# THE LONDON ANNUAL EDUCATION REPORT 2013

MAYOR OF LONDON

# COPYRIGHT

**Greater London Authority**
**November 2013**

Published by
Greater London Authority
City Hall
The Queen's Walk
More London
London SE1 2AA
**www.london.gov.uk**
enquiries 020 7983 4100
minicom 020 7983 4458
ISBN
Photographs ©
Copies of this report are available
from www.london.gov.uk

## Foreword

At every stage of young people's education, London is leading the way. Young Londoners achieve some of the best results in the country and the city has many outstanding schools and teachers. Children in the capital are more likely to excel than anywhere else in the country. The steady improvements in results and quality of school leadership are testament to the hard work and dedication of students, teachers and school leaders across the city.

However, there remain challenges that must be addressed if we are to ensure that all London's young people can compete on a global stage. We need to understand the available data to pinpoint those challenges and design workable solutions.

This first Annual Education Report comes one year after the publication of the final report of the wide-ranging Education Inquiry in 2012, which laid out a clear ambition to further raise the achievements of London schools. The annual report will give a current picture of London's education system, updating key statistics and highlighting trends in order to improve outcomes for young people

We hope that teachers, school governors and school improvement partners in London will find the report useful and that it continues to encourage everyone to build on existing good work and develop links.

As outlined in my 2020 Vision, published earlier this year, we must keep striving to make our schools amongst the best in the world if our young people are to grasp emerging social and economic opportunities in London and compete with the talent our city attracts from around the globe.

**Boris Johnson**

Mayor of London

# CONTENTS

## Introduction

This is the first Annual Education Report for London. It describes how well London schools are performing each year for children and young people.

In 2012 the Mayor's Education Inquiry published its final report which emphasised the need for London schools to 'go for gold' – moving from achievement to excellence across three themes:

- Promoting excellent teaching in all London schools
- Providing a good school place for every London child
- Preparing young Londoners for life and work in a global city

Since then, the Greater London Authority has been implementing the recommendations of the Inquiry through the Mayor's Education Programme; namely, the creation of the London Schools Excellence Fund, the Gold Club scheme and the London Curriculum. The London Annual Education Report provides the ongoing context for these programmes, describing how London is improving but also the challenges it faces.

The Mayor's 2020 Vision, published in July 2013, highlights education as one of the most important elements in the future success of London. It asserts the importance of providing a good school place for every child and ensuring they have the skills, knowledge and creativity to succeed in life. It is imperative that London state schools are amongst the best in the world if young people in the city are to be able to grasp new economic opportunities and compete with the talent our city attracts from around the globe. This includes encouraging students to study academic subjects, including modern languages and STEM (science, technology, engineering and maths) subjects, as well as motivating them to apply for the best universities and apprenticeships.

London is a complex city with a range of education provision. Across its 32 boroughs and 3,060 state and independent schools London educates 16% of the country's population of school aged children; that is 1,331,275 children aged between 3 and 18. 11% of those children are educated in the independent sector and 16,120 (1%) attend specialist provision. Provision across London includes 52 free schools and 350 academies as at October 2013, 106 of which are sponsored academies.

Whilst recognising that schools operate in different circumstances and that different children will benefit from a variety of approaches, the Mayor believes all schools should aspire to attain excellence for all their pupils, whatever their circumstances. This report considers the social, economic and demographic factors by which educational outcomes vary across London. It aims to harness learning from across the whole city as well as the wider global context.

# 1. A geographical perspective on performance

Looking at London's educational performance in a geographical context enables us to consider how well children and young people are doing across the city and in comparison with those living outside London.

In this report we focus on three key geographical comparisons:

- London compared with the rest of the UK
- Variation within London
- The UK compared with the rest of the world

## 1.1 London compared to the rest of the UK

London performs well compared with the national average:

- 83% of London's primary aged children achieved L4 or above in English and maths in 2012, compared with 79% nationally.
- At secondary level, 63% of children achieved 5 A*-C grades at GCSE, including English and maths, compared with 59% nationally. However, this still leaves 37% of London children completing Key Stage 4 without reaching this level.

As seen in figure 1.1, London outperforms every other English region at Key Stage 4. London is doing better than many other parts of the country and is also improving more quickly, particularly in inner London.

Set against a backdrop of higher levels of migration and poverty than most of the rest of the country, this performance is impressive. It represents an improvement of 9 percentage points over the last four years. This is significantly higher than the national average, particularly at primary level.

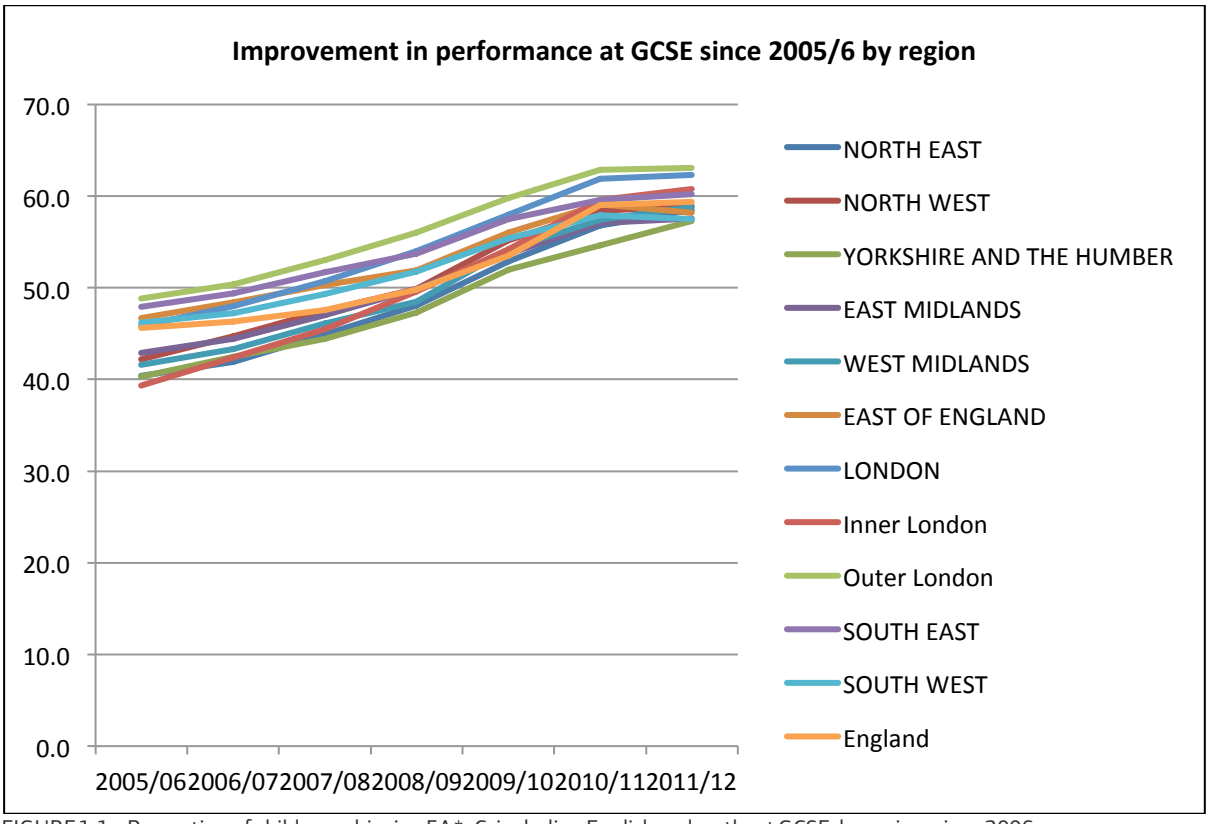


FIGURE 1.1 – Proportion of children achieving 5A*-C, including English and maths at GCSE, by region, since 2006

## 1.2 Comparison within London

Within London there is still great variation in the levels of attainment achieved by children from different socio-economic backgrounds. This is underlined by the fact that educational outcomes for children and young people can vary significantly between boroughs within London.

- 22% of children in Waltham Forest leave primary school without Level 4 in English and maths, compared with just 10% in Richmond upon Thames.
- 96% of Richmond's maintained schools are rated good or outstanding by Ofsted, compared with 80% of Waltham Forest's maintained schools.

There are likely to be a number of factors influencing these variations in performance. Identifying these can help to establish how and where to target interventions.

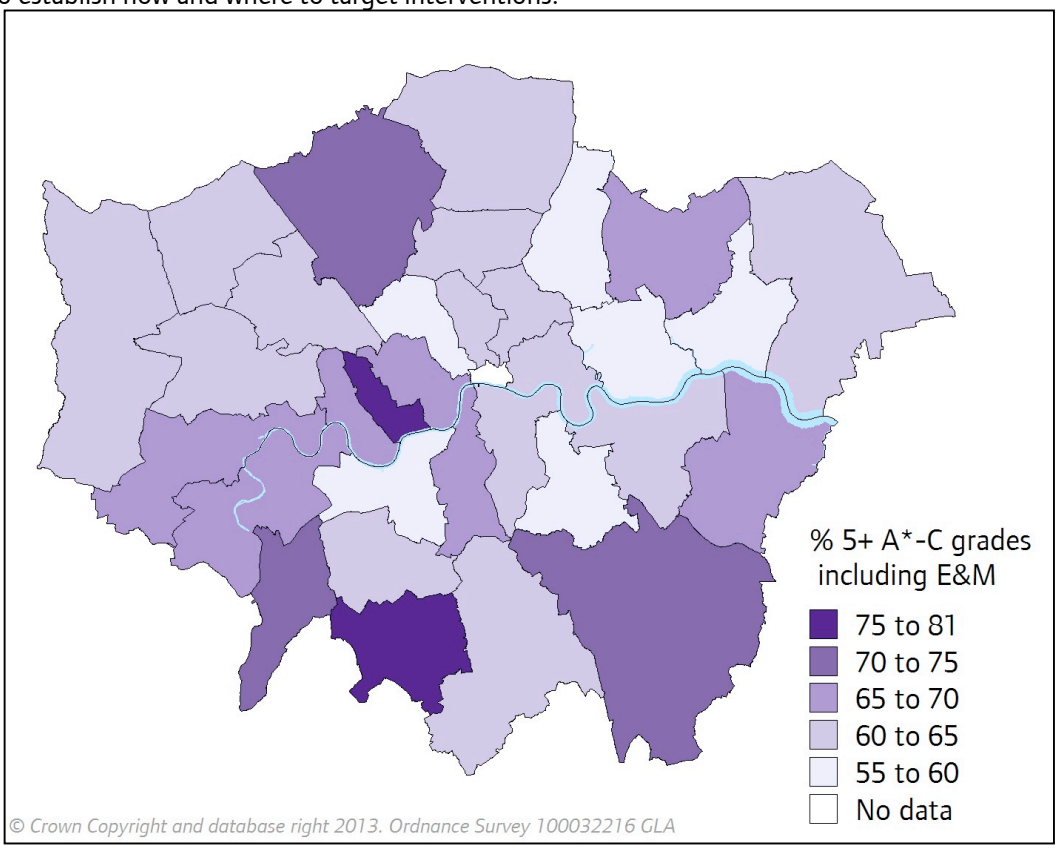


FIGURE 1.2- Proportion of children achieving 5A*-C including English and maths at GCSE, by borough

Outer London boroughs generally perform better than inner London boroughs. Comparisons can be made across Lower Super Output Areas[1] (LSOAs) in London, with the twenty most deprived LSOAs (using the IDACI index[2]) being spread across the city and all achieving similar results in the bottom 40%. Figure 1.21 overleaf shows how children from the most and least deprived wards perform in both GCSEs and the English Baccalaureate (EBacc).

