pupils will be discussed in chapter 2. The educational and social outcomes of these pupils will be investigated in chapter 3, in parallel with data from national records and from their peers who did not attend the programme.

2: The Butterfly School

2.1 What is The Butterfly School?

- The Butterfly School is a third sector literacy programme working in West London that teaches children aged 5-12 to read using the Butterfly systematic synthetic phonic method.
- Each Saturday morning there are up to 6 classes usually containing between 10-20 pupils, the composition of which is based on reading age rather than calendar age, meaning no pupil progresses until they are ready to.
- The Butterfly method is scripted; as a result little preparation is required of the teachers, and few resources are needed.
- Pupils sit at individual desks, all facing forward. Classes move as quickly as possible, and as the pupils progress simple letter-recognition tasks are tempered with more creative work. Independence in reading is the crucial aim.
- Classes currently cost £5 per pupil per week, but this is waived if paying is difficult. The programme's director estimates that fees are received from a third of attendees.

The Butterfly School is the flagship literacy programme of Real Action, an educational charity working in the Queen's Park area of west London on the border between the City of Westminster, the Royal Borough of Kensington and Chelsea and the London Borough of Brent. It teaches literacy using the Butterfly method of systematic synthetic phonics scripted by Irina Tyk (explained in detail in Appendix 2), and works with pupils across a wide age range from 5 to 12, though it is not unknown for both younger and older pupils to attend. The Butterfly School works outside the schools system and thus runs independent classes for two hours each Saturday morning in term-time, with a twenty-minute break after an hour. Although Real Action is based in Queen's Park ward in the City of Westminster and specifically the Mozart Estate at its centre, the Butterfly School does not solely teach local children. Though many pupils are from the surrounding streets others

come from elsewhere; very few are from further afield than neighbouring wards. More information about Queen's Park is in section 2.3 and Appendix 4.

As many as six classes are run each Saturday morning, with volunteer teachers and assistants leading children between the ages of 5 and 12 in groups usually consisting of 10 to 20 children, though exceptional demand has meant this upper limit has on occasion been pushed as high as 25. It is recognised that children learn at different speeds and face different difficulties and so classes are based on reading rather than calendar age, meaning children are only moved on when they are of a standard high enough to progress, guarding against what Gillian Evans describes as forcing children "through a…curriculum without the skills necessary to engage with it[22]". This practice of focusing on attainment rather than age is exceptional in British mainstream schools, but common elsewhere, in countries including the USA.

Teachers follow The Butterfly Book, which is scripted to a level that ensures that the phonic method is clearly followed and not diluted by differences between teachers' personalities or techniques. In other words, the success of The Butterfly School is not completely reliant on the variable quality (or lack thereof) of the teachers but rather to a large degree on the consistent quality of the process – it is structured so as to be as 'teacherproof' as possible. The resources required are minimal: children require exercise books and textbooks and teachers only a whiteboard – and there is no need for flashcards, computers or any extraneous resources. As a result of this emphasis on method, the amount of preparation required of teachers for each lesson is negligible, and the cost of providing the programme reduced. Section 2.2 and Appendix 2 contain a more detailed description and appraisal of the systematic synthetic phonic method.

[22] Evans, G. (2006): *Educational Failure and Working Class White Children in Britain* (Palgrave Macmillan, London)

Classes are taught with each pupil at an individual desk, facing forward and interacting only with the teacher in front of him or her. The lessons move at as fast a pace as the children can handle; as they progress beyond reading age 8 Butterfly teaching is progressively tempered both by systematic work on spelling, grammar and punctuation as well as more flexible, creative, teacher-led work that aims to supplement the phonics with a greater emphasis on comprehension and expression. It is this structure that aims to move the child towards being able to read and therefore learn independently.

Classes at The Butterfly School have varied in price over the past decade depending on the availability of funding but currently stand at £5 per child per week; a fee that the programme's director says is waived if paying is difficult - currently around a third of attendees pay for classes. As a result of this pricing policy (and its purposefully lax implementation), Real Action is able to ensure that The Butterfly School is as accessible as possible to the community it is supposed to serve, and that intervention, in the form of systematic synthetic phonics, is able to reach all those who want it, regardless of background or wealth.

2.2 Systematic Synthetic Phonics

- A more detailed description of the systematic synthetic phonic method and its place within current educational theory and practice is to be found in Appendix 2.
- Synthetic phonics has wide backing as the method of literacy teaching most appropriate for both beginner and at-risk readers. It has been a compulsory part of literacy provision in UK state schools since 2007.
- A 2005 study in Clackmannanshire, Scotland showed that synthetic phonics was not only the most effective way of teaching reading but also the one which most impacted the attainment gap between advantaged and disadvantaged pupils.
- In addition, the study found that the effects of synthetic phonics increased over time, even after the end of the programme.

Appendix 2 contains a detailed description and explanation of both the systematic synthetic phonic method and its place within current educational theory and practice. Nevertheless, a few words are necessary here to illustrate the motivation behind The Butterfly School's choice of method for literacy provision.

Synthetic phonics currently has wide backing as the method of literacy teaching most appropriate both for beginner and at-risk readers. Jean Gross declares that "the weight of evidence is in favour of phonics for all children at the start and many of those who need early intervention[23]", whilst Shirley Cromer, the CEO of Dyslexia Action says that '…we certainly know that if struggling readers do not have the basics and are not taught synthetic phonics then it is very hard for them to become readers[24]". Since September 2007 synthetic phonics has been a compulsory part of literacy teaching in primary schools, though it does not have to be taught either exclusively or systematically. Despite both the tolerance of 'mixed-method' literacy teaching within literacy legislation as well as the historic link between low literacy levels and deprivation, OFSTED's 2009 Annual report states that "the best schools can succeed regardless of the socio-economic circumstances of the communities they serve. If the school is good enough, the great majority of children will learn to read...All 12 example schools have systematic phonics at the heart of their reading programmes[25]".

In 2005 a longitudinal study of 300 children in Clackmannanshire, Scotland found not only that synthetic phonics was by far the most effective phonic method for first teaching literacy, but also the one best able to succeed with disadvantaged and advantaged readers alike. Most significantly however, it also showed long-lasting benefits of an early exposure to synthetic phonics:

[23] Minutes of evidence taken before Science and Technology Sub-Committee on Literacy Interventions (4 Nov 2009), HC 1081-i and HC 1081-ii, part of HC44 021542861.
[24] Ibid.
[25] *The Annual Report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2008/09* (Ofsted, London 2009)

"…the gains made in word reading in Primary 1 had increased 6 fold by the end of Primary 7, going from 7 months to 3 years 6 months ahead of chronological age. The gain in spelling was 4.5 fold, going from 7 months to 1 year 9 months ahead of chronological age. This is very unusual, as the effects of training programmes usually wash out rather than increase[26]"

Synthetic Phonics is thus not only a method with significant academic and political weight behind it, but also one which, as the Clackmannanshire study shows, is appropriate to the aims of The Butterfly School – firstly by helping to work against the attainment gap between advantaged and disadvantaged pupils (of which more presently), and secondly by providing its recipients with the skills and tools necessary to access the curriculum independently and continue their educational development beyond the end of the programme. The Butterfly School hopes that by having an impact on its pupils in such areas it can help work against both the manifold educational and social problems of the area in which it works (outlined in the next section), as well as the inter-generational cycles of educational failure and poverty outlined in chapter 1.

2.3 Where Does The Butterfly School Operate?

- Both The Butterfly School and Real Action are based in Queen's Park ward in The City of Westminster, west London.
- Queen's Park's 6 Super Output Areas (SOAs) are all in the top 30% for overall multiple deprivation; 5 of these 6 are in the top 10% and one is the SOA ranked 1st out of 32482 equivalents based on the proportion of children living in income-deprived households. This is the SOA in which Real Action is based. Appendix 4 (p. 87) contains a Ward Profile of Queen's Park in relation to Child Deprivation
- The ward contains the highest percentage of children eligible for Free School Meals (FSM) in the borough, as well as the highest proportion of adults not possessing any qualifications and the highest rate of social service referrals of anywhere in the City of Westminster.

[26] Johnson, R. & Watson, J. (2005): *A Seven Year Study Of The Effects of Synthetic Phonics Teaching On Reading And Spelling Achievement*, (Insight 17, Scottish Executive Education Department, Edinburgh)

As has been shown, low literacy attainment is most prevalent in areas of deprivation. Both Real Action and The Butterfly School are located within Queen's Park ward in the City of Westminster. Queen's Park's six Super Output Areas (SOAs) are all in the 30% most deprived in England for overall multiple deprivation according to the 2007 Index of Multiple Deprivation; five of these six are in the top 10%. The ward also contains the SOA with the single highest proportion of children living in income-deprived households in England out of 32,482 equivalents[27]. It is in this SOA that Real Action is based. Appendix 4 contains a Ward map of Queen's Park in relation to Child Deprivation. Over half the primary school children in the ward receive Free School Meals (51%), the highest proportion of any of the 20 wards in Westminster and over three times the national average. Almost a third (31%) of residents aged 16-74 have no educational qualifications at all, the highest rate of any ward in Westminster. Referral rates of children to Social Services are three times the Westminster average and the proportion of lone parent households is also the highest in the borough.

[27] All the statistics from this paragraph are from the 2008 Queen's Park Ward Profile – available from queenspark@westminster.gov.uk. The SOA in question here is E01004722.

3. Investigation and Analysis

3.1 Method of Investigation

- It was decided to focus the study on a two-year period between 2002-2004 when The Butterfly School was being funded by an external charity, SHINE, and for which records were most comprehensive
- Data for a main cohort of over 150 students was compiled. To control for the variable of parental support and involvement, a group of 43 pupils who applied for The Butterfly School but could not be offered a place due to lack of space was also compiled.
- These databases were sent to the National Pupil Database for matching, and records for 159 children were returned (130 main cohort, 29 control group) containing information on examination results from years 6-13, data on attendance and exclusions as well as indicators of deprivation, special educational need, first language, gender and race.

The resources Real Action has been able to invest in The Butterfly School have varied with its external funding over the past 12 years since its formation in 1999. The scope and breadth of registers and records it has kept reflects this instability in funding and personnel, for Real Action relies heavily on volunteer workers to manage much of its administration. As a result it was decided to focus research on a two-year period between 2002 and 2004 in which The Butterfly School was funded by The Support and Help in Education Trust (SHINE) and for which the records were most comprehensive. Data for a main cohort of over 150 children who attended the school between those years was compiled into a database.

The most obvious variable that needed controlling was that of parental involvement and support, two inevitably important factors in a child's development and

achievement[28]. As a result data was also compiled for a control group of 43 children who were on the waiting list for The Butterfly School during this period but could not be offered a place. Their parents' (or indeed their own) keenness to enrol however suggests that they could have been exposed to a similar level of parental support in reading and educational development as the children on the programme. Their formal education would likewise have been very similar to that of the children who actually attended The Butterfly School as they were from the same group of schools in the Westbourne Park / Queen's Park area. The relatively small size of this group is simply due to the small number of applicable children.

The Butterfly School does not have any school data – results, exclusions, attendance figures etc – on the children it teaches. The databases were thus submitted to the National Pupil Database (NPD) for matching, and data was obtained for 159 children (130 Butterfly pupils in the main cohort, 29 control – the rest could not be matched to NPD records) on their KS2 (SAT) results, KS4 & KS5 (GCSE, AS and A Level) results where appropriate, as well as their attendance and exclusion data and indicators such as gender, Income Deprivation Affecting Children Indices (IDACI) figures, English as an Additional Language (EAL), Free School Meal (FSM) and Special Educational Need (SEN) statuses and schools attended. This built a detailed picture of the academic careers of The Butterfly School's attendees between the period in which The Butterfly School was receiving funding from SHINE to the present day.

[28] e.g. Feinstein, L. & Symons, J. (1997): *Attainment in Secondary School*, Discussion Paper no. 341 (Centre for Economic Performance, LSE, London)

3.2 A Profile of the Main Cohort and Control Group

- Almost all the main cohort were drawn from the Super Output Areas (SOAs) and wards immediately surrounding Real Action's headquarters in Queen's Park, in the SOA with the single highest rate of child deprivation of 32482 in England.
- The main cohort had a 36% Free School Meal (FSM) rate (twice the national average), a 41% English as an Additional Language (EAL) rate (almost three times the national average) and a Special Educational Need (SEN) rate of 36% (around 80% higher than the national average). 60% of the cohort were boys, who traditionally perform worse than girls in literacy.
- The control group exhibited more striking figures even than the main cohort. Exactly half were eligible for FSM, over 70% had EAL, whilst almost exactly two thirds had SEN. There were broadly similar numbers of boys and girls.
- The demographic of both groups share much with those groups at most risk of educational failure - students suffering from deprivation, boys, students with SEN and students eligible for FSM.

The Butterfly pupils making up the main cohort were drawn almost entirely from the local wards surrounding Real Action's headquarters next to the Mozart Estate in the Super Output Area (SOA) with the single highest rate of child deprivation of any of the 32000 SOAs in England. This was reflected in the IDACI scores for the cohort as a whole – the median IDACI SOA rank was 1933 out of 32482, 1 representing the highest level of deprivation and 32482 the lowest. This places almost the entire cohort within areas in the top 10% for child income deprivation nationwide, and over 40% within areas in the top 5%. 7 children were from the SOA ranked 1st. The FSM figure for the cohort – another measure of child deprivation – was predictably high at 35.8%, over twice the national school average of 15.4%[29]. The EAL percentage was 40.5%, almost three times the national average of 13.8%, whilst 36.4% – over a third – of the cohort were on the SEN register at

[29] All national school figures taken from the Department for Education's paper *Schools, Pupils and Their Characteristics* (DfE, June 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000925/index.shtml (accessed July 2011)

their schools, a figure well over the national average of 20.9%. 5 of the 130 children had statements of Special Educational Need, 19 were registered School Action Plus and 23 were registered School Action. There was no SEN data available for 1 child.

Interestingly, there was a 60%-40% gender split, with more boys in the cohort than girls. Boys achieve traditionally worse results than girls throughout their academic careers, especially in literacy and English. The Clackmannanshire longitudinal study showed that synthetic phonics was able to mediate this achievement gap to a large degree, but the presence of more boys than girls in the cohort perhaps reflects a certain worry regarding learning reading amongst parents of boys that is not so commonly present amongst parents of girls. Several parents spoken to during the research period for this project expressed worry about keeping their sons 'off the streets' or 'out of trouble' in the weekends and it is possible the prevalence of boys also reflects this concern.

The control group, though significantly smaller, showed more exaggerated characteristics than the main cohort, and it will be important to allow for this when comparison is made. Deprivation figures were even higher, with the median IDACI ranking just 1019, placing almost the entire cohort within the top 5% of SOAs for child deprivation and around a third in the top 2%. FSM figures were correspondingly high at exactly 50%. The EAL percentage was 71.4%, whilst almost two-thirds of the group 65.5% - were on the SEN registers at their schools (1 statement, 5 School Action Plus, 13 School Action). Like the main cohort there were more boys than girls, though to an insignificant extent (52%-48%).

These are profiles similar to that of many inner-city state schools, but the high levels of deprivation and Special Educational Need in particular show that the demographics of both groups share much with those groups at most risk of

educational failure – students suffering from deprivation[30], boys[31], students with SEN[32] and students eligible for FSM[33]. These characteristics, it is important to make clear, are not isolated from each other and instead form a complex web of cause-and-effect that impact on educational achievement both directly and indirectly. They do not represent predestination, but they do indicate where support is likely to be most necessary. This is perhaps most obvious when looking at the effects of The Butterfly School in the short-term.

3.3 The Effects of The Butterfly School: Short Term

- Though The Butterfly School aims to influence long-term social and educational outcomes, it also measures short-term development through regular reading testing of its pupils.
- In 2002/2003 (the first year covered by this report) tests took place at the beginning of the academic year and towards the end of the spring term. 101 children (almost all from the main cohort) were tested on both occasions.
- There was an average ten month improvement in reading age per child over a 5 month calendar period containing a maximum of 20 1 hour 40 minute sessions. This represents a month's improvement in reading age for every 3 hours 20 minutes of class time, assuming 100% attendance.
- The Clackmannanshire study showed that the effects of systematic synthetic phonics actually increased rather than diminished over time. The Butterfly School aims to mirror this model of long-term influence.

Though The Butterfly School aims to influence its pupils' achievement in the long-term it also regularly measures their reading ages, thereby assessing short-term progress (as well as determining the appropriate class for each child). At the beginning of the 2002/2003 academic year (the first covered by this report) The

[30] Allen, G. & Duncan Smith, I. (2009, 2nd ed.): *Early Intervention: Good Parents, Great Kids, Better Citizens* (CSJ/Smith Institute, London), p. 29
[31] OFSTED report HMI 1659 (2008) *Boys' Achievement in Secondary Schools,* available at http://www.ofsted.gov.uk/Ofsted-home/Publications-and-research/Browse-all-by/Education/Pupils/Boys-achievement-in-secondary-schools (accessed July 2011)
[32] *Key Stage 2 Attainment by Pupil Characteristics, in England 2009/10*, (DCSF, London 2010)
[33] ibid.