[1] Lower Super Output Area (LSOAs) are units of geographic boundary developed by the Office for National Statistics and are aggregations of Output Areas. Output Areas are subdivisions of 2003 wards and each contains approximately 125 households (300 residents). LSOAs are the next largest area up and each contain a minimum population of 1,000 persons and on average (mean) contain a population of 1,500 persons. There is a total 32,482 LSOAs in England

[2] The Income Deprivation Affecting Children Index, provided by the Department for Education, is a specific subset of the Income Deprivation Domain relating to child poverty factors. It measures the proportion of children in an area, under the age of 16 living in low income households.

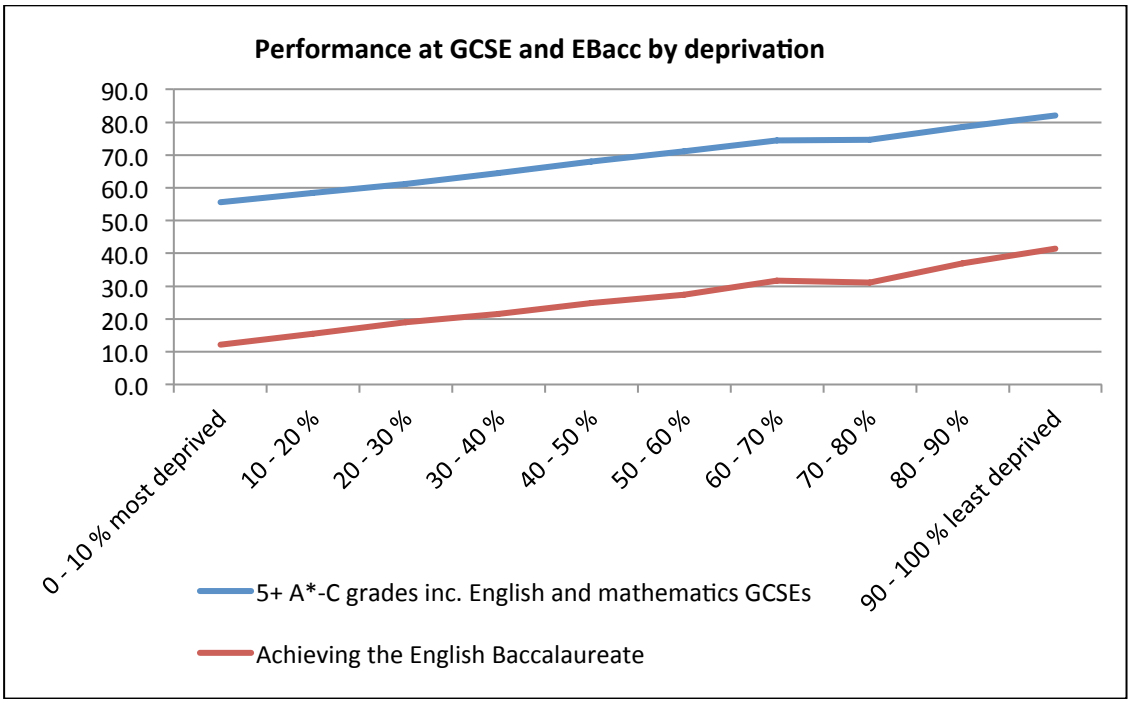


FIGURE 1.21 – Proportion of children achieving 5 GCSEs at A*-C including English and maths, by level of deprivation

## 1.3 London, as part of the UK, in comparison with other countries

Increasingly London is looking to the rest of the world to learn lessons and exchange ideas. There is currently a lack of city-level information by which we can benchmark London schools against those that we know to be achieving impressive results in cities such as Singapore. However, the Organisation for Economic Co-operation and Development (OECD) leads in cross- national comparators of education achievement and has recently produced a number of reports placing the UK in the international context.

The most recent Programme for International Student Assessment[3] (PISA) survey was undertaken by the OECD in 2009 and found that:

- 15 year olds in the UK perform around the average in reading (rank 20) and mathematics (rank 22) and above the average in science (rank 11) among the 34 OECD countries.
- The average reading score of students in the United Kingdom stands at 494 – not statistically significantly different from the OECD average and comparable with France, Germany, Sweden and the United States but well below the highest-performing countries examined by PISA such as China, Korea and Finland.
- Average scores for maths and science are 492 and 514 respectively. England's maths performance is broadly average, whereas England's performance in science is just above the OECD average.

The OECD's recent survey of adult skills (PIAAC[4]) was published in October 2013. It provides a picture of adults' proficiency in three key information-processing skills.

[3] PISA is an international study that was launched by the OECD in 1997. It aims to evaluate education systems worldwide every three years by assessing 15-year-olds' competencies in the key subjects: reading, mathematics and science.

[4] As part of its Programme for the International Assessment of Adult Competencies (PIAAC), the OECD collects and analyses data that assist governments in assessing, monitoring and analysing the level and distribution of skills among their adult populations as well as the utilisation of skills in different contexts.

The key issues identified for the UK were that:

- The talent pool of highly skilled adults in England and Northern Ireland is likely to shrink relative to that of other countries.
- England and Northern Ireland need to address social inequalities, particularly among young people.
- Adults aged 55-65 perform better than 16-24 year-olds in both literacy and numeracy. England is the only country in the OECD group where the oldest age group has higher proficiency in both literacy and numeracy than the youngest age group.

Although young people in England today are entering a more demanding labour market than previous generations, they are less well equipped with literacy and numeracy skills.

England shows one of the strongest associations between young people's literacy proficiency and the socio-economic status of their parents. People who have at least one parent who attained a university-level education score 26.7 points[5] higher in literacy than adults whose parents did not attain upper secondary education.

Despite London's favourable performance in comparison with the rest of the country, these OECD studies show room for improvement when we compare the UK's performance internationally.

## 1.4 Case study: Shanghai and Ningbo regions, China[6]

The National College for School Leadership ran an intensive, eight day residential research programme in January 2013 in the Shanghai and Ningbo regions of China. British participants visited up to four schools and two universities. They received high-level briefings on the Shanghai education system and national priorities from the President of Shanghai Normal University, as well as an analysis of the PISA 2009 survey by the Director of the Shanghai PISA Centre.

Participants explored the educational priorities and culture of schools visited. Through classroom observation and discussion with principals, leadership teams, teachers, students and trainee teachers, they learned about teaching methodologies, the curriculum and assessment strategies. Participants gained insights into those aspects which have proved so successful in securing high attainment levels, in order to recommend areas of the Shanghai and Ningbo systems from which the UK can learn:

- Specialist graduates should teach maths and science in all phases, particularly in primary schools. Teaching Schools will support the development of specialists at a regional level, enabling teachers to continue to gain qualifications and improve subject knowledge and pedagogic skills

[5] The proficiency scales used in the PIAAC range from 0 to 500 and are designed so the scores represent degrees of proficiency in a particular aspect of the domain. There are easier and harder tasks for each proficiency scale. That is, respondents at a particular level not only demonstrate knowledge and skills associated with that level but also the proficiencies required at lower levels.

[6] National College for School Leadership, Report on research into maths and science teaching in the Shanghai region. Research by National Leaders of Education and Subject Specialists in Shanghai and Ningbo, China 11-18 January 2013

- Teacher research groups, supported by university partners, should be formed within Teaching School Alliances to match the best of Shanghai and Ningbo practice in developing high quality teachers. These involve joint working and review, observation of classes to learn from teachers rather than to make judgements on their effectiveness and training in action-research methodology.

- Based on Shanghai and Ningbo models, additional teacher non-contact time should be created where feasible to reduce the multiple pressures on teachers. Benefits include enhanced professional development for teachers and time for specialists to provide one- to-one tuition for those pupils falling behind, and working with parents to ensure pupils keep pace with their peers.

## 2. A demographic perspective on performance

Looking at London's educational performance in a demographic context allows us to identify trends and changes in how well particular groups of children and young people are attaining. We can draw links and comparisons within the broader development of the city as a whole.

In this report we focus on four key groups of children who are at risk of underperformance:

- Children in receipt of free school meals
- Those with low prior attainment
- Children who speak English as an additional language
- Children from certain ethnic minorities

## 2.1 Children in receipt of free school meals

Children who receive free school meals are among the most deprived in the country. This deprivation can bring considerable educational challenge. We frequently see the poorest educational outcomes among children in this group.

- 41% of London's children are eligible for free school meals.
- These children are more concentrated in certain boroughs, with Tower Hamlets having the highest proportion at 72%.
- In general, children eligible for free school meals perform better in schools where they constitute a significant minority or majority than those with a more even split.

As with all London children, those who are eligible for free school meals are doing better than the same cohort nationally, but there is still a significant gap between their attainment and the London average. This is also variable across London too, with some schools performing particularly well for this group.

The chart overleaf shows the relationship between the proportion of children eligible for free school meals and the performance of those children in Key Stage 2 English and maths. Although there are boroughs with relatively low numbers of children on free school meals who are performing well on this measure (notably Bexley), there is a link between high proportions and better performance for this group.

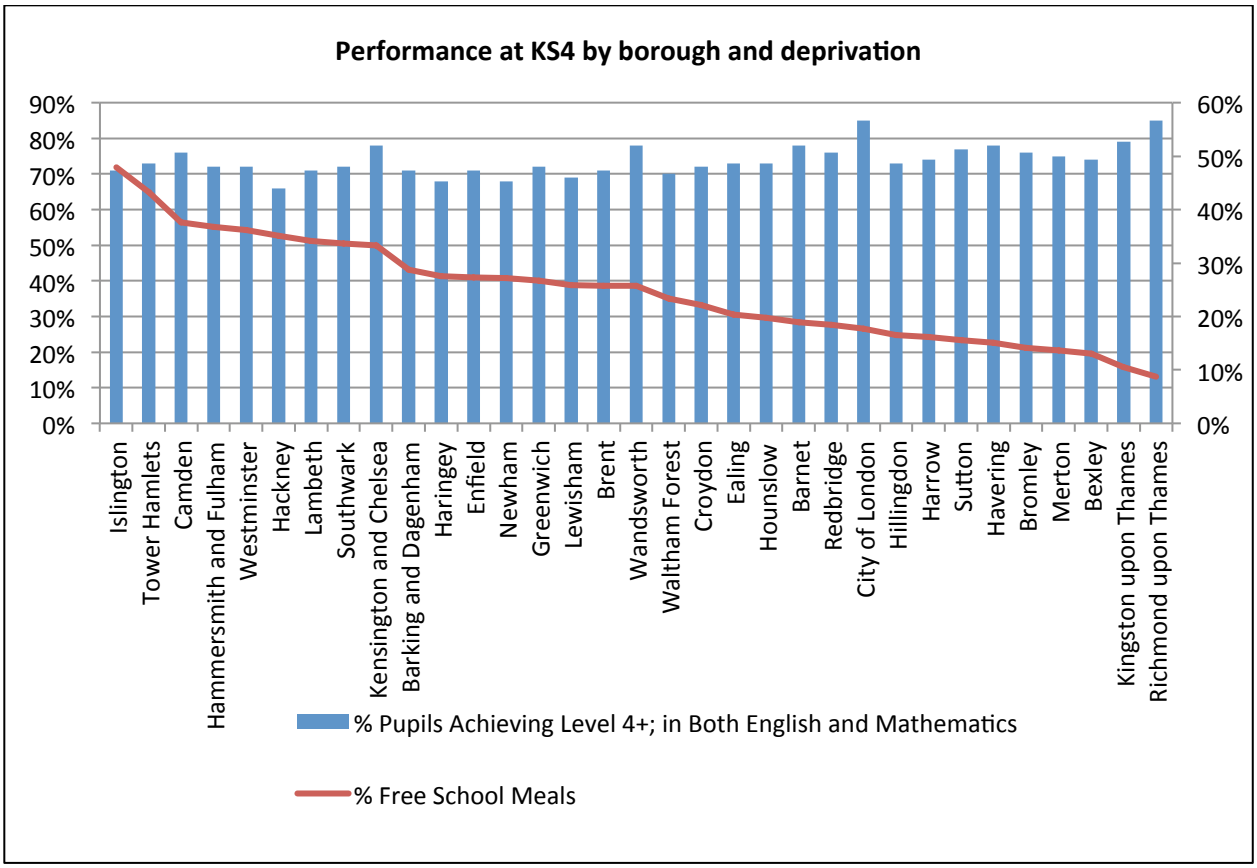


FIGURE 2.1 – Proportion of children achieving level 4 and above in Key Stage 2 Mathematics, by borough and level of deprivation.

## 2.2 Children with low prior attainment

Children with low prior attainment (at Key Stage 1) tend to continue to achieve poorly throughout their education. This is the case in both London and the rest of the country. The chart below shows how well children with low prior attainment go on to achieve compared with the London average and with those with high prior attainment.

- In London, 29% of children start Key Stage 4 in the low prior attainment band
- Of this group only 55% make expected levels of progress, for their age, between Key Stage 2 and Key Stage 4
- Only 1% of children with low prior attainment achieve the English Baccalaureate, compared with 12% and 37% of middle and higher attainers respectively.

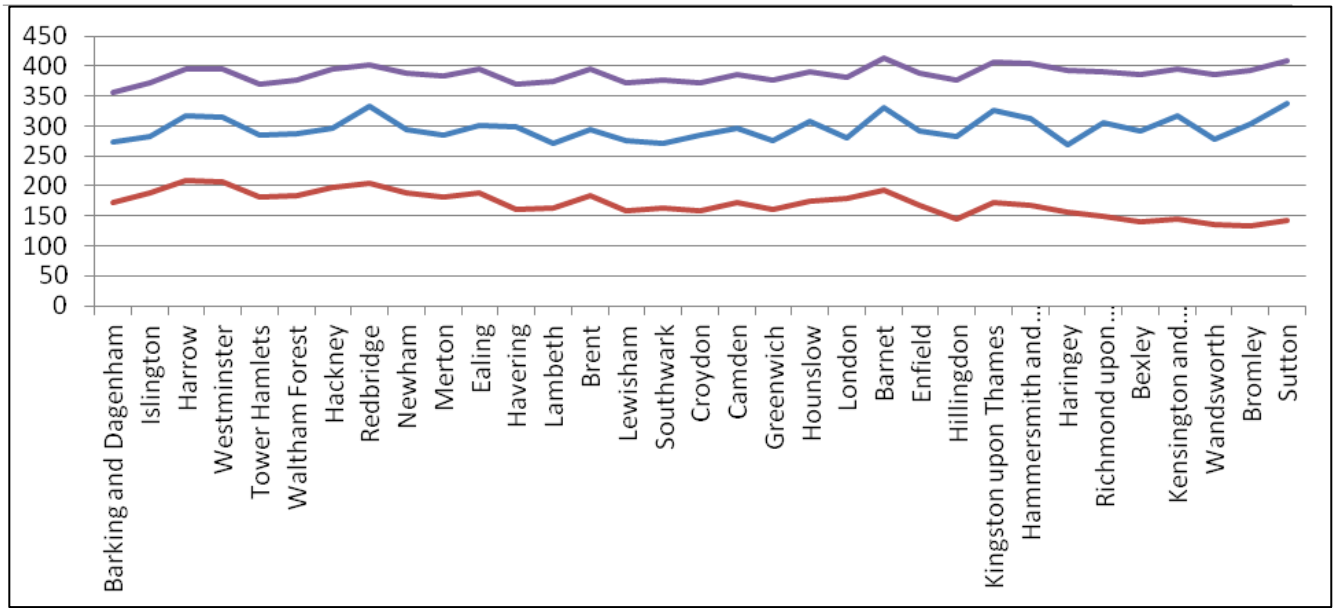


FIGURE 2.2 Average capped point score in Key Stage 4, by prior attainment band and borough

It is important to address low attainment at an early age, in order to help these children bridge the gap and to go on to achieve their potential.

Children who have low prior attainment are performing better in some boroughs than in others. The gap between those with low and high prior attainment is smallest in Barking and Dagenham, with an average difference of 183 average capped point score[7] per child. However, in Sutton, children with previously high attainment go on to achieve almost three times more highly than those who have low prior attainment. One explanation for this disparity could be that (as with children eligible for free school meals) those with low prior attainment perform best when they are in the majority.

## 2.3 Children who speak English as an additional language (EAL)

Children who speak English as an additional language can face significant educational challenges, especially if they do not speak English at home. This cohort is an extremely varied one in London and is increasingly difficult to define, as London's young population becomes more and more diverse.

- Children in London speak over 100 different recorded languages in our schools, ranging from French and Bengali to Arabic and Swahili.
- In London 39% of children speak a first language other than English.
- After English, the most widely spoken language in London schools is Bengali, with approximately 42,280 speakers.

It is likely that the length of time spent in English education is a more significant factor in attainment than whether they speak English as an additional language, but evidence in this area is weak and cannot yet be linked to attainment information. There are, however, groups within the EAL cohort who seem to perform particularly well or poorly. Chinese-speaking girls outperform almost every other ethnic group in all measures, including literacy-related subjects. Conversely, Somali speaking children perform particularly poorly on all measures, including the less language focused aspects of the curriculum, such as maths and science.

In the chart below, children with English as an additional language are represented, by their performance in both GCSEs and the English Baccalaureate and the rest of the cohort is represented in the lines. Children in the EAL group tend to perform significantly better in the EBacc than in other GCSEs and their equivalents.

[7] Average capped point score describes the average of the total number of points achieved by students in their best 8 subjects at GCSE.