Butterfly School tested its pupils' reading ages. Towards the end of the spring term some 5 months later, they did the same. 101 children were tested on both occasions, and the difference between the two results was noted. These children were amongst those enrolled on the SHINE-funded programme.

In October 2002 the 101 children tested had a mean calendar age of 7 years 11 months, but a mean reading age of 7 years 2 months, 9 months below the mean calendar age. In March 2003 the mean reading age was 8 years exactly, still 4 months below mean calendar age but representing a ten month improvement in reading age in a five month calendar period which contained a maximum of 20 1 hour 40 minute sessions (assuming 100% attendance). In other words, The Butterfly School pupils had registered a month's improvement in their reading age for every 3 hours 20 minutes of systematic synthetic phonics. The vast majority of children had made good progress (i.e. five months' progress or more, indicating the reading age was progressing at a similar pace to or faster than calendar age), and less than 10% had failed to make any progress at all. A handful of the children had made extraordinary progress of 24 months or more.

The Clackmannanshire study showed that the short-term effects of synthetic phonics in terms of word reading, spelling and comprehension were much more significant than those of analytic phonic and mixed programmes. It was in the long-term effects of the programme however that the report had its impact, showing as it did that the effects of the programme in terms of word reading, spelling and comprehension actually *increased* rather than diminished over time. In other words, synthetic phonics set up the Clackmannanshire children to learn independently which meant their development was able to continue after the programme had finished – they learnt to read, and then read to learn. The Butterfly School aims to do the same, and establishing its success or failure is the main subject of the rest of this chapter and indeed of the main body of this report as a whole.

3.4 The Effects of The Butterfly School, Long Term: Key Stage 2

- It was decided to look at national test results in addition to the reading tests discussed in 3.3.
- 15 of the main cohort had already taken their Key Stage 2 (KS2) tests by the time they came to join The Butterfly School. These students were moved to the control group for the purpose of KS2 investigation and analysis, as The Butterfly School could not possibly have influenced their achievement.
- It was also decided to look at the main cohort not only as a whole but subdivided into two subgroups based on pupil age at time of entry into The Butterfly School: those who entered in Key Stage 1 (KS1) were placed in the 'early intervention subgroup, whilst those who entered in KS2 were placed in the 'late intervention subgroup'. The aim of this was to discover whether age at time of intervention was a factor in academic success.
- Results were looked at in 3 areas: Reading, English and across the curriculum of English, Maths and Science. The aim of this was to discover whether success in literacy had had an impact across the curriculum.

The Clackmannanshire report studied the effects of the synthetic phonics programme solely in relation to the word-reading, spelling and comprehension abilities of its cohort. It did not look at the children's attainment or achievement outside this narrow (and controlled) context. There was no reference to externally set and marked national test results, and no mention of an influence in attitudes towards school as inferable from attendance and exclusion rates. This report aims to look at these indicators, and thence investigate the influence of synthetic phonics not just on abilities and skills but on their relation to concrete symbols of achievement, attainment and satisfaction such as examination levels and grades, attendance and exclusions. It is these after all which are for better or for worse the markers of educational success or failure as defined by further education institutions, educational academia, the press and the government. The Key Stage 2 tests taken at the end of primary school in Year 6 represent the earliest of these milestones of national assessment.

Of the 130-strong mixed age cohort, 15 had already taken their Key Stage 2 tests before the programme began in September 2002. Of these, 7 had taken the tests in June 2002, 7 in June 2001 and a single student in June 1999. For the purposes of analysing KS2 test results these students must therefore be discounted from the main cohort, as The Butterfly School could not have impacted their attainment at age 11. Their Key Stage 2 results will instead be included within the control group, boosting the number for Key Stage 2 analysis to 44. It should be noted that at no point did the addition of these 15 children to the control group significantly change any figures by more than two percentage points. In fact the extent to which they reinforced the findings from the control group was instead notable. The remaining 115 students were aged between 4 and 10 in September 2002 and thus sat their KS2 tests between June 2003 and June 2009.

We have seen how systematic synthetic phonics is recommended not only for intervention programmes but also indeed, especially for the first teaching of reading principles. With that in mind it is significant that the age range of children in the main cohort at the time of entry to The Butterfly School spreads from age 4 to age 10. For the youngest of these children, The Butterfly School and systematic synthetic phonics will represent their first encounters with reading. For the older children, it will not. It was thus decided to look at the main cohort not only as a whole but subdivided into two subgroups based on pupil age at time of entry into The Butterfly School. Pupils in Key Stage 1 (years 2 and below) at the time of entry in 2002 were put into the 'early intervention subgroup', as The Butterfly School would have represented an early if not initial contact with reading. The remaining pupils were put into a 'late intervention subgroup' they would have been in Key Stage 2 (years 3 and above) at entry into The Butterfly School, meaning they would already have gone through at least 2 years' literacy teaching at school. It is hoped that this distinction will contribute to the discussion on 'early interventions' by showing whether The Butterfly School was more effective at a certain age or not.

The Key Stage 2 tests measure key skills in three subjects: English, Maths and Science. Each subject has multiple papers. It seems sensible to focus analysis on both micro and macro level, by looking at reading and English grades as well as the wider picture across the curriculum by including Maths and Science as well. The Butterfly School's impact is inevitably most likely to be directly felt in the reading paper but as this report hopes to have already shown, reading skills are transferable and the effects of fast, effective literacy teaching can spill over into all areas of the curriculum. It is hoped that this breadth of approach will show whether or not the systematic synthetic phonics employed by The Butterfly School has had this effect. 2009 national Key Stage 2 results will be used as a point of comparison as this was the most recent year in which children from the main cohort sat the tests. It should also be noted that this 2009 figure is greater than those for the earlier years in which many others of the Butterfly cohort would have sat KS2.

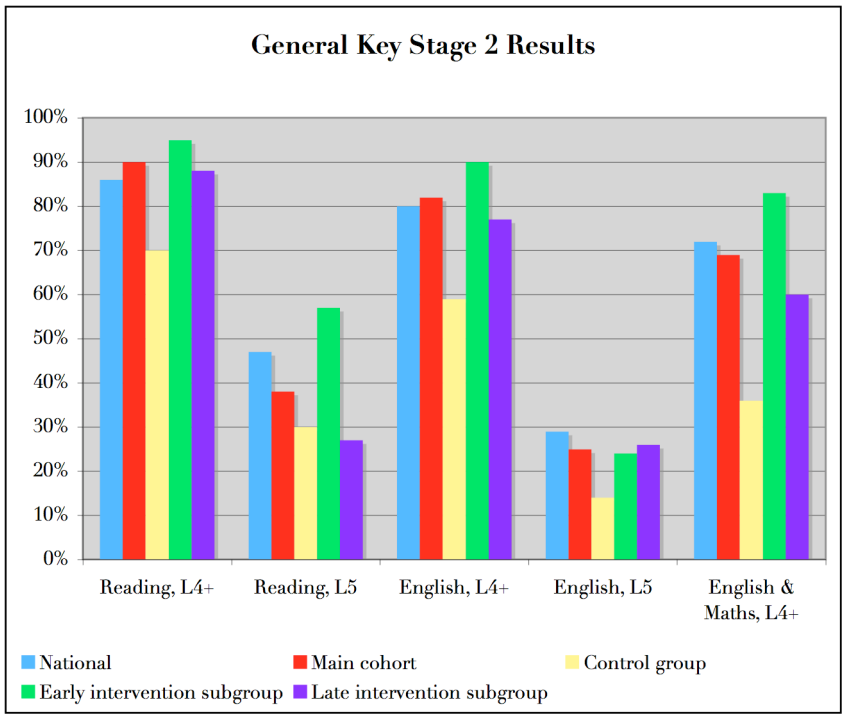
3.4.i) General Achievement at Key Stage 2

- The main cohort performed best in relation to pupils nationwide in reading, next in English and comparatively least well across the curriculum, a pattern firstly suggesting (unsurprisingly) that The Butterfly School's biggest impact was in reading, but secondly consistent with the idea that this impact can filter across the curriculum.
- However, they performed significantly better across all three measures than the control group, suggesting The Butterfly School had a significant impact on the academic outcomes of its pupils. Pupils from the main cohort were almost twice as likely to achieve a level 4 or higher in both English and Maths as their peers in the control group.
- The early intervention subgroup performed better than the late intervention subgroup, suggesting firstly that The Butterfly School is most effective as an early intervention and secondly that the effects of the programme continued after it had ended.
- However, a relatively low number of pupils achieved a level 5, suggesting that reinforcing the work of The Butterfly School in a later intervention might also be necessary.

Reading

Nationally, 86% of pupils achieved the expected level 4 or above in reading at KS2 in 2009, with 47% achieving a level 5[34].

In the main cohort, 90% of pupils achieved a level 4 or higher in the reading paper, four percentage points above the national statistic. Only 38% of the main cohort achieved a level 5 however, 9 percentage points below the national statistic.



When the main cohort is compared with the control group as opposed to the national figures a much larger disparity becomes apparent: including the 15 students who sat their KS2 tests before beginning at The Butterfly School, just 70% of the control group achieved a level 4 or higher in reading and 30% achieved a level 5, both figures significantly below both the Butterfly cohort as well as the nation as a whole.

[34] All general national statistics taken from *National Curriculum Assessments at Key Stage 2 in England 2009*, (DCSF 2009), http://www.education.gov.uk/rsgateway/DB/SFR/s000865/index.shtml (accessed July 2011)

Of the early intervention subgroup (those entering The Butterfly School in KS1), 95% achieved a level 4 or higher in the reading paper, 9 percentage points above the national figure and 5 percentage points above the main cohort as a whole. 57% of the early intervention subgroup achieved a level 5, 10 percentage points above the national figure.

The late intervention subgroup (those entering The Butterfly School in KS2) performed less well: 88% achieved a level 4 or higher, whilst just 27% achieved a level 5, less than half the figure for the early intervention subgroup.

English

In the English paper, 80% of students (81% in London) nationally achieved the expected level 4 or higher in 2009, with 29% achieving a level 5.

Of the main cohort 82% achieved a level 4 or higher in English, a percentage point or two higher than the national or London-based statistics. However, 25% of the main cohort achieved a level 5, a lower proportion than the national figure.

The control group again fall well short of the national figures as well as those of the main cohort in English – just 59% achieved a level 4 or higher, 21 percentage points behind the national figures and 23 behind the main cohort. 14% of the control group achieved level 5, a proportion less than half of the national figure and eleven percentage points below the main cohort.

Again, when the early intervention subgroup was isolated, an increase from the figures of the main cohort in the percentages achieving the expected grades was again visible – 90% of the early intervention subgroup achieved a level 4 or higher, significantly above the national and London figures. However, the proportion of

students achieving a level 5 falls to 24%, even further below the national statistic than the main cohort.

Amongst children from the late intervention subgroup, 77% achieved level 4 or above in English less than the national figure and 26% achieved a level 5.

Across The Curriculum

72% of students nationwide (73% in London) achieved the expected level 4 or higher in both English and Mathematics in 2009.

Of the main cohort, 69% were able to achieve a level 4 or higher in both English and Maths, 3 percentage points below the national figure. All bar one of these pupils also achieved a level 4 or higher in science.

The control group's results were again behind the national statistics as well as the main cohort, for of its members just 36% achieved the expected level in both English and Maths, exactly half the national figure. Pupils from the main cohort were thus almost twice as likely as their peers in the control group to achieve the expected levels across the curriculum.

The 42 pupils in the early intervention subgroup again exceeded the figures of the main cohort as a whole, for of these 42 pupils 35 83% achieved the expected level 4 in all three of English and Maths. All these pupils also achieved a level 4 in science.

For the remaining 73 in the late intervention subgroup, 60% achieved level 4 in English and Maths.

Conclusions

The main cohort performed best at Key Stage 2 level in relation to national statistics in the Reading module of the English paper (4 percentage points above the national statistic), next in English as a whole (2 percentage points above), and comparatively least well in the English and Maths together (3 percentage points behind). This correlates with the hypothesis that The Butterfly School's effects will be felt most strongly in reading, but that these effects can filter across the curriculum.

Whilst the figures show the children from The Butterfly School achieving notably higher scores in reading as a cohort than would be expected based on national figures in terms of reaching the expected level 4, the disparity increases three-fold when we compare the Butterfly cohort not with the country as a whole but with their local peers from the control group. Children who attended The Butterfly School were over 25% more likely to achieve a level 4 or above in Reading, over 35% more likely to do so in English and over 90% more likely to do so across the curriculum than their local peers who had not attended the programme. This is suggestive of a very significant effect from The Butterfly School on the academic outcomes of its pupils, as the control group is comprised of children from the same estates, streets, schools and possibly even families as the main cohort.

The achievement of the early intervention subgroup above that of the late intervention subgroup is significant in two ways; firstly because it seems to correlate with the emphasis on early interventions proposed by academics and bodies such as Leon Feinstein and the Centre for Social Justice, and secondly because, in line with the Clackmannanshire Study, it seems to show the effects of a programme extending beyond its end. For the children for whom The Butterfly School was an early intervention, between three and five years would have elapsed between them finishing the programme and sitting their Key Stage 2 tests. For

those for whom The Butterfly School came later in their development, their Key Stage two tests could have come at any time between 2003 – halfway through the programme – and 2006, just two years after its end. The high achievement of the early intervention subgroup across the curriculum is suggestive of this continued effect.

One area of concern is the relatively low proportion of pupils achieving top grades, especially in English and especially amongst the early intervention subgroup, compared to national figures. This relative paucity perhaps illustrates the importance of later interventions to 'boost' or reinforce earlier programmes such as The Butterfly School. The proportion achieving top grades across the main cohort was still however significantly above that for the control group in both reading and English.

3.4.ii) The Butterfly School and Deprivation

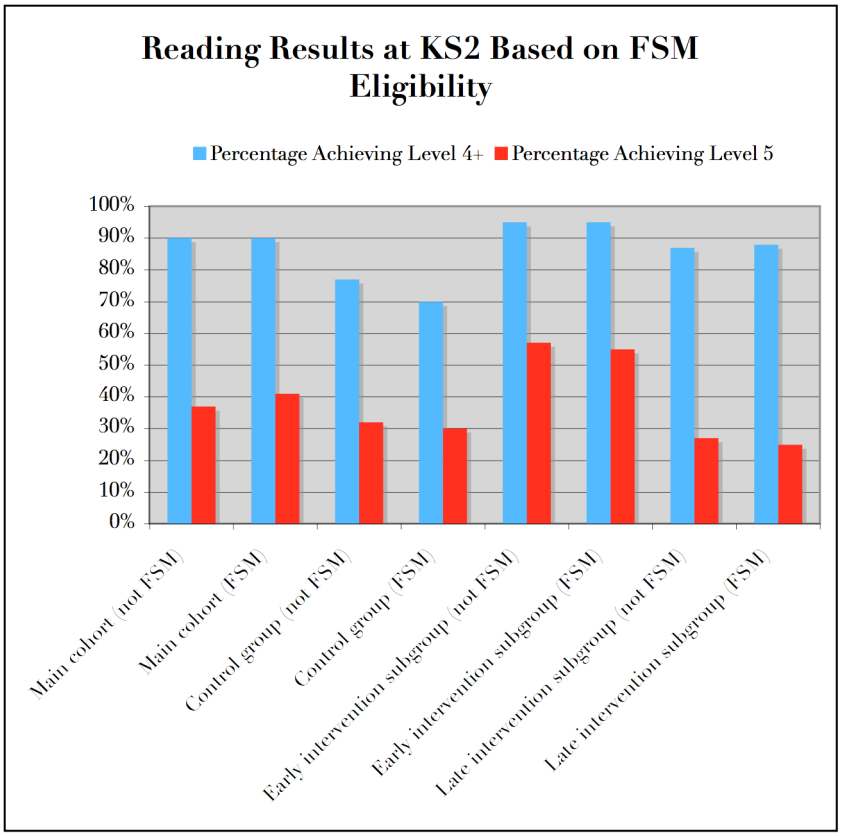
- Nationally, the achievement gap between children eligible for Free School Meals (FSM) and children not FSM-eligible has proved stubborn and pervasive.
- In the main cohort however, the FSM-eligible pupils outperformed their non-FSM-eligible peers in English and across the curriculum, illustrating that The Butterfly School had succeeded to a large extent in mediating against deprivation.
- The control group is too small to give wholly reliable data but in contrast to the main cohort the non-FSM-eligible pupils outperformed their FSM-eligible peers in reading, suggesting deprivation had not been mediated against in their case to the same extent.
- The early-intervention subgroup again performed better than the late-intervention subgroup, illustrating the effectiveness of early intervention.
- Though FSM-eligible pupils in the main cohort performed well across all measures, there were times when their non-FSM-eligible peers outperformed them, as one would expect from national figures.
- This shows the stubbornness of the problem: though The Butterfly School has effectively mediated against deprivation, it has done so only in part.

As has been shown, The Butterfly School operates in an area rife with deprivation as measured both by the IDACI and Free School Meal figures for the children in both the main cohort and the control group. These two statistics are common measures of deprivation within educational literature. The graph in Appendix 3 shows the overall percentage of pupils failing to reach a level 4 in English and Mathematics over the past ten years, compared with the percentage of pupils from schools with a FSM rate above 35% who fail to do the same[35]. Though both nationally and in schools with high deprivation this proportion of pupils failing to meet literacy and numeracy targets is falling, the disparity between the two remains both significant and stubborn: it remains true that schools with high proportions of Free School Meal-eligible children are more likely to have below-average results.

[35] Data taken from DfE Performance tables, England; updated Jan 2011. Graph taken from http://www.poverty.org.uk/25/index.shtml (accessed July 2011)

The Butterfly cohort's percentage of Free School Meal-eligible children stands at 35.8%, over twice the national figure and over the threshold depicted in the graph.

Reading



No national statistics were available for KS2 reading results based on FSM eligibility[36].

Of the main cohort's FSM-eligible pupils, 90% achieved a level 4 or above at Key Stage 2 for the Reading paper, an identical figure to that for the cohort as a whole, regardless of FSM eligibility. This means that the FSM-eligible pupils in the main cohort achieved identical reading grades on average to the non-FSM-eligible pupils in the main cohort, 90% of whom also achieved a level 4 or higher, and significantly higher reading grades than the 2009 national statistic for pupils regardless of FSM eligibility of 84%. In addition, 41% of FSM-eligible pupils in the main cohort

[36] All national statistics based on FSM eligibility and SEN taken from *Key Stage 2 Attainment by Pupil Characteristics, in England 2008/09* (DCSF 2009), http://www.education.gov.uk/rsgateway/DB/SFR/s000889/index.shtml (accessed July 2011)

achieved a level 5 for reading, a figure below the national statistic regardless of FSM eligibility of 47% but above that for the non-FSM-eligible pupils in the cohort, 37% of whom did so.

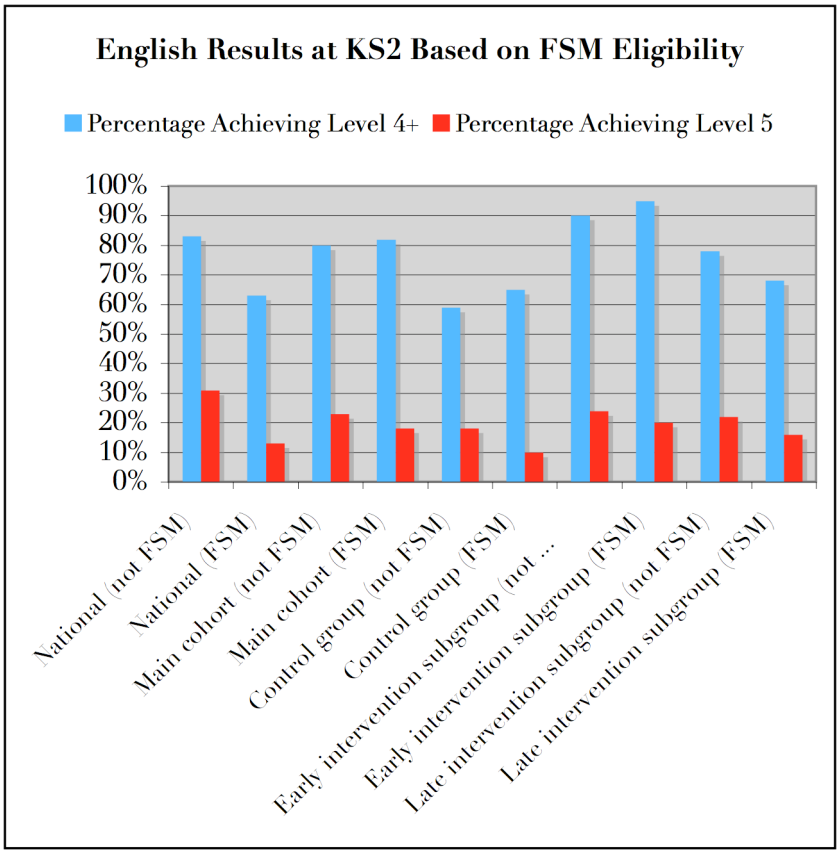
A lower proportion of both the FSM-eligible and non-FSM-eligible control group pupils achieved the expected levels in reading than their peers in the main cohort 70% of FSM-eligible control group pupils achieved a level 4 or above and 30% achieved a level 5, compared to 90% and 41% respectively of FSM-eligible pupils in the main cohort who achieved the same. The non-FSM-eligible control group pupils had a higher rate of achievement, however: 77% achieved a level 4 or above and 32% a level 5. This disparity reflects that seen in national statistics, and not present in the results of the main cohort.

Within the early intervention subgroup the 42 children for whom The Butterfly School represented an early and possibly even first encounter with literacy and reading 95% of FSM-eligible pupils achieved a level 4 or above, and 55% a level 5. Within the late intervention subgroup 84% of FSM-eligible pupils achieved a level 4 or higher, with 26% achieving level 5. The figures for non-FSM eligible children are very similar. In the early intervention subgroup 95% of non-FSM-eligible pupils achieved a level 4 or above and 57% achieved a level 5; in the late intervention subgroup 88% of non-FSM-eligible children achieved level 4 or higher and 29% achieved a level 5.

English

In English 63% of children eligible for Free School Meals nationwide obtained a level 4 or above in 2009 (70% in London). For students not eligible for Free School Meals the corresponding figure is 83% (85% in London).

82% of FSM-eligible pupils in the main cohort achieved a level 4 or above in English, with 18% achieving a level 5. Of the non-FSM-eligible pupils, 80% achieved a level 4 or above, though a higher proportion 23% achieved a level 5. The level 4-or-above figures for the Butterfly cohort's FSM-eligible pupils however are nevertheless twelve percentage points above those for FSM-eligible children in London and one percentage point above those for all pupils in London regardless of FSM status.

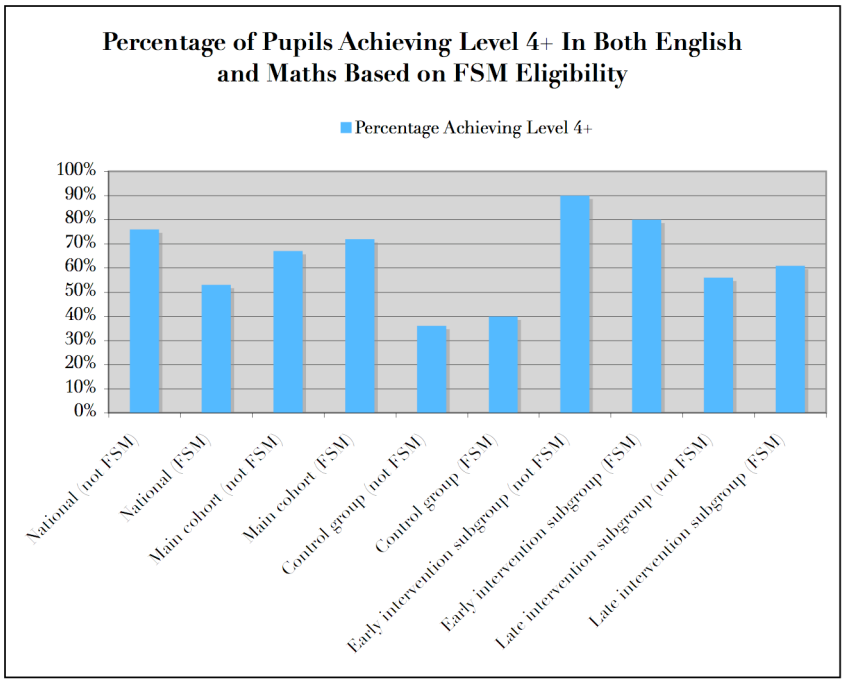


The control group again fell short of both the Butterfly cohort and the national figures. Of its FSM-eligible pupils 65% achieved a level 4 or higher in English, and 10% achieved a level 5, 17 and 8 percentage points short respectively of their peers in the main cohort. Of the non-FSM-eligible children, an even lower percentage 59% achieved level 4 or above, but 18% achieved level 5.

The early intervention and late intervention subgroups' English results exhibited a disparity between each other but there was little internal discrepancy in either

subgroup based on FSM eligibility. 95% of FSM-eligible early-intervention children achieved a level 4 or higher in reading, and the figure was slightly less for non FSM-eligible children (90%). In the late intervention subgroup, the non-FSM-eligible pupils outperformed their FSM-eligible peers as one might expect from national figures: 78% of non FSM-eligible pupils achieved a level 4 or higher in English, whilst 68% of FSM-eligible pupils did the same. In both subgroups, the proportion achieving a level 5 was slightly higher for non-FSM eligible pupils than for FSM eligible ones 24% to 20% in the early-intervention subgroup and 22% to 16% in the late-intervention group.

Across the Curriculum



Just 53% of FSM-eligible pupils (60% in London) achieved a level 4 or above in both English and Maths. 76% of non-FSM pupils did the same (78% in London).

Of the FSM-eligible pupils in the main cohort 72% achieved a level 4 or above in both English and Maths. This was an almost identical figure to that of the non-FSM-eligible members of the cohort, almost exactly two-thirds of whom achieved a level 4 or higher for English and Maths.

The cross-curricular results for the control group were also significantly lower than those of the Butterfly cohort: 40% of FSM-eligible pupils achieved a level 4 or higher in English and Maths, whilst 36% of non-FSM-eligible pupils achieved a level 4 or higher in English and Maths.

In the early intervention subgroup a disparity emerges between FSM-eligible and non-FSM-eligible pupils regarding achievement across the curriculum: 80% of the FSM-eligible pupils achieved a level 4 or higher in English and Maths but 90% of their non-FSM-eligible peers did the same. This disparity was reversed in the late intervention subgroup: 63% of the FSM-eligible late-intervention pupils achieved a level 4 or higher in English and Maths, whilst 57% of the non-FSM-eligible late-intervention pupils achieved the same.

Conclusions

The results of the main cohort run utterly contrary to the expectation generated by the model visible in the national figures. Though FSM eligibility nationally is a significant determinant of educational success and failure, it was of negligible importance in some areas as regards the main cohort, whose members achieved highly regardless of FSM eligibility. Indeed, the FSM-eligible students not only did not perform worse than their non-FSM-eligible counterparts, they in fact kept up with and even bettered them in both English and English and Maths together, posting identical results in reading. This suggests that The Butterfly School was very effective in helping combat deprivation as a contributory factor to educational failure. Indeed, in English a similar proportion of FSM-eligible pupils from the main cohort achieved a level 4 or higher to the proportion of non-FSM-eligible children nationwide who achieved the same. As with results generally, the main cohort comfortably outperformed the control group regardless of FSM eligibility.

Although such a discrepancy based on FSM eligibility is not present in the results of the main cohort, one would expect a certain disparity between FSM-eligible and non-FSM-eligible pupils to emerge in the control group, whose members could not benefit from The Butterfly School's teaching.

In part an attainment gap between FSM-eligible and non-FSM-eligible students in the control group is indeed visible, but it is probably wise at this juncture to restate how small the control group is, especially now a variable has been introduced and the group essentially split into two sub-groups based on FSM status. Indeed, when a single person is worth almost 5% of the entire sub-group, it is difficult to know how reliable the data is when looking precisely at statistics such as relative differences between FSM-eligible and non-FSM eligible pupils, for example. There is information to be gleaned, but it is limited and must be drawn out cautiously.

In the control group, the non-FSM-eligible pupils outdid their FSM-eligible peers in the reading paper in terms of the proportion achieving both the expected level (by 7 percentage points) as well as level 5 (by 2 percentage points). This correlates with the pattern one would expect from the known poor attainment of FSM-eligible pupils nationwide. However, whilst it could be an indication of the attainment gap visible in nationwide statistics and not present in the results of the main cohort, given the small sample size it is impossible to be certain.

As with results generally, the early intervention subgroup outperformed the late intervention subgroup regardless of FSM eligibility. In both subgroups however, as with the cohort as a whole, the importance of FSM eligibility as a determinant for achievement in reading is much smaller than would be expected based on the national model. However, in English and across the curriculum small disparities begin to emerge, though they do not wholly fit the national pattern. Non-FSM pupils in the late intervention subgroup outperform their FSM eligible peers in English as one would expect from national statistics, but they fall behind the FSM-

eligible pupils across the curriculum, contrary to the expected pattern. It is possible the relatively small sample – as well as the low proportion of pupils in the late intervention subgroup achieving a level 4 or above across the curriculum – has contributed to this.

With regards reading however (as well as English for the early intervention subgroup) FSM eligibility seems to have little impact on the results of The Butterfly School's pupils, a fact that reinforces the claims of Bob Slavin and others for systematic synthetic phonics' potential importance in the lives of at-risk readers. The results suggest that the difficulties caused by social background and surroundings that impact on the attainment of children from the poorest backgrounds *can* in part be overcome, and that early-intervention literacy teaching such as that provided by The Butterfly School could be part of the solution. The results for its FSM-eligible pupils as delineated above certainly suggest that with the right help their achievement can be brought into line with or even above the national statistics.

The attainment gap linked with deprivation still seems to persist to a limited extent however as far as high achievement was concerned – the proportion of pupils achieving level 5s, or level 4s across all subjects. However, The Butterfly School's impact is still evident: though in the early intervention subgroup non-FSM-eligible pupils outperformed their FSM-eligible peers, the FSM-eligible members of the subgroup were still 20 percentage points above the London figure for FSM-eligible students and 2 above that for non-FSM-eligible ones.

Of course nothing can or should stop parents with resources investing them in their children's education, and it is probable that the small and partially visible disparity here reflects this. How to mediate for this factor with children for whom such resources are not available is another matter however, though it certainly

seems programmes like The Butterfly School can have and indeed have had a profound effect.

3.4.iii) The Butterfly School and Special Educational Need

- The achievement of pupils with Special Educational Need (SEN) has traditionally been much lower than that of pupils without SEN.
- Though this gap was reduced in the results of the main cohort, it nevertheless remained prominent. However, higher proportions of pupils with SEN achieved the expected grades than would be expected from national figures. This suggests that The Butterfly School is effective at helping 'at-risk' readers such as those with SEN.
- A large number of pupils in the main cohort with SEN achieved the expected levels in reading but failed to do so in English, suggesting that a large number of pupils with SEN struggled with applying their literacy skills across the curriculum.
- Almost all the pupils in the main cohort with SEN who achieved a level 4 or above in English however also did so in Maths, suggesting that whilst some struggled to apply literacy skills across the curriculum, others were able to do so.
- The pupils with SEN in the early intervention subgroup performed much better than their peers in the late intervention subgroup, illustrating the importance of early intervention for pupils with SEN, especially in relation to cross-curricular application of skills.

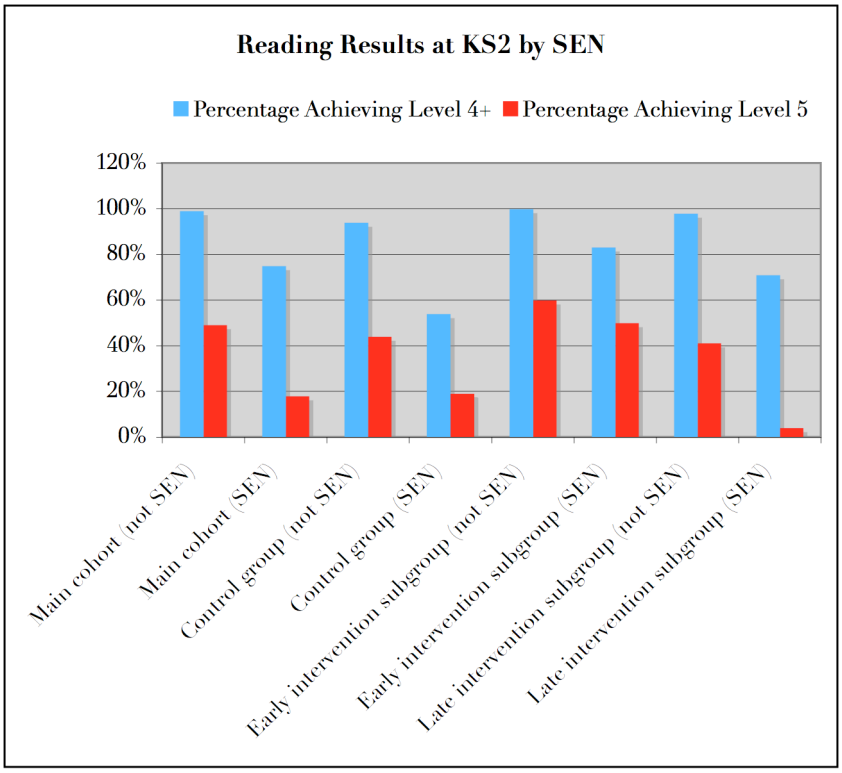
Children diagnosed either medically or by their school as having SEN are placed into one of three categories: School Action, School Action Plus and those with an SEN Statement, in ascending order of need. Doing this with the data of the main cohort or control group however would cause problems with analysis as separating the data into these three categories (plus a fourth of children without any SEN) would have made the amount of data for handling unworkably small. The groups were thus separated into two simple sub-groups: those with SEN and those without.