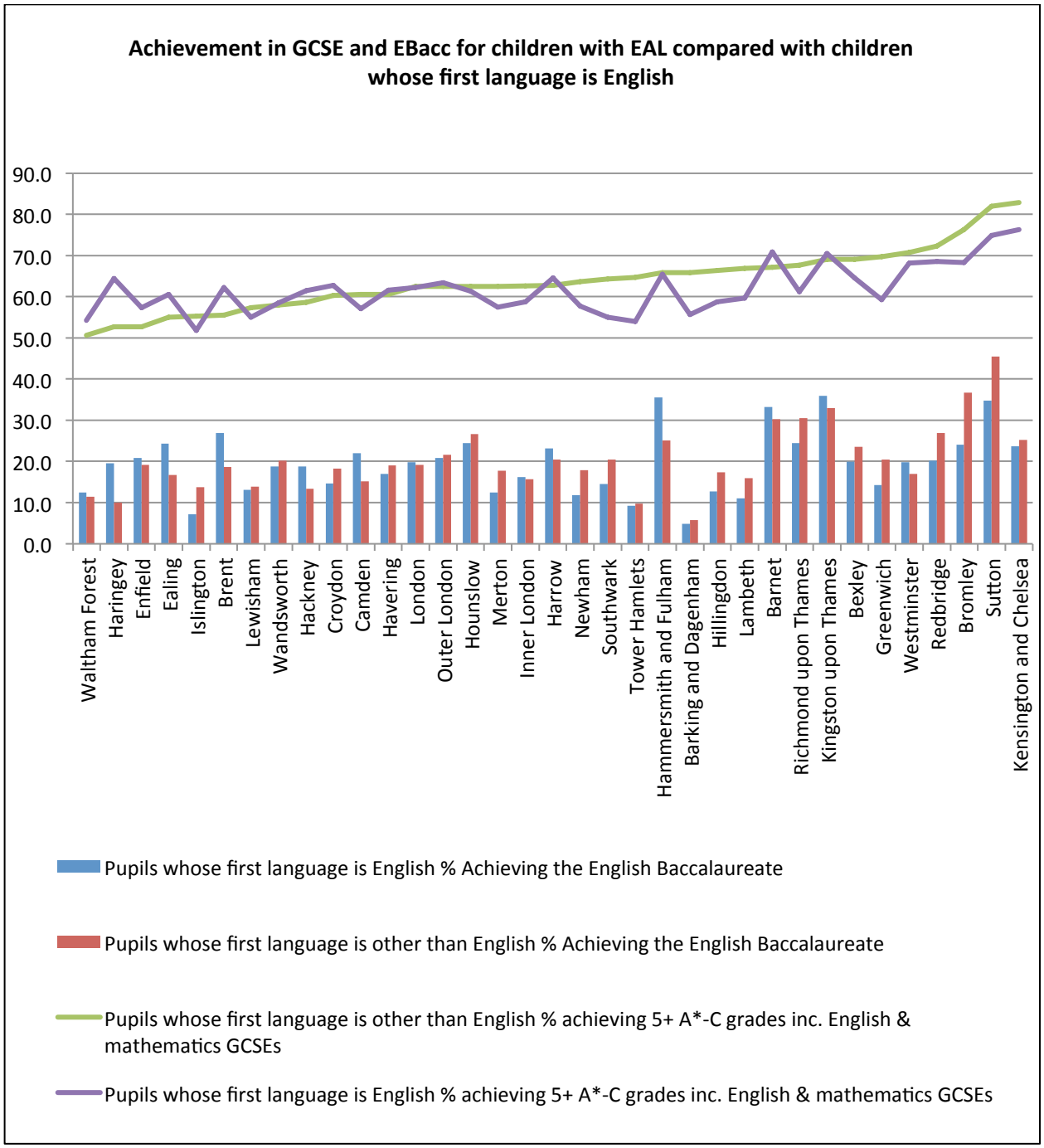


FIGURE 2.3 – Achievement at GCSE and in the EBacc for children with EAL, compared with the rest of the cohort, by borough

## 2.4 Children from ethnic minorities

In a city as diverse as London; ethnic minorities form a very complex and ever-changing group. There has been long-standing concern in the UK over the historical under-achievement of particular ethnic groups, and recent government reviews indicate the continued relevance not only of ethnicity but also of gender and social class in educational attainment.

- Black African and Black Caribbean children continue to achieve the least well amongst recorded ethnic groups, with only 57% across London getting 5 A*-C to at GCSE, including English and maths, compared with 75% of all London children.
- White children are now the second lowest performing group after this, followed by mixed, Asian and Chinese children. Only 61% of white children achieve 5 A*-C at GCSE, including English and maths.

Figure 2.4, overleaf shows the proportion of children from each of the five broad ethnic groups which achieve 5 A*-C including English and maths at GCSE, in each London borough.

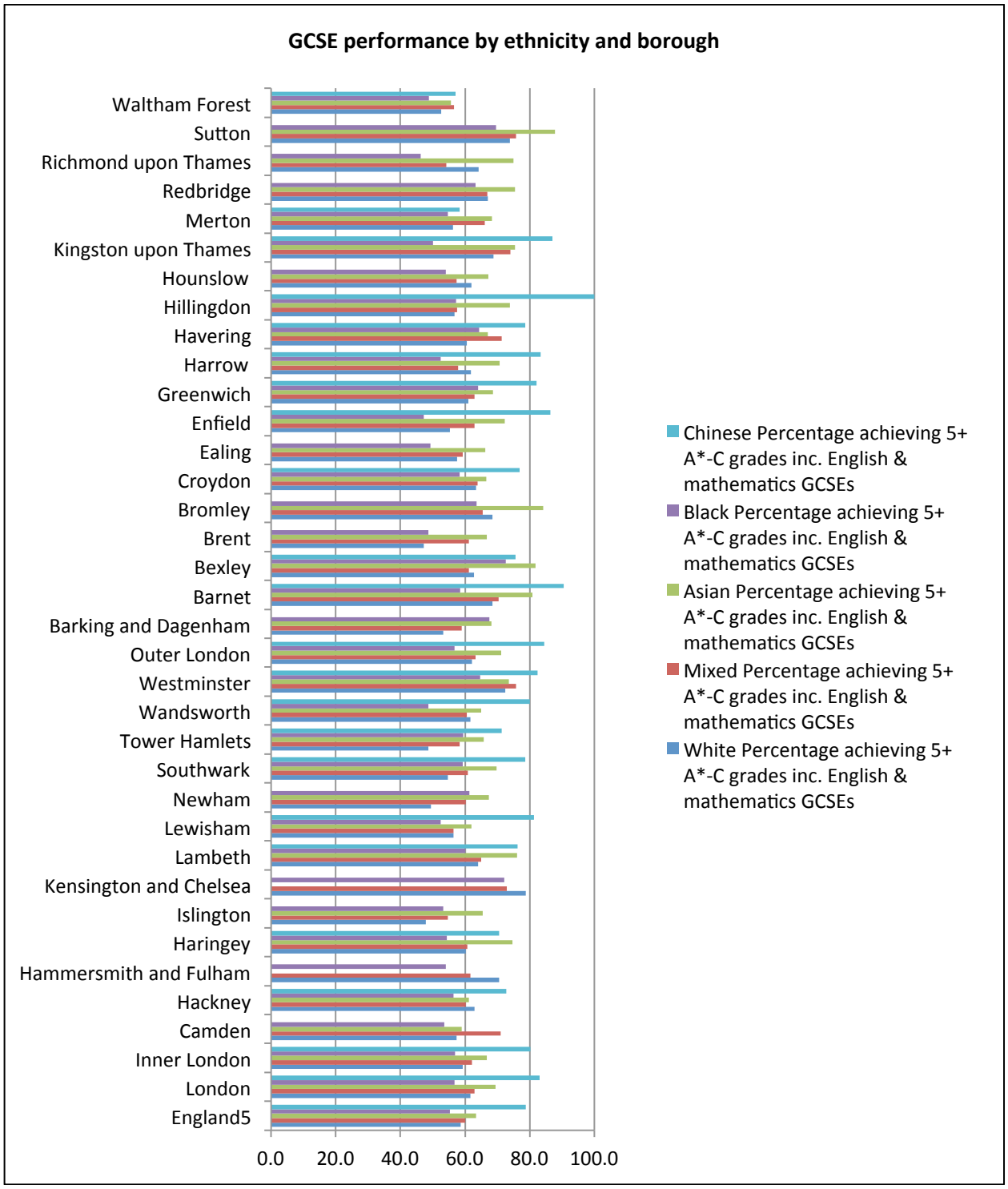


FIGURE 2.4 – Achievement of 5A*-C including English and maths at GCSE, by borough and ethnicity.

Figure 2.4 shows how different ethnic groups perform in each borough. Chinese children perform best in every borough where they are recorded. The performance of white children is the most variable, which may be a result of high variation in economic status.

It is likely that the length of time spent in English education is a more significant factor in attainment than a pupil's ethnicity, but, once again, evidence in this area is weak and cannot yet be linked to attainment information. Nevertheless, on average ethnic minority groups perform below the London average across the board but there are variations within this, with children from Gypsy/Roma/Traveller and Black Caribbean backgrounds performing particularly poorly. In all of these examples, boys perform less well than girls. As with children eligible for free school meals, there is evidence to suggest that the larger

the proportion a minority group forms in any school, the better its outcomes are likely to be.

Regardless of ethnicity, deprivation[8] plays a large role in a child's educational attainment; within every ethnic group, children who are eligible for free school meals perform significantly worse than those who do not. This is not to say that ethnicity has no part to play; in fact economic disadvantage seems to affect some ethnic groups of London children much more significantly than others. For example, in table 2.41 we can see that the group most significantly affected by disadvantage is Travellers of Irish Heritage, followed closely by White British children. For Gypsy/Roma and Bangladeshi children the difference in attainment between those who are disadvantaged and those who are not is very small. This reflects the fact that individuals within these groups are more likely to have similar economic characteristics, than within some other groups, such as White British children.

| | FSM Eligible pupils (number of) | FSM Eligible pupils (% achieving 5+ A*-C grades inc. English & mathematics GCSEs) | Total not eligible for free school meals or unclassified (number of) | Total not eligible FSM (% achieving 5+ A*-C grades inc. English & mathematics GCSEs) | All pupils (% achieving 5+ A*-C grades inc. English & mathematics GCSEs) | Difference between FSM eligible and non eligible pupils achieving 5+ A*-C grades inc. English & mathematics GCSEs |
|---|---|---|---|---|---|---|
| **All pupils** | **79,169** | **34.6** | **487,763** | **62** | **58.2** | 27.4 |
| **White** | **54,038** | **29.3** | **410,018** | **61.8** | **58** | 32.5 |
| White British | 50,976 | 28.8 | 392,579 | 62 | 58.2 | 33.2 |
| Irish | 295 | 33.6 | 1,649 | 71.7 | 65.9 | 38.1 |
| Traveller of Irish Heritage | 81 | 12.3 | 56 | 25 | 17.5 | 12.7 |
| Gypsy / Roma | 192 | 8.3 | 403 | 11.9 | 10.8 | 3.6 |
| Any other White backgroun | 2,494 | 41.6 | 15,331 | 56.3 | 54.3 | 14.7 |
| **Mixed** | **3,758** | **39.5** | **15,017** | **63.2** | **58.5** | 23.7 |
| White and Black Caribbear | 1,524 | 33.7 | 4,920 | 53.9 | 49.1 | 20.2 |
| White and Black African | 406 | 43.6 | 1,405 | 61.7 | 57.6 | 18.1 |
| White and Asian | 558 | 42.5 | 3,201 | 72.5 | 68.1 | 30 |
| Any other mixed backgrour | 1,270 | 43.9 | 5,491 | 66.6 | 62.3 | 22.7 |
| **Asian** | **10,355** | **49.5** | **32,852** | **65.7** | **61.8** | 16.2 |
| Indian | 1,233 | 57 | 11,715 | 76.3 | 74.4 | 19.3 |
| Pakistani | 4,997 | 42.9 | 11,426 | 56.8 | 52.6 | 13.9 |
| Bangladeshi | 3,099 | 56.2 | 3,851 | 62.6 | 59.7 | 6.4 |
| Any other Asian backgroun | 1,026 | 51.8 | 5,860 | 64 | 62.2 | 12.2 |
| **Black** | **7,787** | **44.3** | **17,602** | **58.8** | **54.3** | 14.5 |
| Black Caribbean | 1,894 | 37.8 | 6,164 | 52 | 48.6 | 14.2 |
| Black African | 5,069 | 47.2 | 9,362 | 63.6 | 57.9 | 16.4 |
| Any other Black backgroun | 824 | 41.3 | 2,076 | 57.1 | 52.6 | 15.8 |
| **Chinese** | **162** | **73.5** | **2,141** | **78.9** | **78.5** | 5.4 |
| Any other ethnic group | 2,130 | 48.5 | 4,677 | 56.5 | 54 | 8 |

FIGURE 2.41 – Achievement of 5A*-C including English and maths at GCSE, by ethnicity and deprivation

[8] Using the proxy measure of free school meal eligibility.