40% of the children in the main KS2 cohort had SEN. There were 19 children on School Action, 17 on School Action Plus and 4 with a statement. The control group had a much higher percentage of children with SEN 17 on School Action, 7 on School Action Plus and 2 with a statement, making 60% of children in total.

Reading

No national statistics were available for KS2 reading results based on SEN[37].

Of the pupils in the main cohort with SEN, 75% achieved a level 4 or higher for reading, with 18% achieving a level 5. This was significantly below the figures for pupils in the main cohort without SEN, who almost universally achieved the expected level 99% achieved level 4 or higher in reading, with 49% reaching a level 5.



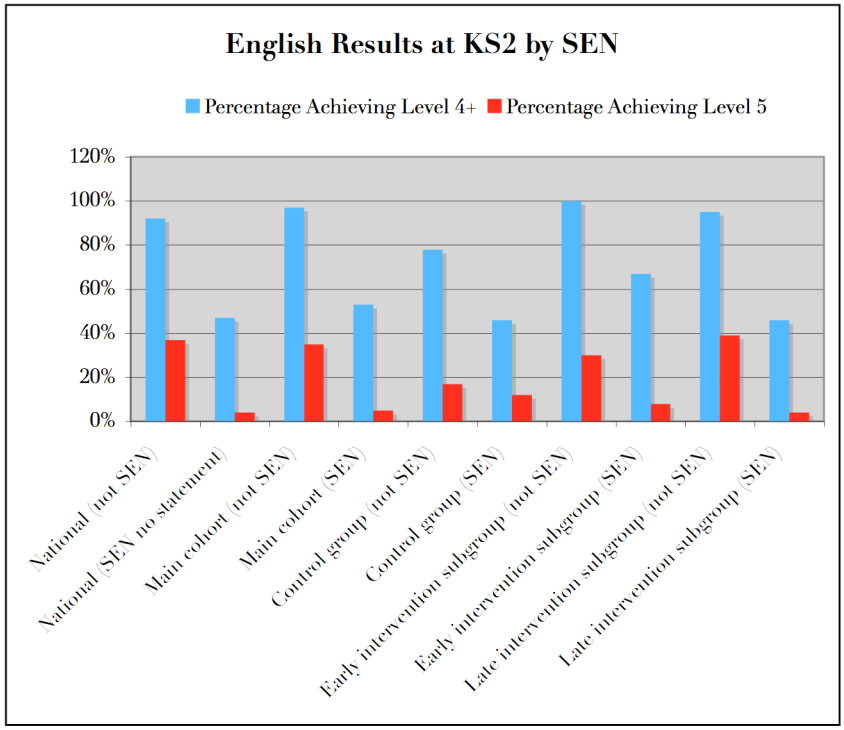
Of the children in the control group with SEN, 54% achieved a level 4 or higher in the reading paper, significantly below the pupils with SEN from the main cohort. 19% achieved a level 5 however, 1 percentage point above. Of the children in the control group without SEN, 94% achieved a level 4 or higher in reading, a figure 5 percentage points below the main cohort. 44% achieved a level 5, 5 percentage points below the main cohort.

[37] All national statistics based on FSM eligibility and SEN taken from *Key Stage 2 Attainment by Pupil Characteristics, in England 2008/09* (DCSF 2009), http://www.education.gov.uk/rsgateway/DB/SFR/s000889/index.shtml (accessed July 2011)

Of the pupils with SEN in the early intervention subgroup, 83% achieved a level 4 or higher in reading, a figure 8 percentage points above that of the main cohort. 50% achieved a level 5. Every one of the pupils without SEN in the early-intervention subgroup achieved a level 4 or higher in reading (60% at level 5).

Of the pupils in the late-intervention subgroup with SEN 71% achieved a level 4 or higher in reading (4% at level 5). Of the pupils in the late-intervention subgroup without SEN, 98% achieved a level 4 or higher in reading (41% at level 5).

English



Nationally, 47% of pupils with SEN but no statement managed to achieve a level 4 in English in 2009, with less than 5% achieving a level 5. For pupils with a statement, the figure achieving a level 4 was just 17%. In contrast, 92% of pupils without SEN achieved a level 4 or higher in English at KS2 in 2009, with 37% achieving a level 5, a figure only slightly less than the proportion of pupils with SEN achieving a level 4.

Of the children in the main cohort with SEN (including statements) 53% achieved a level 4 or higher in English, with 5% achieving a level 5. The pupils in the cohort without SEN did significantly better: 97% achieved a level 4 or higher, with 35% achieving a level 5. In other words, all bar two of the children without SEN who attended The Butterfly School failed to reach the level expected of them in English.

Of the control group pupils with SEN including statements, 46% achieved a level 4 or higher, with 12% achieving a level 5. Of the control group pupils without SEN, 78% achieved a level 4 or higher at English, with 17% making level 5.

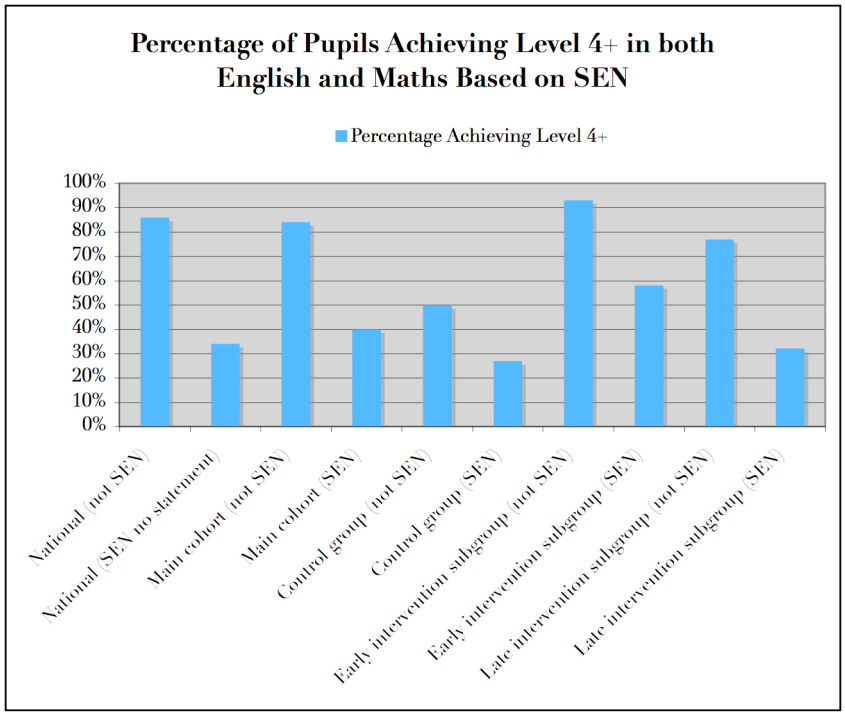
Of the early-intervention subgroup pupils with SEN including statements, 67% achieved a level 4 or higher and 8% achieved a level 5. However, every pupil without SEN in the subgroup achieved a level 4 or higher in English, with 30% earning a level 5.

The pupils in the late intervention subgroup with SEN including statements were outperformed by their peers in the early intervention subgroup: 46% achieved a level 4 or higher, with 4% achieving a level 5. The pupils without SEN in the subgroup also achieved less highly than their peers in the early-intervention subgroup in terms of the percentages achieving a level 4 or higher (95%), but actually outperformed them in the number achieving level 5 grades (39%).

Across The Curriculum

Nationally, just 34% of pupils with SEN but no statement achieved a level 4 or higher in both English and Maths in 2009. Just 14% of pupils with statements achieved the same. 86% of pupils without SEN achieved the expected levels.

In the main cohort, 40% of pupils with SEN achieved a level 4 in both English and Maths, 6 percentage points above the national figure. 84% of pupils without SEN achieved a level 4 in both English and Maths, exactly the same percentage as the national figure.



27% of pupils in the control group with SEN achieved a level 4 or above in both English and Maths, 7 percentage points below the national statistic. Exactly half of the pupils in the control group without SEN achieved the same, over 30 percentage points below the main cohort's figure.

58% of pupils with SEN in the early intervention subgroup achieved a level 4 or higher in both English and Maths, whilst 93% of pupils in the subgroup without SEN achieved the same.

In the late intervention subgroup, 32% of pupils with SEN achieved a level 4 or higher in English and Maths, whilst for pupils in the subgroup without SEN the corresponding figure was 77%.

Conclusions

The pupils with SEN in the main cohort achieved higher grades than would be expected from national figures both in English and across the curriculum (statistics were not available for reading). Indeed, the nationwide proportion of pupils in School Action – the least severe category of SEN – who achieve level 4 or higher in English is 54%, a single percentage point above that of the children in the cohort with SEN of any description including statements. Nationally, just 35% children on School Action Plus achieve a level 4 or higher in English, whilst only 18% of children with statements do so. One would expect children on School Action to perform better than those on School Action Plus, those with a statement, or a mixed group. That nationally at least they did not when compared to the Butterfly Cohort shows that The Butterfly School and its systematic synthetic phonic method is well-placed to help 'at-risk' readers including those with SEN.

However, the large attainment gap between pupils with SEN and pupils without SEN that is visible nationally was still prominent in the results of the main cohort in English and across the curriculum, although in both cases the gap was smaller in the results of the main cohort than it was nationally. There was also a large difference between the proportion of children with SEN in the main cohort who achieved a level 4 or above in reading and those who did so in English. A large proportion of children with SEN were thus able to achieve what was expected of them in reading, but many were unable to translate this learning and these skills across into the rest of the English curriculum. This was not something at all visible in the children in the cohort without SEN, almost all of whom achieved a level 4 or above in both reading and English, but more research would be needed to establish the reasons why this was the case. Almost all the pupils with SEN in the main cohort who achieved a level 4 or higher in English also achieved a level 4 in Maths however, suggesting that though many children with SEN found it difficult to filter their literacy skills across the curriculum, a similarly large number were able to do so very effectively.

As with separating the control group on the basis of Free School Meal eligibility, dividing an already small dataset into two even smaller ones on the basis of Special Educational Need means it is necessary to treat the results with caution. Across all three subject measures the control group failed to achieve as highly as the main cohort regardless of SEN, though a higher proportion of control group pupils than would be expected from national figures achieved a level 4 or above in English. Nevertheless, their inability to achieve as highly as the main cohort illustrates the effectiveness of The Butterfly School with pupils with SEN.

Again the early intervention subgroup outperformed the late intervention subgroup across all 3 measures. Indeed, whilst the late intervention subgroup pupils with SEN achieved highly at reading, they did notably less well in English and across the curriculum, where the proportion achieving a level 4 or above was closer to the control group figure than it was to that of the main cohort. This suggests that whilst The Butterfly School is generally more effective as an early intervention, this is especially true for pupils with SEN, who seem much less effective at applying literacy skills across the curriculum later in their educational development.

In relation to Special Educational Need it is clear that for the most part The Butterfly School has raised the attainment of its pupils regardless of their SEN. However, it is also clearly much more effective as an early intervention, and what was notable in comparison to the analysis based on FSM eligibility was the greater number of times the control competed with the main cohort or its subgroups. A higher proportion of students with SEN from the control group achieved a level 5 in Reading and English than from the main cohort. It is unclear why this may be so and in part or in whole the small size of the control group is probably a contributory factor, but it is also possible that this is where The Butterfly School's limited resources begin to be stretched by circumstance, as one-on-one help for pupils with SEN cannot be provided for to the extent desired. More targeted one-

on-one or small group work could potentially push more of the many level 4 students with SEN up to a level 5, or help close the attainment gap between pupils with SEN and those without. Despite the obvious stubbornness of this ongoing and wide-ranging educational issue however the influence of The Butterfly School still seems significant, especially as an early intervention.

3.4.iv) The Butterfly School and Gender

- Nationally, boys perform worse than girls in literacy-based subjects such as English across all age groups, as well as in regards to academic achievement more generally.
- In the main cohort the girls also outperformed the boys, though a higher proportion of both girls and boys achieved the expected grades than would be expected of them nationally in reading and English.
- Across the curriculum however a higher proportion of boys achieved level 4 or higher than girls; though the boys achieved commensurately with boys nationwide, the girls significantly underachieved and the boys' superiority is thus as much to do with the girls' failure in Maths as it is their own success. More research would be needed to find out why the girls performed so badly in Maths.
- A significantly lower proportion of pupils in the control group achieved the expected grades than pupils either nationally or in the main cohort. Girls outperformed boys in all three measures including across the curriculum, mirroring the national picture.
- The early intervention subgroup performed better than the late intervention subgroup in all three measures, and also proved itself more effective at narrowing the attainment gap between boys and girls, suggesting that boys respond better to early literacy intervention than they do to late literacy intervention.

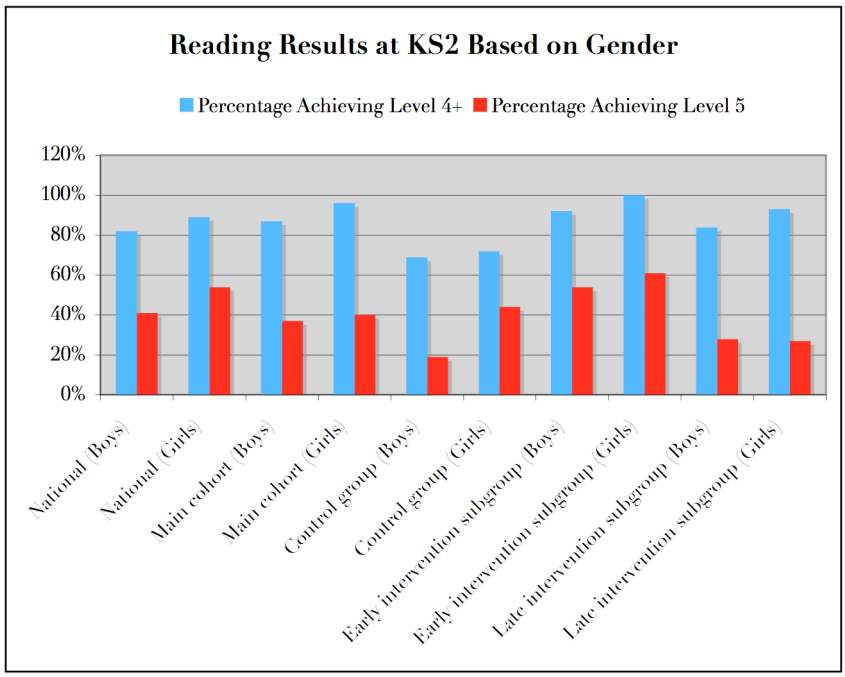
Traditionally boys do worse than girls in terms of academic achievement across the educational age range. At Key Stage 4 (GCSE) 54.4% of girls achieved at least 5 GCSE passes graded A*-C including Maths and English in 2009. Just 47.1% of boys managed to achieve the same. Not only are there fewer boys at the top end of the academic scale, there are also more at the bottom: 1.3% of boys leave school with not even a single G grade to show for eleven or twelve years in the system; 0.7% of girls do the same. This gap does not simply appear in year 11 however – it is visible from primary school, and especially in subjects reliant on good literacy skills, most obviously English.

The Clackmannanshire study showed that not only did the synthetic phonic programme challenge the traditional educational outcomes associated with

deprivation, but it also proved to be successful with boys as well as girls. Tracing the gap between boys and girls at GCSE back to Key Stage 2 it seems clear that the root of the problem lies in English. If boys' literacy can be improved, then it follows that their results at Key Stage 2 and GCSE could also improve significantly.

Reading

Nationally, girls outperform boys in the Key Stage 2 reading paper. In 2009, 89% of girls achieved a level 4 or higher in reading, whilst 82% of boys managed to achieve the same.[38]



In the main cohort, the boys were out-performed by the girls in the reading paper. 87% of boys achieved a level 4 or higher in reading (37% a level 5) compared to 96% of girls who did the same (40% level 5).