## 2.5 Case study: Newport School in Waltham Forest[9]

Newport School in Waltham Forest was recently inspected by Ofsted and received a judgement of 'outstanding'. The report highlighted some of their excellent practice in working with disadvantaged groups of children.

Most pupils at Newport School come from ethnic minority backgrounds, with the largest groups being from Asian Pakistani, Black African and 'Other White' backgrounds. A large number of pupils speak English as an additional language. The proportion of pupils known to be eligible for free school meals and children who are looked after by the local authority is above average. In addition the proportion of pupils joining or leaving the school during the school year is high.

Disadvantaged pupils have benefited from extra one-to-one support from adults and from engagement with additional classes on Saturdays, which has helped them to acquire key skills and deepen their knowledge. This approach has been so successful that the attainment gap often seen with this group of pupils has been closed and they now achieve as least as well as, and frequently better than, their classmates. In maths and English this additional input means that these pupils are making approximately five terms' progress in the space of each three-term year. In 2012 every child in the school made expected levels of progress in English, regardless of their background. In fact, 97% of disadvantaged pupils achieved level 4 or above in Key Stage 2 English, compared with 90% of the rest of the cohort.

[9] Newport School, Ofsted Inspection Report. 25 June 2013

## 3. How are London students doing in the key subjects?

Poor literacy and numeracy can restrict opportunities throughout an individual's life. These skills are essential for every child because they are vital for understanding the rest of the curriculum, as well as for developing later specialisms and critical thinking.

Certain subject areas are also key to London's economic prosperity and to its future as a place to work, live and invest. Improving literacy and numeracy is a priority for Londoners with poor basic skills. Increasing students' take up of STEM subjects and languages is crucial not only for their own personal careers, but for the future of London's businesses and industries. This is not to diminish the importance of other subjects, but to recognise that the relatively low uptake of STEM and modern foreign languages in London state schools, compared to independent schools, puts many London children at a disadvantage.

### 3.1 Literacy

Whilst the importance of literacy to success across the curriculum and in later life has long been recognised, the current government has placed even greater emphasis on it. It is vital that London children perform well in this area, regardless of their demographic or geographical status, in order to succeed in later life.

- 75% of London's children attain grades A*-C in English GCSE.
- A quarter of students leave secondary school without achieving a grade C or above in English language GCSE.
- This is variable across London with only 61% of children in Islington, for example, achieving grades A*-C in English.

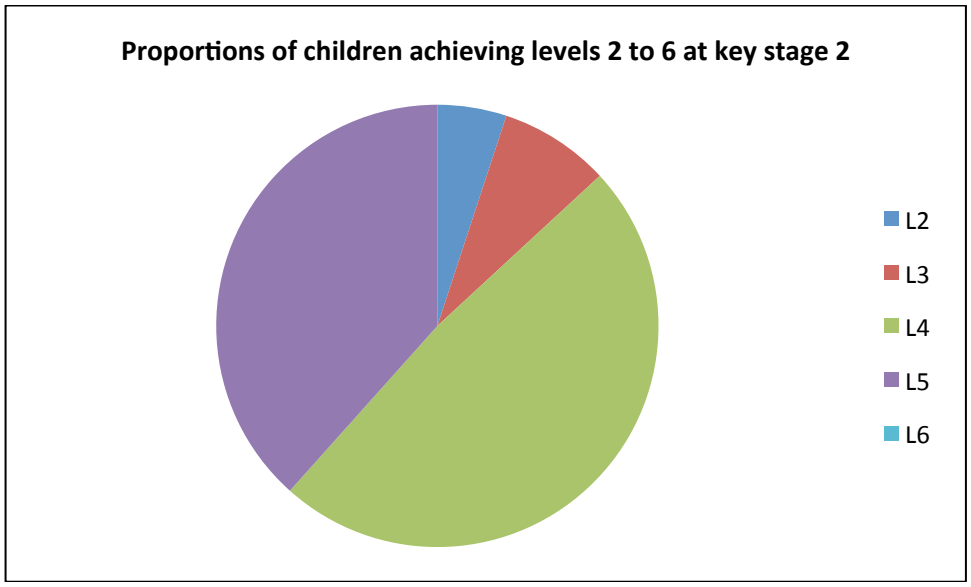


FIGURE 3.1 – Percentage of London children attaining levels 3, 4 and 5 in Key Stage 2 English

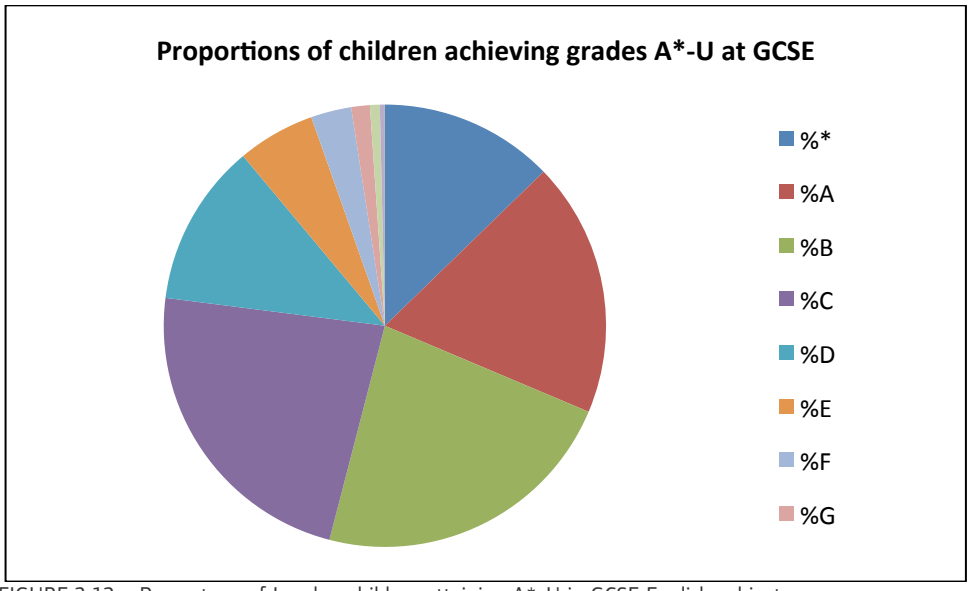


FIGURE 3.12 – Percentage of London children attaining A*-U in GCSE English subjects

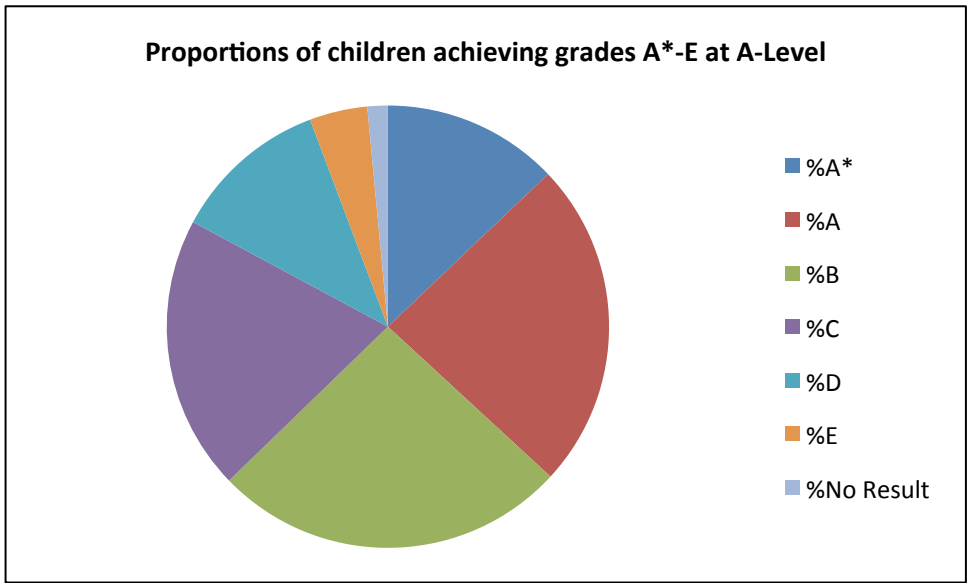


FIGURE 3.13 – Percentage of London children attaining A*-E in A-Level English subjects

London's results for literacy and English are ahead of the rest of the country, but are also more variable than in any other region. This variation is much more significant at Key Stage 2 than at Key Stage 4, with just over two thirds of children achieving levels 4 and 5 in Key Stage 2 English, while over three quarters achieve A*-C in English GCSE. This indicates that London children are 'catching up' in the later stages of their education. This could be due to high levels of inward migration at Key Stage 2, particularly amongst the youngest children, or could be because National Curriculum levels and GCSE grades are not directly comparable. Alternatively it could be that the impact of new migration on the under-ten population in the last five years has affected Key Stage 2 results already but has not yet reached Key Stage 4. If this is the case it is possible that we will see a dip in future performance at GCSE.

## 3.2 Numeracy

Improving numeracy in the population is vital if we are to build a strong economy and compete globally. It is difficult to quantify the exact extent to which improving numeracy skills would result in higher economic growth but the 2010 OECD report, 'The High Cost of Low Educational Achievement', projected a potential increase of 0.44% to the UK's annual GDP if the 10% of 15-year-olds who failed to reach the OECD minimum standard were brought up to that minimum level.

- 75% of London children achieve A*-C in GCSE Mathematics compared with 72% nationally.
- Levels of numeracy vary widely between the richest and poorest boroughs. 55% of children taking A-Level maths in Barnet achieved A* or A grades in 2012, compared with 19% in Barking and Dagenham.
- Only 13% of London secondary schools (62 schools) achieve A*-C grades in maths for every single child in their school.