The same was true of the control group: 69% of boys achieved a level 4 or higher in reading, whilst 19% achieved a level 5. Of the girls, a slightly higher proportion

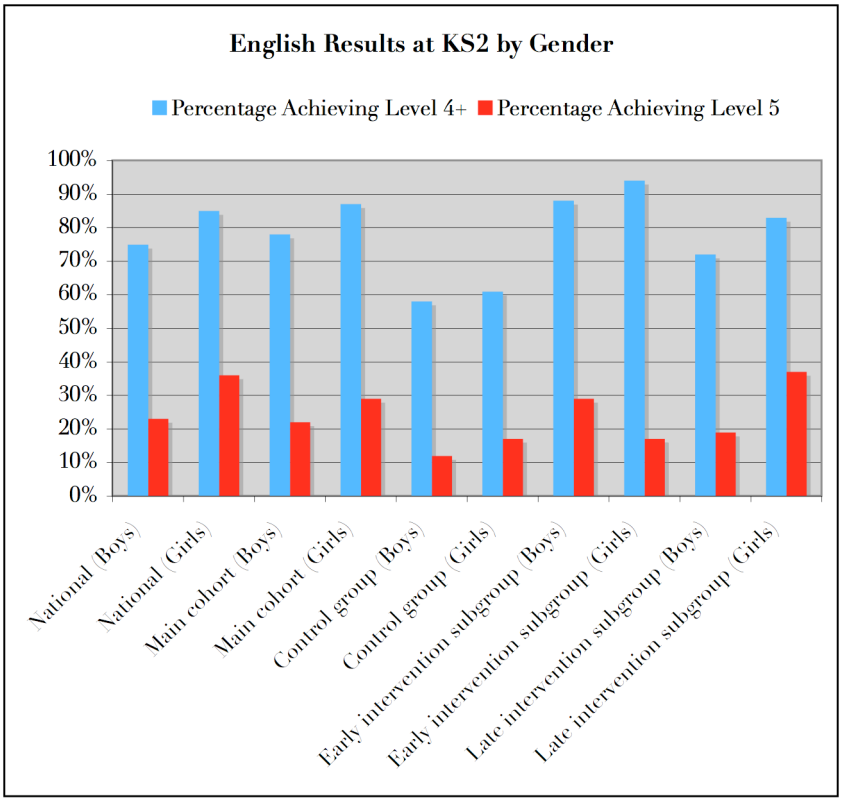
[38]All national statistics based on gender taken from *National Curriculum Assessments at Key Stage 2 in England 2009* (DCSF 2009), http://www.education.gov.uk/rsgateway/DB/SFR/s000865/index.shtml (accessed July 2011)

72% achieved a level 4 or above in reading, but 44% achieved a level 5, over twice the proportion of boys who did so.

In the early intervention subgroup the girls again bettered the boys: 92% of the boys achieved a level 4 or above whilst 54% achieved a level 5. In contrast 100% of the girls achieved a level 4 or higher, with 61% managing a level 5.

In the late intervention subgroup both boys and girls did less well than their peers in the early intervention subgroup, but the attainment gap between the sexes remained: 84% of the boys achieved a level 4 or higher in reading, with 28% achieving a level 5. 93% of the girls achieved a level 4 or higher, though a slightly lower percentage 27% achieved a level 5.

English



Nationally 75% of boys achieved a level 4 or higher in English in 2009, whilst 85% of girls did the same.

In the main cohort, 78% of boys achieved a level 4 or higher in English (22% at level 5), whilst 87% of girls did the same (29% at level 5).

In the control group 58% of boys achieved a level 4 or higher in English, with 12% achieving a level 5. Of the girls, a slightly higher proportion achieved a level 4 or higher 61%. However, though a similar number achieved the expected level, significantly more achieved a level 5 at 17%, showing the girls outperforming the boys significantly at the upper end of the academic spectrum.

In the early intervention subgroup, 88% of the boys managed to reach the expected level, with 29% achieving a level 5. Though a higher proportion of the girls 94% achieved a level 4 or higher (9 percentage points above the national statistic), just 17% achieved a level 5.

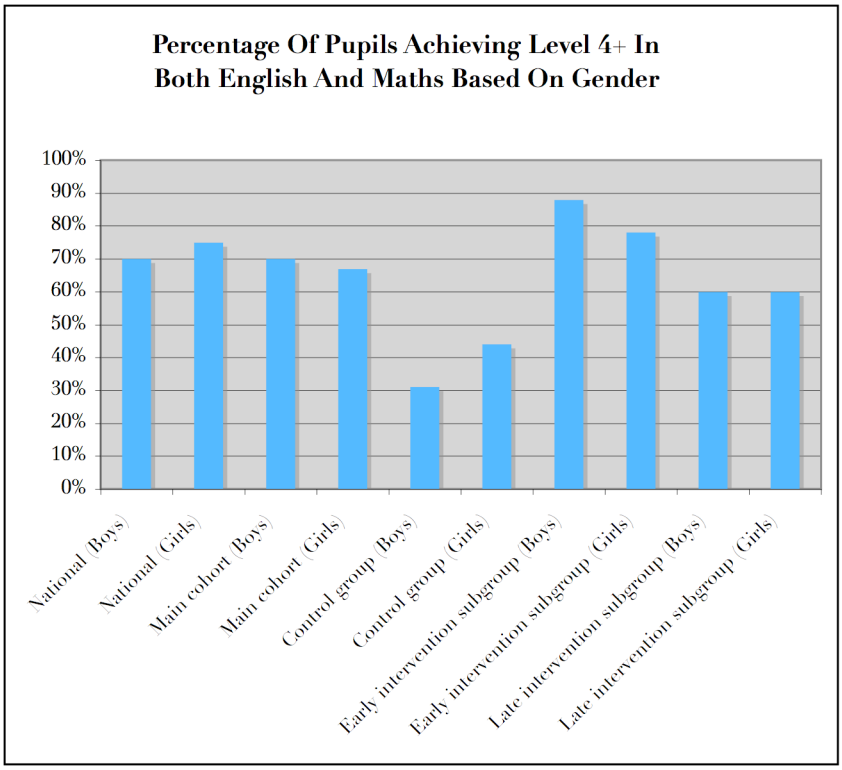
In the late intervention subgroup 72% of boys achieved a level 4 or higher in English (3 percentage points below the national figure), with 19% achieving a level 5. The girls performed better: 83% achieved a level 4 or higher (2 percentage points below the national statistic) with 37% achieving a level 5.

Across The Curriculum

Nationally, 70% of boys achieved a level 4 or above in both English and Maths at KS2 in 2009. 75% of girls did the same.

In the main cohort across the curriculum boys not only closed the gap present in the previous 2 measures but actually overtook the girls: 70% of boys achieved a level 4 or higher in both English and Maths, whilst 67% of girls managed to do the same.

In the control group however the opposite was true: the girls pulled away from the boys. 44% of girls achieved a level 4 in English and Maths, whilst just 31% of boys did the same.



In the early intervention subgroup 88% of boys achieved a level 4 or above in both English and Maths, 18 percentage points above the national figure. Just 78% of girls did the same, three percentage points above the national statistic. This means that 17% of girls achieving a level 4 or above in English failed to do so in Maths, a figure well above the equivalent statistic nationally. By way of contrast, every single boy who achieved a level 4 in English also did so in Maths.

Across the curriculum in the late intervention subgroup the boys were behind their peers in the early intervention subgroup, but still managed to catch up with the girls: 63% (still 10 percentage points below the national figure) achieved a level 4 or above in both English and Maths. The girls again performed very badly across the curriculum, with just 60% achieving the expected level in both English and Maths. This is 15 percentage points below the national figure and means that 23% of the

girls in the late intervention subgroup achieved a level 4 or above in English but failed to do so in Maths.

Conclusions

Both genders in the main cohort achieved highly in reading and English in comparison to national figures. A higher proportion of both boys and girls achieved the expected grades in the reading paper than the national figure regardless of gender, whilst in English the boys achieved 3 percentage points above what could be expected of them nationally and the girls achieved 2 percentage points above the national statistic. This is positive, and illustrates the positive influence of The Butterfly School generally.

Despite these positives however it is a worry that the girls still outperformed the boys in the main cohort as well as both subgroups. In the main cohort the girls were 9 percentage points ahead of the boys for both reading and English. This is partly of course because both boys and girls exceeded the national statistic in terms of proportions achieving the expected level, suggesting that the synthetic phonic programme of The Butterfly School was effective for both genders; nevertheless it was hoped the programme would prove to help boys narrow the gap.

However, across the curriculum boys not only closed the gap but actually overtook the girls: though ahead of the national statistics purely in terms of English achievement, the girls in the main cohort ended up 8 percentage points behind when cross-curricular results were analysed. This suggests that The Butterfly School had a positive effect on literacy and reading, but this did not in the girls' case necessarily transfer into Maths achievement. The boys' cross-curricular achievement is 2 percentage points above the statistic for boys nationally; however it must be said that their superiority across the curriculum was as much to do with the girls' poor performance in Maths as it was to do with their high achievement.

More research would be needed to establish exactly why the girls performed so badly, but it is clearly the reason why the boys outperformed them across the curriculum given that they were below the girls for English alone.

The control group's figures are all significantly below the statistics both nationally and of the main cohort, for both boys and girls. However, whilst in the main cohort the girls outperformed the boys and then sank below them across the curriculum, in the control the girls outperformed the boys both in English and across the curriculum, as one would expect from national figures.

Once more the early intervention subgroup significantly outperformed the late intervention subgroup. Though the figures for both subgroups are larger than those for the control, suggesting The Butterfly School had some positive impact regardless of the stage of educational development at which its pupils attended, it is clear that for both boys and girls early intervention in Key Stage 1 was much more effective than a later intervention in Key Stage 2. This is more visible in boys than in girls, for whom early intervention increases the probability of achieving the expected level in English by 18 percentage points and in both English and Maths by 25 percentage points.

The attainment gap between boys and girls in the early intervention subgroup was also smaller than that in the late intervention subgroup: 8 percentage points to 9 in reading and 6 percentage points to 11 in English. It should also be mentioned that though the early intervention subgroup's girls still outperformed the boys in English in absolute terms, the boys did manage to outdo the girls in relation to what would be expected of them based on their respective national statistics – the boys were 13 percentage points above their national figure whilst the girls were 9 percentage points above theirs. This suggests that the boys did respond positively to early literacy intervention, and that such programmes as The Butterfly School could help narrow the gender achievement gap when used as an early intervention.

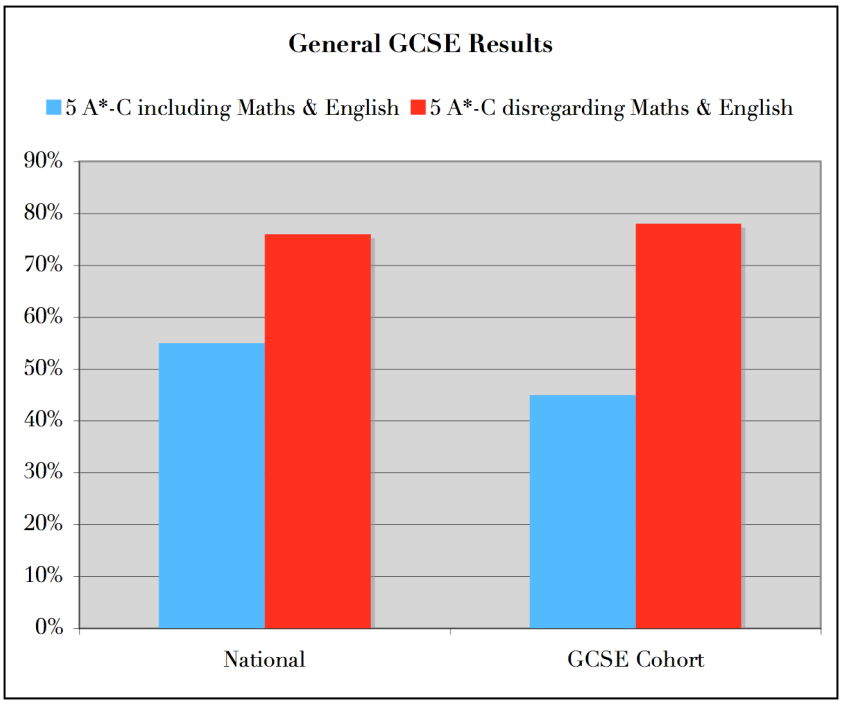
3.5 – The Effects of The Butterfly School, Long Term: GCSEs

- Just 58 of the main cohort had taken their GCSEs at the time of writing. None of these pupils were in the early intervention subgroup in section 3.4. Just 5 members of the control group had taken their GCSEs; this was too few to use as comparison.
- Though the proportion of pupils achieving 5 or more A* C grades regardless of Maths and English was high in comparison to national figures, the proportion achieving 5 or more A* C grades including Maths and English was much lower.
- There are numerous possible reasons for this, for example: that the dataset is simply too small and hence unrepresentative, or that the influences of The Butterfly School, whilst apparent at age 11, had waned over the secondary school years.
- Though the Clackmannanshire study suggested synthetic phonics' influence had increased over time, its subjects received synthetic phonics in Key Stage 1 (none of the GCSE cohort had attended the Butterfly School at this time) and in addition the study did not investigate its subjects after entry to secondary school.
- Firm conclusions regarding the GCSE cohort are impossible to draw, however it seems plausible that the results point towards the importance of secondary-level 'top-up' interventions.

GCSE results were obtained for the 58 of the main cohort who had taken them. The remainder were too young to have taken the exams. Just 5 members of the control group had taken their GCSEs; this was too small for any comparison and was hence discarded. The oldest members of the early intervention subgroup used for KS2 analysis were in year 10 at the time the NPD data was obtained in January 2011, a year before sitting their GCSEs, and thus could not be used as a point of comparison either. All 58 of the main cohort for whom results were available were thus from either the late intervention subgroup or the group of students who had sat their KS2 exams before enrolling on The Butterfly School. They sat their GCSEs between 2006 and 2010 (with one student doing so in 2004).

The cohort had a similar profile to that of the KS2 main cohort from which they were drawn there was a 62%-38% gender split in favour of boys, with exactly a

third of students eligible for FSM, 37% with EAL and 40% with SEN (11 School Action, 10 School Action Plus and 2 Statements)



Nationwide, the barometers for GCSE achievement on which schools are most frequently judged – at least until the introduction of the English Baccalaureate – is the percentage of pupils achieving 5 A* C grades including Maths and English. Nationally this percentage was 54.8% in 2010, with 75.6% of pupils achieving 5 A* C grades regardless of English and Maths[39]. Amongst the GCSE cohort 45% of students achieved this, 10 percentage points lower than the national figure. However, the percentage of students achieving 5 A* C grades regardless of English and Maths results was 78%, 2.4 percentage points above the national figure. It should also be noted that the 2010 national figures are significantly above those for the previous years in which many of the GCSE cohort took their tests.

The conclusions drawn about the GCSE cohort must be approached with a degree of caution, for two reasons. Firstly, the cohort is of a much smaller size than it was for KS2 analysis, and secondly there is no point of comparison amongst the

[39] All GCSE Statistics taken from *GCSE and Equivalent Attainment by Pupil Characteristics in England, 2009/10* (DfE 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000977/index.shtml (accessed July 2011)

cohort's peers, be they from the control group or the early intervention and late intervention subgroups.

Conclusions

For reasons already discussed any conclusions drawn about the GCSE cohort must be tentative and with qualification; anything more certain would require more research at a later date when more of the main cohort have progressed through KS4.

Though the proportion of pupils achieving 5 or more A* C grades regardless of Maths and English was high in comparison to national figures, the proportion achieving 5 or more A* C grades including Maths and English was much lower. This means that the core subjects of English and Maths were stumbling blocks for many members of the GCSE cohort. Of the 19 students who achieved 5 A* C grades without Maths and English, 5 failed to achieve the expected level in English whilst 8 failed to do so in Maths. 6 failed to achieve a C or higher in both.

The late intervention subgroup from which the majority of students in the GCSE cohort were drawn performed less well than pupils nationally in English and across the curriculum at Key Stage 2. However, one would not expect so many students a full third to achieve highly across the curriculum at GCSE but not in one or both of English and Maths.

There are numerous reasons why this could be so, not least the possibility that the small data set is simply not representative of The Butterfly School's influence. However, one other strong possibility is that the influence of The Butterfly School did not strengthen over time but rather waned. The effects of the synthetic phonic programme documented by the Clackmannanshire study seemed, against the norm and against the results here, to increase over time. However, the study differed in

its approach from this one in several ways. Firstly, its subjects were in KS1 at the time they began the programme. The students in the GCSE cohort without exception were not, and as the KS2 results suggested The Butterfly School's teaching had far less impact on older children than on those still in KS1 at the time of intervention. Secondly, the Clackmannanshire Study stopped at Primary 7, before the end of primary school, and the effects of the synthetic phonic programme on attainment after the transition from primary to secondary school were not investigated. The decline here may well thus reflect a decline in influence of the synthetic phonic method that would have also been apparent in the Clackmannanshire cohort had the appropriate follow-up research been performed, as the pupils passed through adolescence and were met with the many extra-curricular forces and stresses at play in secondary school.

Whether the poor performance of the GCSE cohort in the core subjects would also be apparent in the future GCSE results of the early intervention subgroup is not worthy of speculation without follow-up research. However, what the results do suggest is that simple solutions to problems such as educational attainment do not exist, and also that any intervention must not be complacent: it is crucial to 'top up' and maintain the positive influence such interventions can have to ensure continued development. It would be interesting to see if a follow-up study of the Clackmannanshire cohort – or indeed of the early intervention subgroup – followed the pattern seen here.