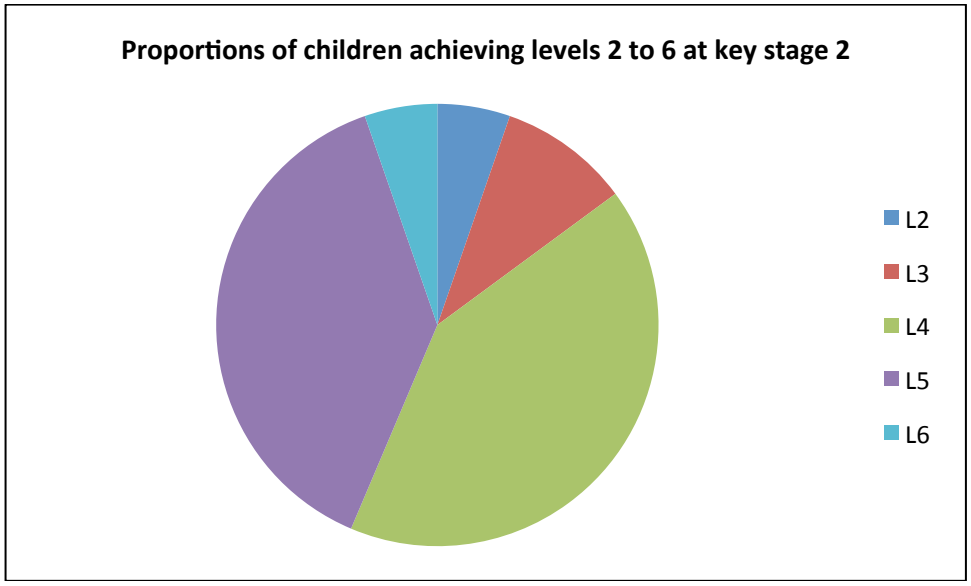


FIGURE 3.2 – Percentage of London children attaining levels 3, 4 and 5 in Key Stage 2 maths

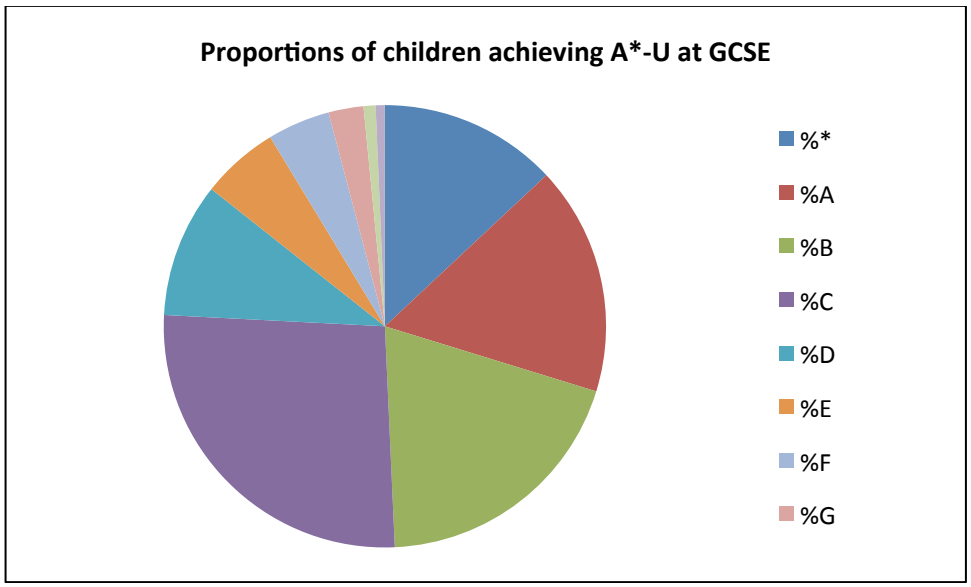


FIGURE 3.21 – Percentage of London children attaining A*-U in GCSE maths subjects

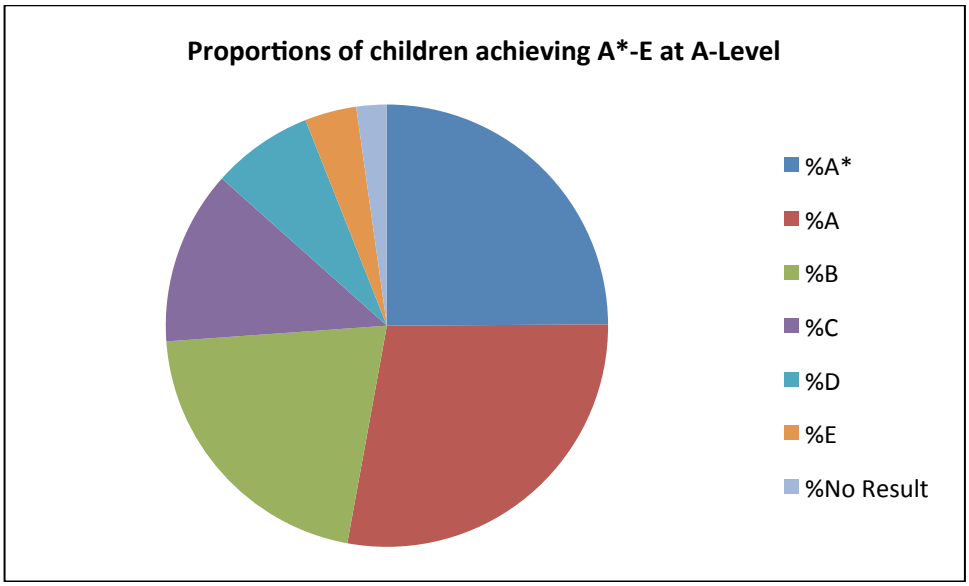


FIGURE 3.22– Percentage of London children attaining A*-E in A-Level maths subjects

Figure 3.23 shows the huge variation in maths results in London schools, with the red line representing the proportion of students achieving A*-C, and the blue bars showing how well schools are doing at stretching the most able to achieve A* and A grades in maths. Although the A*-C grades follow a fairly linear pattern there is little correlation between the A*-C grades and the A*-A grades, except at the very top level.

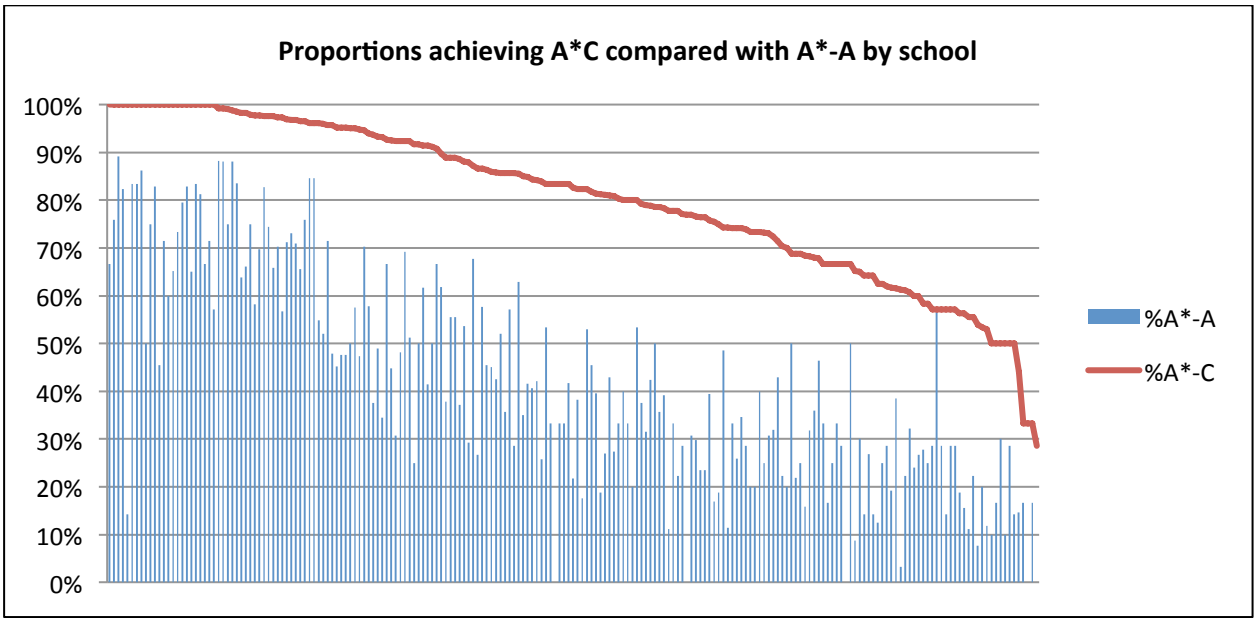


FIGURE 3.23 – Proportion of children achieving A* and A compared with A*-C in GCSE maths, by school

## 3.3 STEM[10]

Increasing uptake of sciences, technology, engineering and maths is vital for London's economy and its future workforce. These subjects equip pupils with the knowledge and skills needed for today's growth industries. The House of Lords Science and Technology Select Committee conducted an inquiry into higher education in STEM subjects in July 2012. The inquiry investigated, amongst other things, whether the number of STEM students and graduates was sufficient to meet the needs of industry, the research base, and other sectors, and whether they are of a high enough quality. It found that the number of students taking maths post-16 is insufficient to meet the level of numeracy needed in the UK, and the level at which it is taught often fails to meet the requirements for studying STEM subjects at undergraduate level.

In London this year:

- 53.1% of science entries were awarded between a grade A* and C, down from 60.7% last year. That drop - of 7.6% - was the biggest fall in top results across all GCSE subjects.
- The proportion of 16 year-olds achieving A*–C in maths is very stable in London: 62.1% compared to 62% in 2012.
- Boys continue to outperform girls in chemistry, but girls took the lead in biology in 2013, with 3% more achieving A* or A in the subject

[10] STEM subjects are many and various, but for the purpose of this report are limited to maths, biology, chemistry, physics, design and technology (including resistant materials), engineering and computing.

| | Grades A*/A | | | Grades A*-C | | |
|---|---|---|---|---|---|---|
| | Age 15 | Age 16 | Post-16 | Age 15 | Age 16 | Post-16 |
| Additional science | 20.7 (10.5) | 11.3 (13.4) | 13.2 (12.8) | 72.1 (53.9) | 63.8 (66.8) | 59.4 (61.7) |
| Biology | 25.5 (29.4) | 42.7 (47.6) | 17.8 (23.5) | 80.0 (83.0) | 91.7 (93.9) | 62.5 (64.5) |
| Chemistry | 29.8 (39.7) | 43.2 (48.6) | 32.9 (40.3) | 81.2 (87.5) | 90.8 (93.4) | 74.5 (80.0) |
| Science | 9.4 (8.9) | 4.9 (10.5) | 6.0 (7.5) | 55.1 (55.3) | 47.9 (64.7) | 52.8 (56.1) |
| Maths | 10.6 (12.0) | 17.0 (17.7) | 4.5 (4.5) | 51.7 (52.0) | 62.1 (62.0) | 41.1 (43.1) |
| Physics | 31.8 (34.9) | 42.0 (46.7) | 31.3 (38.8) | 83.7 (82.9) | 91.4 (93.7) | 75.3 |

FIGURE 3.3 – The number and proportion of children achieving A*-C nationally, in GCSE STEM subjects in 2013.