3.6 – The Effects of The Butterfly School: Educational Failure

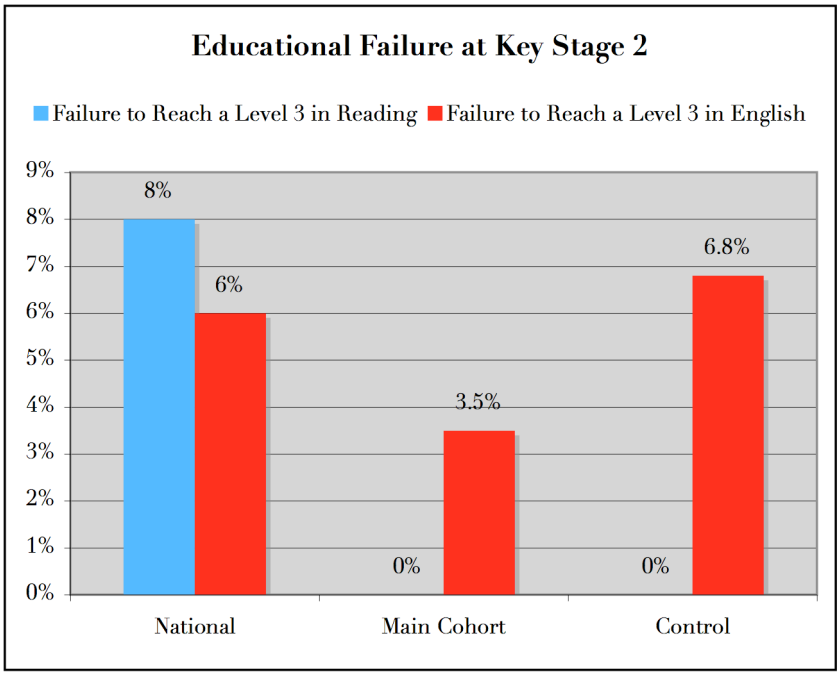
- It is important to look not only at how The Butterfly School has promoted educational success, but also at how it has guarded against educational failure.
- Educational failure is here defined as a failure to achieve a level 3 at Key Stage 2 and failure to achieve a single GCSE pass at Key Stage 4.
- Queen's Park is an area in which many of the social characteristics associated with high levels of educational failure are widespread and commonplace.
- Not one member of the main cohort failed to achieve a level 3 or higher for reading at Key Stage 2, whilst 3.5% failed to achieve a level 3 or higher for English, significantly below the national percentages of 8% and 6% respectively. Though none of the control group failed to achieve a level 3 or higher for reading, 6.8% did so for English, higher than the national statistic. This suggests The Butterfly School successfully guarded against educational failure at KS2 level, though it was not able to eliminate it.
- No member of the GCSE cohort failed to achieve a single GCSE pass. Though a larger dataset would be required to draw any firm conclusions, this is consistent with the idea that The Butterfly School has been able to effectively guard against educational failure in its pupils in the long term.

It has been shown that The Butterfly School has had a positive and significant impact on its attendees at KS2 level in comparison not only with the control group but with national statistics. It has been shown how it has promoted and influenced educational achievement in a large proportion of its pupils, and that it has helped narrow to varying degrees (though not eliminate) the traditional attainment gaps between FSM eligibility, SEN and gender. We have also seen that it has been most effective as an early intervention, when its pupils have been in Key Stage 1. When its pupils have entered the programme later, in Key Stage 2, the impact has been positive but less profound.

Educational success (percentages of pupils achieving a level 4 or above, percentages of pupils achieving a level 5) is not the only measure of The Butterfly School's impact, however. It is also important to look not only at how it has promoted

educational success, but how it has combated educational failure, defined here as a failure to achieve a level 3 at Key Stage 2 or a failure to achieve a single GCSE pass at age 16.

Children working below a level 3 at age 11 are already three years or so behind their expected rate of progress. Even with intensive intervention in secondary school this is an enormous deficit to make up, and very few are able to do so. The area in which The Butterfly School operates is one with high unemployment, high levels of crime, a high proportion of adults with few or no qualifications, enormous deprivation and (judging by the main cohort and control) high levels of Special Educational Need. It is an area where many of the characteristics associated with educational failure are present and correct to high degrees. Whilst helping as many children as possible achieve high grades and levels is certainly one measure of The Butterfly School's success, another equally important barometer is ensuring as few as possible are sucked into the black hole of educational failure from which escape is very difficult indeed.



Nationally in 2009, 94% of pupils achieved a level 3 or higher in English, and 92% did so in reading, leaving 6% and 8% of pupils respectively who failed to achieve

even this modest level[40]. Of the main cohort, 4 members (3.5%) failed to achieve a level 3 at English at Key Stage 2. 2 of these pupils were from the early intervention subgroup and 2 were from the late intervention subgroup. Not a single pupil in the main cohort failed to achieve a level 3 in the reading paper. In the control group, 3 pupils (6.8%) failed to achieve a level 3, a figure more in line with (and indeed slightly above) the national figures. Proportionally, therefore, almost twice as many pupils from the control group as the main cohort failed to achieve level 3 at KS2 in English, suggesting that The Butterfly School did effectively guard against educational failure at KS2 level, though it was not able to eliminate it.

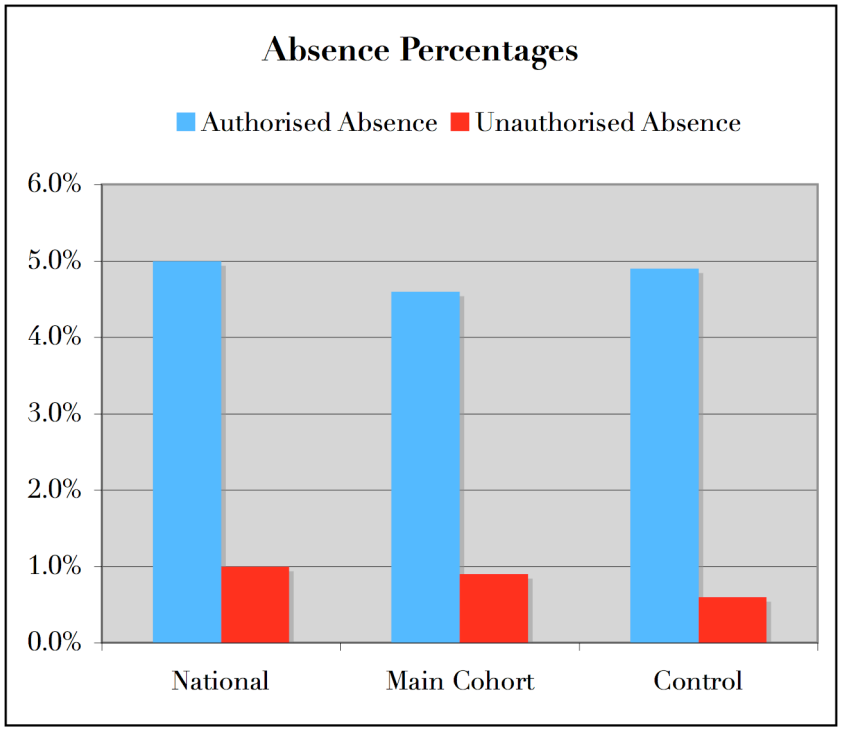
Nationally, 1% of pupils (1.5% in London) leave school at 16 after at least 11 years in the educational system without a single GCSE graded A* G. Of the GCSE Cohort, all 58 achieved at least one GCSE graded A* G, but the significance of this is negligible due to the small size of the group.

A larger dataset would thus be necessary to draw any firm conclusions, but this is nevertheless consistent with the idea that The Butterfly School has been able to effectively guard against educational failure in its pupils.

[40] All statistics on Educational Failure from *Key Stage 2 Attainment by Pupil Characteristics, in England 2008/09* (DCSF 2009), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000889/index.shtml (accessed July 2011)

3.7 – The Effects of The Butterfly School: Attendance & Absence

- The main cohort had lower rates of authorised and unauthorised absence than would have been expected from national figures.
- However, the control group's figures were comparable to those of the main cohort.
- FSM-eligible children in the main cohort however had a rate of unauthorised absence almost three times lower than their peers nationally.
- This is encouraging and suggests that as with academic results The Butterfly School has had a positive effect regarding the effect of deprivation on educational participation and achievement.
- However, there are many factors at play and drawing concrete conclusions would require more research.



Across the country, the average rate of attendance at all schools (primary and secondary) was 94.0% in 2010[41]. The implicit 6% absence rate contains two distinct subcategories however: authorised absence (5.0%) and unauthorised absence (1.0%).

[41] All statistics on sbsence taken from *Pupil Absence in Schools in England, Including Pupil Characteristics: 2009/10* (DfE 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000994/index.shtml (accessed July 2011)

Authorised absence is absence sanctioned by the school for reasons of illness, bereavement, a religious festival etc. Unauthorised absence is self-evidently absence not legitimised in this way, though it does not necessarily follow that an unauthorised absence equals a truant; the fault could lie with the parent, for example by failing to call the school to inform them of illness or by taking the pupil on holiday during term time without authorisation. Despite this, the rate of unauthorised absence can be indicative of satisfaction at school, and a willingness to engage with it.

In the main cohort the rate of unauthorised attendance over a five year period between 2005 and 2010 was 0.9%, 0.1 percentage points lower than the national figure. However, these results were compromised by three pupils who had very high rates of unauthorised attendance above 20%. If these three pupils are treated as anomalous and disregarded, the average rate of unauthorised absence for the remaining 127 pupils falls to 0.7%, almost a third less than the national figure.

The rate of authorised absence (re-including the three pupils disregarded above)was 4.6%, 0.4 percentage points below the national figure, giving a total absence rate in the main cohort of 5.5%, 0.5 percentage points lower than the national figure.

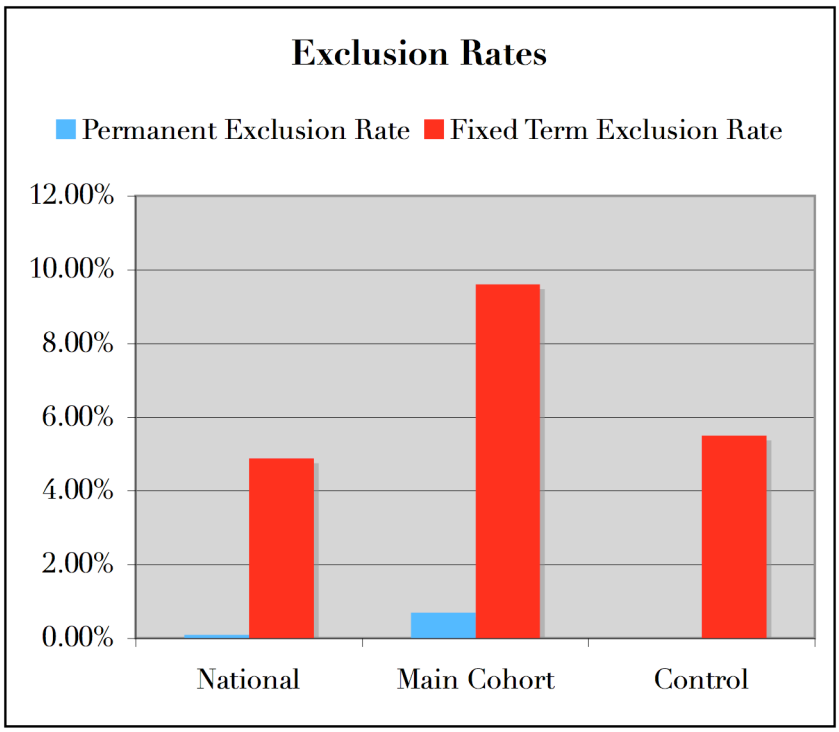
These figures seem to show a mild decrease in absence compared to national figures after attendance at The Butterfly School. However, the control group has broadly similar attendance rates to the main cohort and indeed has the lowest unauthorised absence rate of the main cohort or either of the subgroups at 0.6%. A 4.9% authorised absence rate gives a total absence rate of 5.5%, a tenth of a percentage point lower than the late intervention subgroup, not significantly lower than the early intervention subgroup and still above the national figures. It is thus possible there are local factors at play other than The Butterfly School.

Nationally, pupils eligible for FSM are more likely to have high rates of unauthorised absence – the average is 2.3% compared to 0.8% for pupils not eligible for FSM. However, in the main cohort the average rate of unauthorised absence for pupils eligible for FSM was 0.8%, a third of the national figure and the same as that for pupils *not* eligible for FSM nationwide. It thus seems the importance of deprivation as a determinant of educational participation was reduced, just as it was as a determinant of academic success in 3.4. ii).

Although the absence rates of the main cohort are lower than would be expected from national statistics, it is nevertheless difficult to draw firm conclusions as the control group shows such a similar pattern. Although the absence rates of FSM-eligible children were encouragingly low, absence is only a vague indicator of satisfaction and happiness at school. It is also a very limited and one-dimensional one, and though a pupil's happiness, satisfaction and his or her ability to handle the academic material he or she is confronted with in the classroom are linked, there are many other factors at play that mere numbers cannot hope to convey. It is impossible to draw anything concrete regarding The Butterfly School here.

3.8 – The Effects of The Butterfly School: Exclusions

- The main cohort had higher rates of permanent and fixed-term exclusions than the national figures and the control group.
- This suggests that The Butterfly School had little effect on the long-term behaviour of its pupils, but more research would be needed to drawn firm conclusions.



Nationwide in the 2008/2009 academic year there were 6550 permanent exclusions across primary, secondary and special schools, making a 0.09% permanent exclusion rate, whilst there were 363280 fixed period exclusions over the same period, making a fixed exclusion rate of 4.89%[42]. The same groups of pupils considered 'at-risk' in terms of educational achievement also have the worst records in relation to exclusions: Boys make up 78% of permanent and 75% of fixed term exclusions, pupils with SEN are about 8 times more likely to be excluded than pupils without SEN and pupils eligible for FSM are about 4 times more likely to be excluded than pupils not eligible for FSM.

[42] All statistics on exclusions taken from *Permanent and Fixed Period Exclusions from Schools in England 2008/09* (DfE 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000942/index.shtml (accessed July 2011)

The main cohort had a higher rate of both fixed rate and permanent exclusions than the national figures. 3 pupils had received permanent exclusions between 2005 and 2010 (1 of whom had been permanently excluded twice), making a permanent exclusion rate of 0.7%. 28 pupils had received a total of 62 fixed term exclusions, making a rate of 9.6%, almost twice the national figure. The control group fared better than the main cohort – none received permanent exclusions, whilst 4 pupils received a total of 8 fixed term exclusions making a rate of 5.5%, still higher than the national figure but significantly below the main cohort, though of course the small dataset does not allow firm conclusions to be drawn.

The main cohort therefore had a much higher rate of exclusion than both pupils nationwide as well as the control group. This suggests that The Butterfly School had little effect on the long-term behaviour of its pupils, but given the small datasets more research would be needed to draw any firm conclusions.

4. Conclusions

- The report asked a very simple question: was it possible to identify ways in which exposure to a synthetic phonic programme such as that provided by The Butterfly School impacted academic, personal, social or economic development over subsequent years?
- Positive effects were visible in the Key Stage 2 results of the main cohort, where The Butterfly School both promoted educational success and guarded against educational failure.
- At KS2 the children in the main cohort were almost twice as likely to achieve highly across the curriculum as the children in the control group, whilst it was also found that the traditional attainment gaps of FSM, SEN and gender were to differing degrees less pronounced in the main cohort than they were nationally.
- This was especially true with regards FSM, where FSM-eligible pupils actually outperformed their non-FSM-eligible peers in the main cohort.
- It was also found that The Butterfly School was most effective when it was an 'early' intervention (i.e. when the pupil attended in Key Stage 1).
- GCSE results showed this influence to have waned somewhat, suggesting more intervention would be necessary in the KS3/KS4 years, but drawing firm conclusions was rendered difficult by the small sample and lack of control.
- It is crucial to remember that whilst this report concerns itself with the attendees of The Butterfly School, implied on the flip-side are the huge numbers of children who are not exposed to such a programme and for whom literacy and educational success are less accessible. The Butterfly School has made great strides in its own corner of West London. It is to be hoped that it, or programmes like it, are given the resources to be able to do the same elsewhere.

Seven years after leaving The Butterfly School, the pupils studied in this report have continued to either progress through school or in the case of a few beyond to the worlds of further education and work. The question this study asked was simple: was it possible to identify ways in which their experience of a systematic synthetic phonic programme, either early (during KS1) or late (during KS2 or even KS3), positively impacted their academic, personal, social and economic development in the following years?

There are of course problems with attempting to achieve reliable measurements of development and influence in retrospect, not least because of the differing ages of the pupils, meaning that whilst some have now done A-levels (though not enough for any sort of analysis), others are yet to sit their GCSEs.

In addition, some registers and records for the period it was decided to focus on were not available for analysis or data extraction. This affected research in one main way, namely that attendance at The Butterfly School over the SHINE-funded period proved impossible to establish. The project thus worked on the assumption that attendance for each child in question was 100% over the two-year timeframe. It is however certain from the limited registers available that attendance was not 100% for every pupil in the cohort, and indeed in some cases could well have been considerably less. It was decided not to remove any of the pupils from the cohort on this basis and to work as though attendance was universally full. This ensured that any visible effect could not have been compromised or exaggerated by generous guesswork as to how often certain students attended, or the attendance rate as a whole. This protection against artificial exaggeration also influenced the decision to use the 2009 KS2 figures as representative of the national picture when many of the main cohort had taken their tests in previous years, when the national statistics would have been lower.

Despite this however, positive results were very clear in the analysis of Key Stage 2 results, where The Butterfly School clearly both promoted success and guarded against failure. The children in the main cohort were almost twice as likely to achieve highly across the curriculum as the children in the control group, whilst it was also found that the traditional attainment gaps of FSM, SEN and gender were to differing degrees less pronounced in the main cohort than they were nationally. The FSM-eligible subgroup in particular performed well, outperforming their non-FSM-eligible peers in reading, English and across the curriculum. The Butterfly

School seemed not only to have positively impacted the educational achievement of its pupils, but also in doing so to have significantly reduced deprivation as a determinant of attainment. However, in other areas attainment gaps did remain especially in the case of SEN which bear witness to the difficulty of overcoming these issues.

It was also found that The Butterfly School was much more effective when it operated as an 'early' intervention (defined by the Key Stage of the pupil at time of entry) than a 'late' intervention, in line with much current research. Across the board however the results of the main cohort were significantly higher than those of the control group, made up of local pupils on the waiting list for The Butterfly School.

Regarding GCSEs, the small dataset and absence of a control meant that drawing conclusions was difficult; however, whilst the percentage achieving 5 passes graded A* C including Maths and English was lower than the national statistic, the percentage achieving 5 passes graded A* C regardless of the core subjects was higher than the national figure. This is positive, but the negative overtone is of course relatively low achievement in the core subjects of Maths and English. More research would be needed to establish firm conclusions and in particular the results of the early intervention group, due to take their GCSEs between 2012 and 2014, would provide an intriguing point of comparison. The results suggested however that the influence of The Butterfly School evident in the KS2 results had (perhaps unsurprisingly) diminished slightly after such a time and further intervention might have been required in Key Stages 3 and 4. The real and significant impact of The Butterfly School over the course of primary education especially if the pupil attended in Key Stage 1 did not, it seemed, carry forward to the same extent into secondary school.

Absence and exclusion rates provided limited insight into the effects of The Butterfly School; although the rates of attendance and unauthorised absence for the main cohort were high and low respectively in relation to national statistics, the importance of this was diminished by the similar pattern apparent in the control group.

It is however important to remember that in the same way the results of the main cohort represent very real successes in the lives of real children, so the results of the control group represent very limited successes in the lives of equally real children, denied places at The Butterfly School by a simple lack of space, resources and funds. The focus of this report is thus only partly on those who have benefited from The Butterfly School and programmes like it; on the other side of the coin are those who for whatever reason are not exposed to programmes which could give them very real chances of achieving highly and learning independently, to a great extent regardless of the vagaries of birth. The introduction of compulsory synthetic phonics in schools across the country is an excellent start, but it is nevertheless essential that no child reaches Key Stage 2 – let alone Key Stage 4 – unable to handle letters and words. As The Moser Report and the National Literacy Trust make clear, we are not there yet; nevertheless, The Butterfly School has taken great steps towards ensuring such success within its own corner of West London. Making such programmes available to all children across all corners of London and indeed Britain, either inside or outside the school system, would be a huge step towards universal literacy and a huge step towards combatting the attainment gap between the deprived and the non-deprived currently visible within Britain's school system. It is to be hoped that such steps are taken.

Appendix 1: Data Tables

1. General

		Main Cohort	Control Group
	Total in cohort	130	29
Deprivation:			
	Median IDACI Rank	1933	1019
	Eligible For FSM	44	14
	Not Eligible For FSM	79	14
	Missing	7	1
Language:			
	EAL	51	20
	Not EAL	75	8
	Missing	4	1
Special Educational Need			
	SEN	47	19
	- School Action	23	13
	- School Action +	19	5
	- Statement	5	1
	Not SEN	82	10
	Missing	1	0
Gender			
	Boys	78	15
	Girls	52	14
	Missing	0	0

2. Key Stage 2

		Main Cohort	Control Group	Early Intervention Subgroup	Late Intervention Subgroup
	Total in cohort	115	44	42	73
Reading:					
	Level 5	44	13	24	20
	Level 4	60	18	16	44
	Level 3	11	13	2	9
	Below Level 3	0	0	0	0
	Missing	0	0	0	0
English:					
	Level 5	29	6	10	19
	Level 4	65	20	28	37
	Level 3	17	15	2	15
	Below Level 3	4	3	2	2
	Missing	0	0	0	0
English And Maths					
	Level 4 or higher in both	79	16	35	44
	Failed to achieve a level 4 or higher in both	36	28	7	29
	Missing	0	0	0	0

3. Deprivation

		Main Cohort (FSM)	Main Cohort (Not FSM)	Control Group (FSM)	Control Group (Not FSM)	Early Intervention Subgroup (FSM)	Early Intervention Subgroup (Not FSM)	Late Intervention Subgroup (FSM)	Late Intervention Subgroup (Not FSM)
	Total in cohort	39	70	20	22	20	21	19	49
Reading:									
	Level 5	16	26	6	7	11	12	5	14
	Level 4	19	37	8	10	8	8	11	29
	Level 3	4	7	6	5	1	1	3	6
	Below Level 3	0	0	0	0	0	0	0	0
	Missing	0	0	0	0	0	0	0	0
English:									
	Level 5	7	16	2	4	4	5	3	11
	Level 4	25	40	11	9	15	13	10	27
	Level 3	4	13	5	9	1	1	4	11
	Below Level 3	3	1	2	0	0	2	2	0
	Missing	0	0	0	0	0	0	0	0
English And Maths									
]	Level 4 or higher in both	28	47	8	8	16	19	12	28
	Failed to achieve a level 4 or higher in both	11	23	12	14	4	2	7	21
	Missing	0	0	0	0	0	0	0	0

4. SEN

		Main Cohort (SEN)	Main Cohort (Not SEN)	Control Group (SEN)	Control Group (Not SEN)	Early Intervention Subgroup (SEN)	Early Intervention Subgroup (Not SEN)	Late Intervention Subgroup (SEN)	Late Intervention Subgroup (Not SEN)
	Total in cohort	40	74	26	18	12	30	28	44
Reading:									
	Level 5	7	36	5	8	6	18	1	18
	Level 4	23	37	9	9	4	12	19	25
	Level 3	10	1	12	1	2	0	8	1
	Below Level 3	0	0	0	0	0	0	0	0
	Missing	0	0	0	0	0	0	0	0
English:									
	Level 5	2	26	3	3	1	9	1	17
	Level 4	19	46	9	11	7	21	12	25
	Level 3	15	2	12	3	2	0	13	2
	Below Level 3	4	0	2	1	2	0	2	0
	Missing	0	0	0	0	0	0	0	0
English And Maths									
]	Level 4 or higher in both	16	62	7	9	7	28	9	34
	Failed to achieve a level 4 or higher in both	24	12	19	9	5	2	19	10
	Missing	0	0	0	0	0	0	0	0

5. Gender

		Main Cohort (Boys)	Main Cohort (Girls)	Control Group (Boys)	Control Group (Girls)	Early Intervention Subgroup (Boys)	Early Intervention Subgroup (Girls)	Late Intervention Subgroup (Boys)	Late Intervention Subgroup (Girls)
	Total in cohort	67	48	26	18	24	18	43	30
Reading:									
	Level 5	25	19	5	8	13	11	12	8
	Level 4	33	27	13	5	9	7	24	20
	Level 3	9	2	8	5	2	0	7	2
	Below Level 3	0	0	0	0	0	0	0	0
	Missing	0	0	0	0	0	0	0	0
English:									
	Level 5	15	14	3	3	7	3	8	11
	Level 4	37	28	12	8	14	14	23	14
	Level 3	12	5	7	8	2	0	10	5
	Below Level 3	3	1	2	1	1	1	2	0
	Missing	0	0	0	0	0	0	0	0
English And Maths									
	Level 4 or higher in both	47	32	8	8	21	14	26	18
	Failed to achieve a level 4 or higher in both	18	16	18	10	3	4	15	12
	Missing	0	0	0	0	0	0	0	0

6. GCSEs

		GCSE Cohort
	Total in cohort	58
GCSEs		
	5 A*-C inc. English and Maths	26
	5 A*-C regardless of English and Maths	45

Appendix 2: The Systematic Synthetic Phonic Method

1 What is Systematic Synthetic Phonics?

- The Butterfly School teaches literacy using the Butterfly method of systematic synthetic phonics.
- The method teaches pupils the 44 'phonemes' or sounds in English, and their relations to letters on the page (this is phonics). Once pupils have learned the individual sounds, they can blend them together into words (synthesis). The Butterfly method is systematic in its approach to this, meaning it works through the 44 phonemes and practices blending them in a prescribed order, ensuring the process is thorough.
- Though phonics has not always been a popular or fashionable method of teaching literacy, recent academic research has meant it is increasingly widely used – indeed, it is now compulsory in English primary schools.

It is probably important to explain the systematic synthetic phonic method in greater detail: what it means, how it works, its place within current educational theory and practice. The Butterfly Book is a script for systematic synthetic phonic teaching; it is not the only one, and academic research concerned with phonics, synthetic phonics or systematic synthetic phonics rarely goes into any more detail on the specific programmes used. However, the ideas underpinning The Butterfly Book are the same as any other systematic synthetic phonics textbook, namely:

i) Phonics

As the name suggests, Phonics is all about sound, and specifically the 44 component sounds or phonemes that make up spoken English. Phonics is a 'building-block' method of teaching reading that aims to break everything down to the foundations, and children learning phonics learn to associate sound with shape, phoneme with grapheme; as they develop this associative faculty they also by proxy develop their reading. The meaning of the letter combinations is irrelevant to

phonics on a theoretical level (though not usually in practice) and children *could* be instructed using nonsense words provided they contained the same phoneme-grapheme relationship as conventional language. This is an approach fundamentally opposed to 'whole word' approaches to teaching literacy, which prioritise meaning within context and are unwilling to break language down to the extent that phonics does.

Whilst in theory meaning is irrelevant to phonics, in practice teaching tends to focus on simple phonetic principles at the start but practises these principles using words on their own, or whole sentences and stories as the child's phonemic awareness develops. The emphasis however is very much on developing the skills necessary to read quickly, efficiently and deeply for meaning later – if language is a code (and to a non-reader that is exactly what it is) then phonics aims to give learners the tools to crack that code when written down, to decode it into speech and hence meaning.

ii) Synthesis

Phonics is a split church with two main denominations: Analytic or Implicit Phonics and Synthetic Phonics. Analytic Phonics moves from the whole to the smaller parts, and decodes from grapheme to phoneme using inferential principles. As an example, we can see that 'top', 'tip' and 'tap' sound the same at the beginning and at the end, so we can identify:

i) That we can pronounce the grapheme 't' with the phoneme */t/* and the grapheme 'p' with the phoneme */p/*, and

ii) That we can write the phoneme */t/* with the grapheme 't' and the phoneme */p/* with the grapheme 'p'

The problem with this method is that it is predicated on relatively advanced skills of inference and analysis potentially beyond a sizeable proportion of young children, relying as it does on comparison between both phonemes and graphemes

within larger words. For people who struggle with reading this emphasis may prove a difficulty.

Synthetic Phonics aims to build reading skills the other way round, from the smaller parts to the whole, and as a result children work on a micro as opposed to a macro level by learning the sounds of letters or letter groups individually. Words are then read by putting these component sounds together or 'blending' them. As a result, children are not able to read a word until they have learnt each phoneme within it – to give an example, the word 'cat' is thought of not as a single unit in itself but rather a string of three smaller units – '/k/', '/æ/' and '/t/', which are identified separately and then blended together into the whole word. To assist with this and reduce confusion letters are known in the classroom not by their name but by their sound – the letter 'a' for example is not pronounced '/eɪ/' as in 'day' but rather '/æ/' as in 'apple'.

English is of course not a wholly phonetic language and letters do not correspond precisely with phonemes – the letter combination 'ough' alone famously has nine different pronunciations, for example. This is reflected in the 44 phonemes expressible in its 26 letter alphabet, but contrary to much popular criticism of phonics it does have the capacity to deal with English's intricacies and niceties by grouping words with similar exceptional phonetic and graphemic qualities together – e.g. knee, know, knife, kneel, knock etc. More singular anomalies – such as 'mortgage', 'queue' and so on – can be taught either in groups of words containing similar phonemes such as 'new' or 'few', or simply as lone exceptions.

iii) System

Synthetic Phonics programmes such as that used by The Butterfly School are systematic in their approach to the theory. The phonemes are taught in a set order, with set examples, in such a way as to make reading as accessible as possible. The

obvious advantages are that it is thorough and focused; nothing can be overlooked or skimmed. The flipside of this is of course inflexibility, but there are few voices on either side of the debate that would prioritise the elasticity of a method over its effectiveness – if indeed flexibility in teaching is even to be desired. The Sutton Trust has published research linking structure and rigidity in a child's upbringing to his or her cognitive development[43] – though this structure is defined more in terms of regular bedtimes and routines in the home, there seems no reason why the principle should not be extended to include structure within the classroom. System, the report implies, helps a child's development rather than fettering it.

2 - Systematic Synthetic Phonics: The Debate

The Butterfly Book is a systematic synthetic phonic method for teaching reading, as defined above. Though The Butterfly School is part of the third sector and therefore outside the purview of the state, its method is state-sanctioned, for although it does not necessarily have to be taught systematically or exclusively since September 2007 synthetic phonics has been compulsory in UK primary schools.

It has not ever been thus.

Synthetic phonics has existed in a format largely similar to its present form for over 150 years; the 19th century American poet Kate Harrington was an early advocate of the method and her primer from the 1860s represents an early effort at systematically structuring a reading programme based on synthetic phonic principles. Since then synthetic phonics has waxed and waned in and out of favour in both the US and the UK, and the discussion over the methodology of literacy teaching has become something of a battleground.

[43]Waldfogel, J. & Washbrook, E (2010): *Low Income and Cognitive Development In The U.K*. (The Sutton Trust, London), p. 27.

Phonics' lowest ebb probably came in the 1980s and 1990s, when it was supplanted to a great (though not absolute) extent by the 'Whole Language' method of literacy teaching which represents an almost polar opposite to phonics' emphasis on breaking language down. The Whole Language approach to literacy revolves around understanding a word's meaning within the context in which it is spoken or written in phonemic, semantic, syntactic and cultural terms, and promotes in-depth reading. Its proponents' primary criticism of phonics is that it does not reflect the context that is inevitably part of each word. Indeed, phonics does not even require the meaning of a word to be understood and often (as with the Butterfly Method) purposefully eschews picture cues, for example. Whole Word methods of teaching literacy gained huge ground throughout the 1980s and as a result phonics slid slowly out of the classroom - the original 1989 National Curriculum for English contains just one mention of phonics in its 43 pages[44], whilst the Cox Report that laid the foundation for the National Curriculum states that "Reading is much more than the decoding of black marks upon a page[45]". Whilst the most staunch proponent of phonic principles would agree that reading deeply for meaning is crucial once phonic principles have been taught, the Cox Report's words nevertheless seem like a veiled dismissal of the method.

OFSTED had warned about this drop in importance of phonic teaching before Tony Blair swept to power in 1997 ("[there is] insufficient attention to the systematic teaching of an effective programme of phonic knowledge and skills [in Inner London primary schools][46]"). It was the 1998 New Labour flagship National Literacy Strategy (NLS) however that made clear phonics *did* have a place within the classroom ("When pupils read familiar and predictable texts, they can easily

[44] Taken from Beard, R (2003): 'Not The Whole Story Of The National Literacy Strategy – A Response To Dominic Wyse', in *British Educational Research Journal*, vol. 29, no. 6, p. 921
[45] Cox, B. et al (1988) *English for ages 5 to 11: Proposals of the Secretary of State for Education and Science and the Secretary of State for Wales* (London)
[46] Machin, S. & McNally, S (2004): *The Literacy Hour* (Centre For The Economics of Education, London)

become over-reliant on their knowledge of context and grammar[47]"), though as part of a broad and mixed literacy curriculum. As the programme went from theory into practice and established itself, criticisms began to emerge – many drawing attention to its methodological compromises and instead recommending making phonics the foundation of its teaching rather than part of a complex mixture of methods. The pendulum had begun to swing away from Whole Word teaching and back towards phonics. A 2002 OFSTED review stated that "The result [of the NLS] has been an approach which defuses teaching at the earliest stages, rather than concentrating it on phonics[48]". In other words, when teaching children to read there should be no Literacy Strategy-style compromise: phonics should be the first port of call, especially for children from backgrounds traditionally associated with poor literacy attainment. For these children, phonics could be the difference between becoming a successful reader and failing to become one: "A shift in policy, however, towards synthetic phonics should enable disadvantaged children to gain most of the benefits previously the preserve of those with the pre-school advantage[49]".