As the following graph shows, in 2012, 79% of London children achieved A*-C in GCSE STEM subjects, with 34% of those children achieving A* or A.

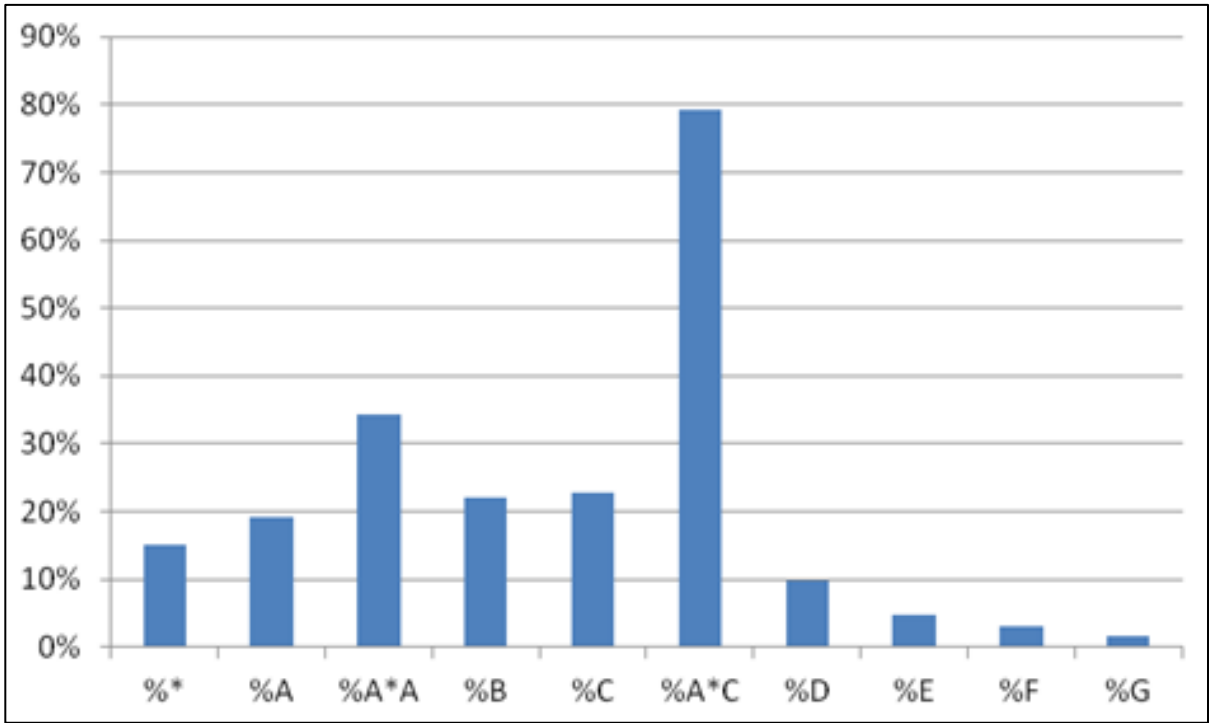


FIGURE 3.31 – The proportion of London children achieving A*-G in GCSE STEM subjects.

These figures are somewhat skewed, however by the fact that maths and sciences are compulsory at GCSE level. By looking at uptake of STEM subjects at A-Level we can get some idea of whether London students are using their foundation in STEM subjects to continue in this area. The following graph shows London students' uptake of STEM subjects compared with other subjects. Most striking is that all subjects are eclipsed by the popularity of history in London, but it is also interesting to note that maths and physics saw significantly higher uptake in 2012 than biology or chemistry.

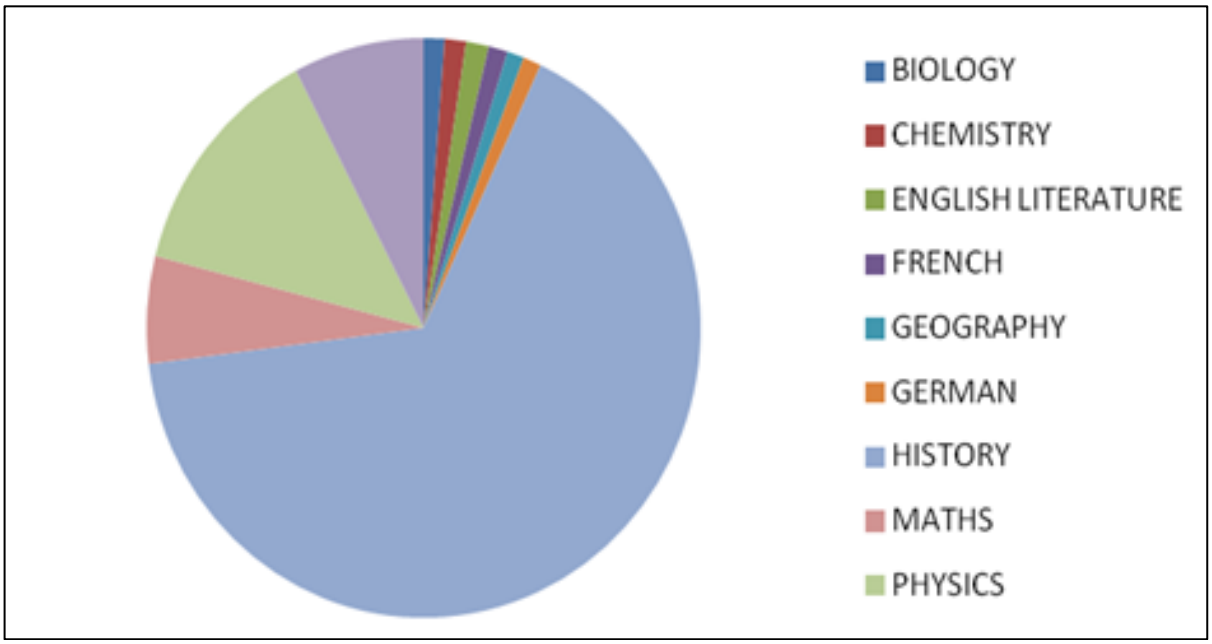


FIGURE 3.32 – London Uptake of STEM A-Level subjects compared with other subjects

Progression from GCSE to A level depends on the grade at GCSE, with lower progression rates from lower GCSE grades. The impact of GCSE grade on progression to A level is highest in maths, with high progression from A* and A, but low from B and C grades. This is not the case for all STEM subjects however. Progression rates from GCSE biology and chemistry to A levels for pupils achieving grades A*-C are very high.

## 3.4 Modern Foreign Languages

For a city as diverse and globally connected as London, the study of languages should offer a key advantage to young people. The government's recent policy for all primary schools to teach languages systematically should improve the interest, opportunity and ability of students to continue to study languages at secondary level.

In London this year:

- GCSE entries in modern foreign languages by 16 year olds increased by 19% in French, 12% in German and 29% in Spanish for the 16 year-old cohort.
- Overall entries in modern foreign languages for all age groups increased by 16% in French, 9% in German and 26% in Spanish.
- EAL pupils with English are most likely to achieve a top grade in GCSE languages, with 44% achieving A*/A grades. This compares with 27% for London pupils whose first language is English. The high rate among pupils with English as an additional language is not a result of taking GCSEs in their home languages because it is mostly accounted for by higher grades in French, German and Spanish. It is likely that speaking English as a second language helps pupils to learn other languages.

Figure 3.4 shows uptake of modern foreign languages at GCSE level and the grades achieved.

| Subject | Number Sat | % of Total Sat | PERCENTAGES by Grade | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A* | A | B | C | D | E | F | G | U |
| French | 177288 | 3.3 | 9.8 | 15 | 19.8 | 25.6 | 18.3 | 7.3 | 2.9 | 1 | 0.3 |
| German | 62932 | 1.2 | 9.2 | 15 | 23.2 | 27.5 | 16.3 | 5.9 | 2.1 | 0.6 | 0.2 |
| Spanish | 91315 | 1.7 | 13.1 | 16.7 | 19.4 | 22.9 | 16 | 7 | 2.9 | 1.3 | 0.7 |
| Other modern languages | 31368 | 0.6 | 34.5 | 25 | 16.8 | 11.1 | 6.5 | 3.2 | 1.4 | 1 | 0.5 |

FIGURE 3.4 – Uptake and achievement in GCSE modern foreign languages

The following chart shows the rate of improvement in attainment by young Londoners in modern foreign languages. We can see that although improvement has taken place, particularly since 2002, this has been neither linear, nor sustained over time. In fact, since 2010, improvement has almost stopped.