These are not isolated, lone voices, either – a parliamentary sub-committee investigating literacy interventions in 2009 was told by Bob Slavin, the head of the *Success For All* programme as well as the Institute for Effective Education at the University of York and the Centre for Research and Reform in Education at Johns Hopkins University:

> *Yes [I would accept that it is essential to decode using phonics], and I would fully agree that of all the forms of phonics synthetic phonics is the one that has the strongest support…there is a great deal of evidence of all different kinds from laboratory studies to multi-year investigations. I think in the world of reading that is virtually a settled issue at this point"*

[47] *National Literacy Strategy Framework for Teaching* (DfEE 1998), ISBN: ISBN: 0-85522-714-1
[48] *The National Literacy Strategy: The First Four Years* (OFSTED, London 2002)
[49] De Wall, A. & Cowen, N (2007): *Ready To Read?* (Civitas)

He goes on:

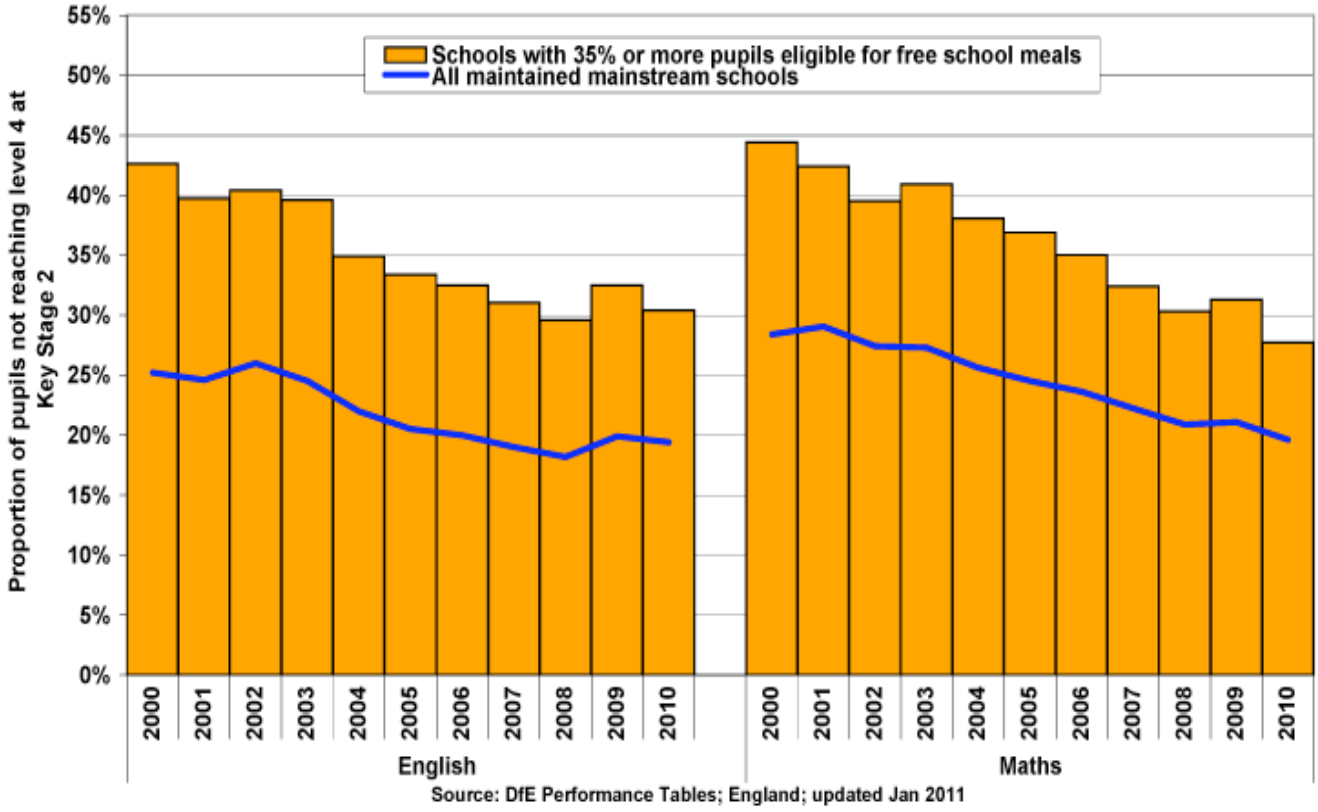
> *"…there is a very large group (let us say, a large minority) of children for whom phonics really is make-or-break, for whom if they have systematic phonics they will be successful readers, they will not come to the attention of the authorities in any way, and without it they are much more likely to run into trouble.*[50]*"*

Legislation has reflected this weight of academic opinion and phonics now sits as a prescribed classroom method with a weight of research and a bevy of academic voices behind it. It is rather the run-before-you-can-walk Whole Language method that now sits ever-increasingly in the wilderness. Real Action's decision to use The Butterfly Book as its manual is therefore one reinforced not only by current thinking on reading methods generally, but also in relation to at-risk readers such as those who attend The Butterfly School.

[50] Minutes of evidence taken before Science and Technology Sub-Committee on Literacy Interventions (4 Nov 2009), HC 1081-i and HC 1081-ii, part of HC44 021542861.

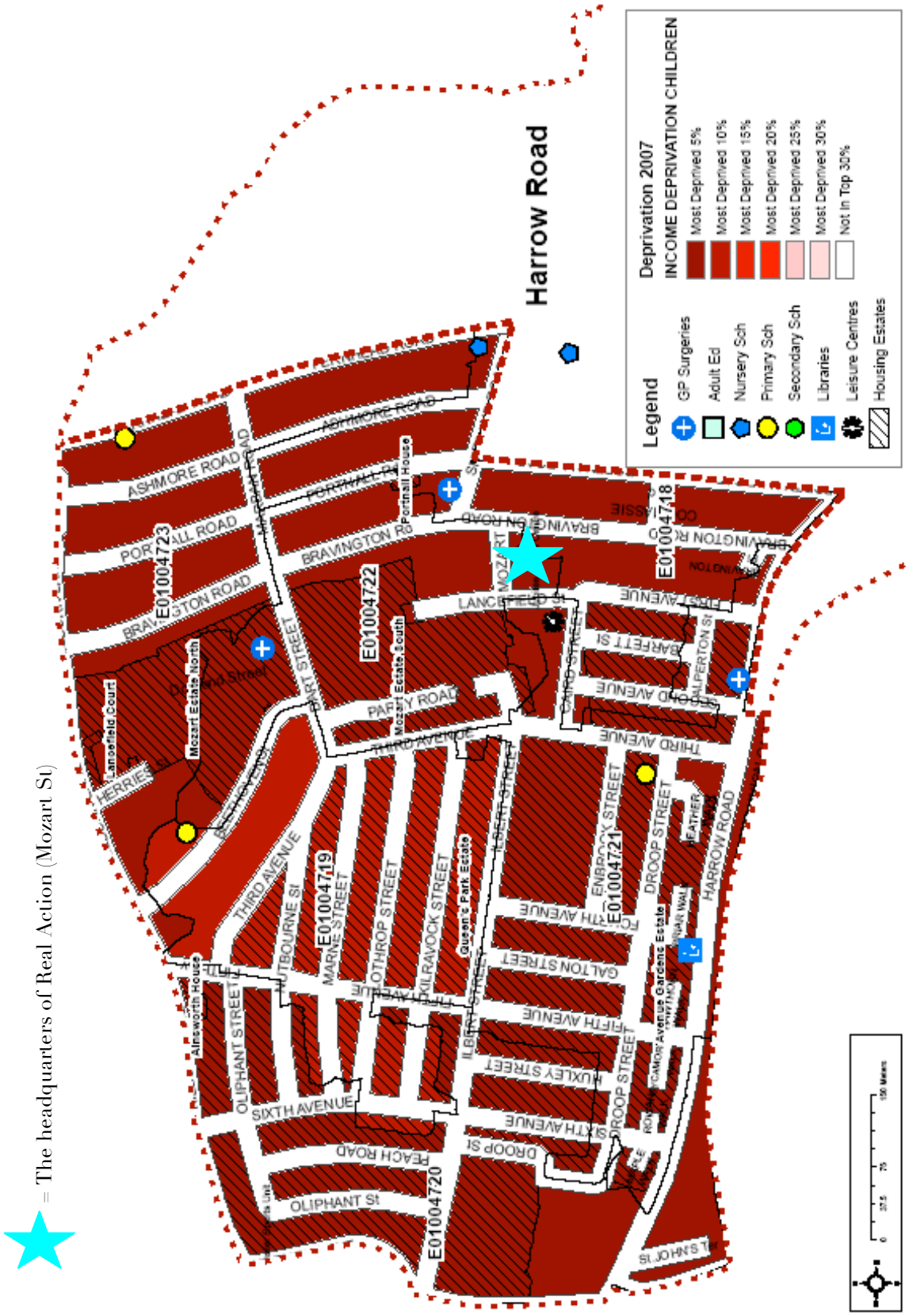
Appendix 3: Graph showing achievement in schools with high proportions of FSM-eligible pupils[51]:

See p. 31



[51] Data taken from DfE Performance tables, England; updated Jan 2011. Graph taken from http://www.poverty.org.uk/25/index.shtml (accessed July 2011)

Appendix 4: Ward Map For Queen's Park Showing Child Deprivation – *See p. 16-17*



Appendix 5: Bibliography

Allen, G. & Duncan Smith, I. (2009, 2nd ed.): *Early Intervention: Good Parents, Great Kids, Better Citizens* (CSJ/Smith Institute, London)

Beard, R (2003): 'Not The Whole Story Of The National Literacy Strategy A Response To Dominic Wyse', in *British Educational Research Journal*, vol. 29, no. 6;

Blair, A. (2001): Speech in Sedgefield, 13 May 2001, available at http://www.guardian.co.uk/politics/2001/may/13/labour.tonyblair (accessed July 2011)

Brooks, G. (2003): *Sound Sense: The Phonics Element Of The National Literacy Strategy* (Sheffield)

Brooks, G. et al (2006): *A Systematic Review Of The Research Literature On The Use Of Phonics In The Teaching Of Reading And Spelling* (DCSF, London)

Cox, B. et al (1988): *English for ages 5 to 11: Proposals of the Secretary of State for Education and Science and the Secretary of State for Wales* (London)

Davie, R. et al; (1972): *From Birth to Seven: The Second Report of the National Child Development Study*; (Longman/Prentice Hall)

De Coulon, A.; Meschi, E. & Vignoles, A. (2008): *Parents' Basic Skills and Children's Cognitive Outcomes* (Centre for the Economics of Education, LSE, London)

De Wall, A. & Cowen, N. (2007): *Ready To Read?* (Civitas, London)

Duncan, L. & Seymour, P. (2000): *Socio-Economic Differences in Foundation Level Literacy*; British Journal of Psychology, 91, pp. 145-166.

Ehri, L. et al (2001): 'Systematic Phonics Instruction Helps Students Learn To Read: Evidence From The National Reading Panel's Meta-Analysis', *Review Of Educational Research* 71(3), pp. 393-447

Evans, G. (2006). *Educational Failure and Working Class White Children in Britain* (Palgrave Macmillan, London)

Farrington, D. (1986) 'Age and Crime' in Tonry, M. and Morris, N. (Eds) *Crime And Justice: An Annual Review Of Research* Vol 7, pp. 189-250

Farrington, D. (2001): 'Risk-Focused Prevention and Integrated Approaches', in Pease, K. (Ed). *Reducing Offending* (London: Home Office)

Feinstein, L (2003): 'Inequality In The Early Cognitive Development Of British Children In The 1970 Cohort', *Economica* no. 70, pp. 73-97

Feinstein, L. (2003): 'How Early Can We Predict Future Educational Achievement?', *Centrepiece* magazine; Vol 8, Issue 2; pp. 24-30

Feinstein, L. (1998): *Pre-school Educational Inequality? British Children in the 1970 Cohort*, (Centre for Economic Performance, London)

Feinstein, L. & Symons, J. (1997), *Attainment in Secondary School*, Discussion Paper no. 341 (Centre for Economic Performance, LSE, London)

Gove, M. (2010): Speech to Westminster Academy, 9 September 2010 available at http://www.michaelgove.com/content/michael_gove_speech_westminster_academy (accessed July 2011)

Gross, J. (ed.) (2008): *Getting In Early: Primary Schools & Early Intervention* (CSJ/Smith Institute, London)

Gross, J. & McChrystal, S. (2001): *The Protection of a Statement? Permanent Exclusions and the SEN Code of Practice*, Educational Psychology in Practice, Vol. 17, no. 4 pp. 347-359

Hansen, K.; Jones, E.; Joshi, H.; Budge, D. (eds) (2010): *Millennium Cohort Study*

Fourth Survey: (Centre For Longitudinal Studies, Institute of Education, London)

Johnson, R. & Watson, J. (2005); *A Seven Year Study Of The Effects of Synthetic Phonics Teaching On Reading And Spelling Achievement*, (Insight 17, Scottish Executive Education Department, Edinburgh)

Klugman, J. (dir.) (2009): *Human Development Report 2009 - Overcoming Barriers: Human Mobility and Development* (United Nations Development Programme, New York)

Kramarz, F.; Machin, S. & Ouazad, A. (2009): What Makes A Test Score? The Respective Contributions of Pupils, Schools and Peers in Achievement in English Primary Education (Centre for the Economics of Education, LSE, London)

Lochner, L. & Moretti, E. (2004): 'The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports', *American Economic Review* (American Economic Association) vol. 94(1), pp. 155-189

Machin, S. & McNally, S (2004): *The Literacy Hour* (Centre For The Economics of Education, London)

Machin, S., Marie, O. & Vujic, S. (2010): *The Crime Reducing Effect of Education*, CEP Discussion Paper no. 979 (LSE, London)

Moser, C. (1999): A Fresh Start - Improving Literacy and Numeracy (DfEE)

Nasim, B. (2010): *The Interdependence And Determinants Of Childhood Outcomes The Relevance For Policy* (Centre for the Economics of Education, LSE, London)

Robson, R. (dir.) (2006): *Breakdown Britain: Educational Failure* (CSJ/Smith Institute, London)

Robson, R. (dir.) (2007): *Breakthrough Britain: Educational Failure* (CSJ/Smith Institute, London)

Rose, J. (2009): *Identifying And Teaching Children And Young People With Dyslexia And Literacy Difficulties* (DCSF, London)

Sabates, R. and Feinstein, L. (2008). 'Effects of Government Initiatives on Youth Crime', *Oxford Economic Papers*, 60(3): pp. 462-483.

Sabates, R. (2008) 'Educational Attainment and Juvenile Crime: Area-Level Evidence Using Three Cohorts of Young People' *British Journal of Criminology*, 48(3): pp. 395-409.

Sabates, R. (2009). 'Educational Expansion, Economic Growth and Antisocial Behaviour: Evidence from England' *Educational Studies*. Issue 1 pp. 1-9

Waldfogel, J. & Washbrook, E (2010): *Low Income and Cognitive Development In The U.K.* (The Sutton Trust, London),

Yeung, W. & Glauber, R. (2007): 'Children's Time Use and Parental Involvement in Low Income Families', *National Poverty Center*, Vol. 7 Issue 3, (New York)

Schools, Pupils and Their Characteristics (DfE, June 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000925/index.shtml (accessed July 2011)

Key Stage 2 Attainment by Pupil Characteristics, in England 2009/10, (DCSF, London 2010)

National Curriculum Assessments at Key Stage 2 in England 2009, (DCSF 2009), http://www.education.gov.uk/rsgateway/DB/SFR/s000865/index.shtml (accessed July 2011)

GCSE Attainment by Pupil Characteristics, in England 2008/09 (DCSF 2009), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000900/index.shtml (accessed July 2011)

GCSE and Equivalent Attainment by Pupil Characteristics in England, 2009/10 (DfE 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000977/index.shtml (accessed July 2011)

Pupil Absence in Schools in England, Including Pupil Characteristics: 2009/10 (DfE 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000994/index.shtml (accessed July 2011)

Permanent and Fixed Period Exclusions from Schools in England 2008/09 (DfE 2010), available at http://www.education.gov.uk/rsgateway/DB/SFR/s000942/index.shtml (accessed July 2011)

How Fair Is Britain? Equality, Human Rights and Good Relations in 2010 (Equality and Human Rights Commission, London 2010).

Labour Force Survey, (Office For National Statistics, London 2006-8), available at http://www.statistics.gov.uk/statbase/Source.asp?vlnk=358 (accessed July 2011)

Minutes of evidence taken before Science and Technology Sub-Committee on Literacy Interventions (4 Nov 2009), HC 1081-i and HC 1081-ii, part of HC44 021542861.

National Literacy Strategy Framework for Teaching (DfEE 1998), ISBN:
ISBN: 0-85522-714-1

The National Literacy Strategy: The First Four Years (OFSTED, London 2002)

The Annual Report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2008/09 (Ofsted, London 2009)

OFSTED report HMI 1659 (2008) *Boys' Achievement in Secondary Schools*, available at http://www.ofsted.gov.uk/Ofsted-home/Publications-and-research/Browse-all-by/Education/Pupils/Boys-achievement-in-secondary-schools (accessed July 2011)

Economic and Social Research Council website, http://www.esrc.ac.uk (accessed July 2011)

The 2008 Queen's Park Ward Profile available from queenspark@westminster.gov.uk.