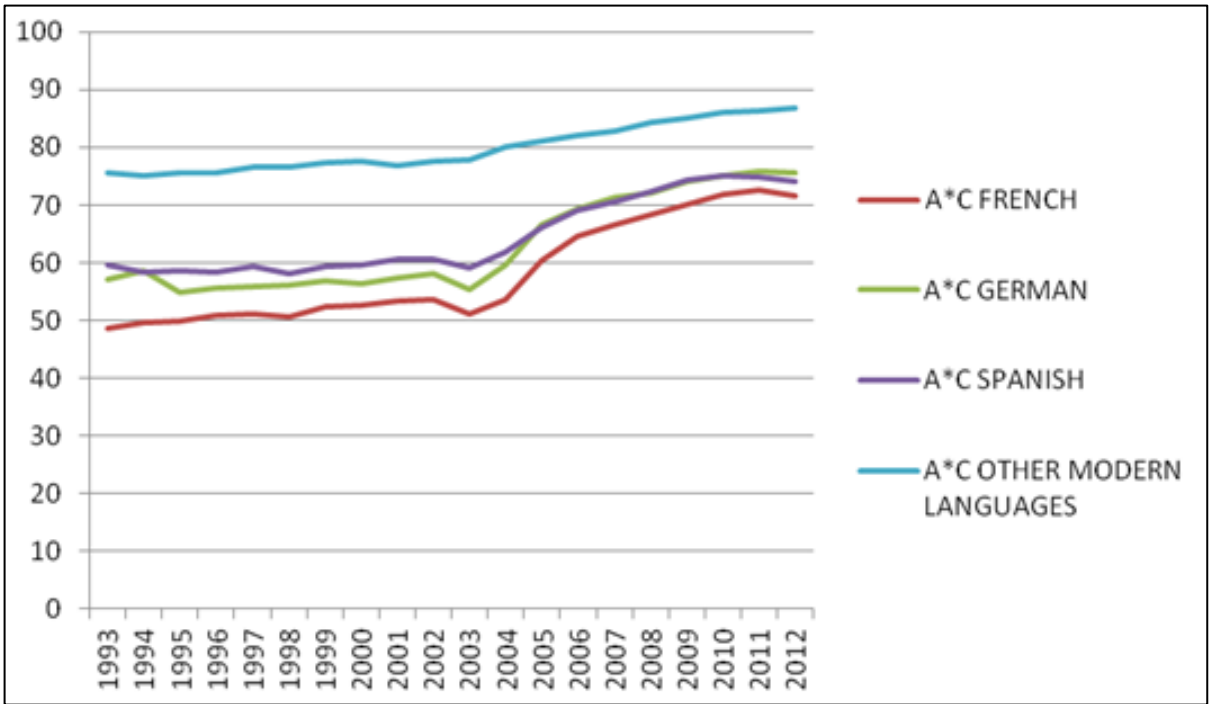


FIGURE 3.41 – Attainment in modern foreign languages over time

## 3.5 Case study: Chelsea Academy in Kensington and Chelsea[11]

Chelsea Academy admitted its first group of Year 7 students in 2009 into temporary accommodation. It moved in September 2010 to the current high-quality premises that were long-listed for the 2011 RIBA Stirling Prize. Staffing levels are increasing steadily as the academy grows each year with a new intake. It opened to sixth form students in September 2011. The academy's specialism is in science. The proportion of students from ethnic minorities is high, as is the number of students known to be eligible for free school meals. The number of first languages spoken other than English is extensive.

[11] Chelsea Academy, Ofsted Inspection Report. 23 May 2012.

Students greatly enjoy attending the academy and readily engage in the opportunities available to them. Students reach levels in science that are well above those expected for their age. One student commented that learning in this academy is "a big adventure". The science specialism helps students to develop and apply independent enquiry skills across the curriculum. Students are inspired to develop a deep curiosity beyond exam content. Staff encourage them to refine their skills in exploring and taking advantage of the wide range of opportunities that the academy is opening up for them.

The school states that it aims to produce the scientists of the future. 80% of sixth form students study a science subject and through developing strong links with universities, the school raises awareness of career opportunities in science. Many of the students take up the opportunity to participate in summer schools at Cambridge University and Imperial College and continue their studies at university. This culminates in the summer term with the Key Stage 3 and Key Stage 5 science fairs, where students present their own investigation or research project to members of the local community.

# 4. How are London's most vulnerable children faring in education?

## 4.1 Children in care

In the UK, children who are looked after by the local authority tend to achieve significantly worse outcomes in education than those who are not. Tackling this disadvantage remains a high priority for the government, Ofsted and all statutory bodies working with them. It is worrying that the gap between the educational achievement of children in care and their peers continues to widen nationally.

The data reveals the following points (based on those children in London who have been looked after continuously for at least 12 months at 31 March 2012):

- At Key Stage 2, 20% achieved the expected level in English and maths. This has doubled over the last 4 years.
- 16.8% of children in care in London achieved 5A*-C including English and maths in 2012, compared with 63% of the total London population
- Improvement has been slower at Key Stage 4, with an improvement of 5.2% since 2008.

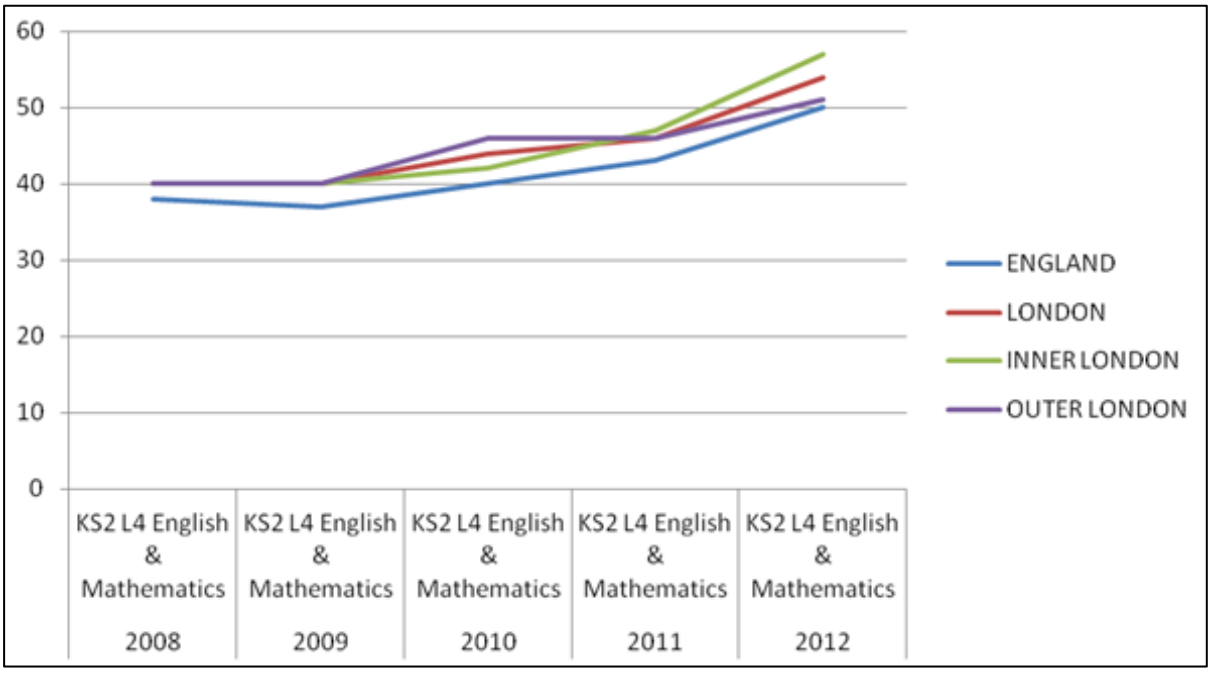


FIGURE 4.1 – The performance of children in care, in key stage 2 English and Maths

We can see from figure 4.1 that London is ahead of the national average in the attainment of children in care. Nevertheless, attainment across the board is significantly lower than that of children who are not looked after. There is also a greater difference in the performance of children who are looked after in inner London boroughs and outer London boroughs, with the inner boroughs seeing very significant improvement over the last 3 years, compared with more fluctuating and slower improvement in the outer London boroughs.

Figure 4.11 shows how London children who are looked after perform in comparison to the London average, and that the gap between them has been narrowing.

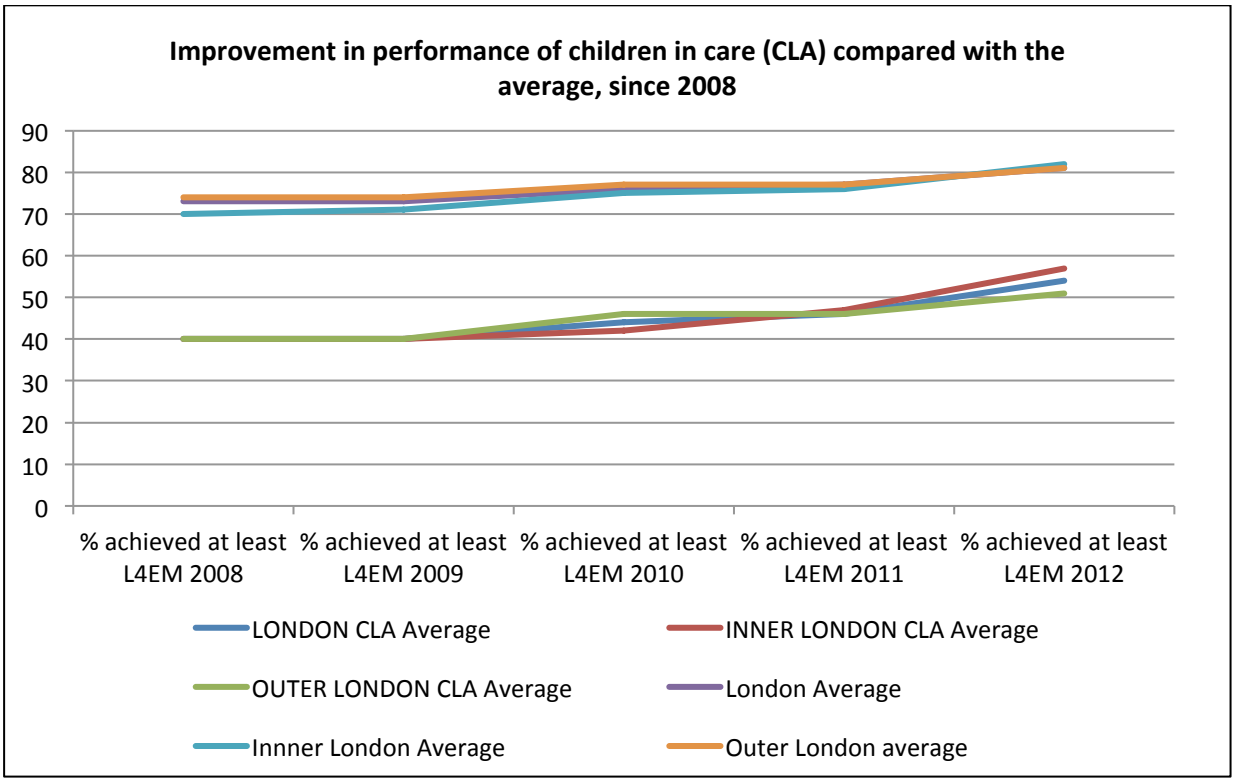


FIGURE 4.11- The performance of children who are looked after[12] compared to the rest of the population.

The ultimate employment outcomes for children who are looked after are also significantly worse than those for children who have not been looked after, despite the fact that many continue in full time education post-16. Figure 4.12 shows the broad destinations of children in care in London, after completion of National Curriculum Year 11.

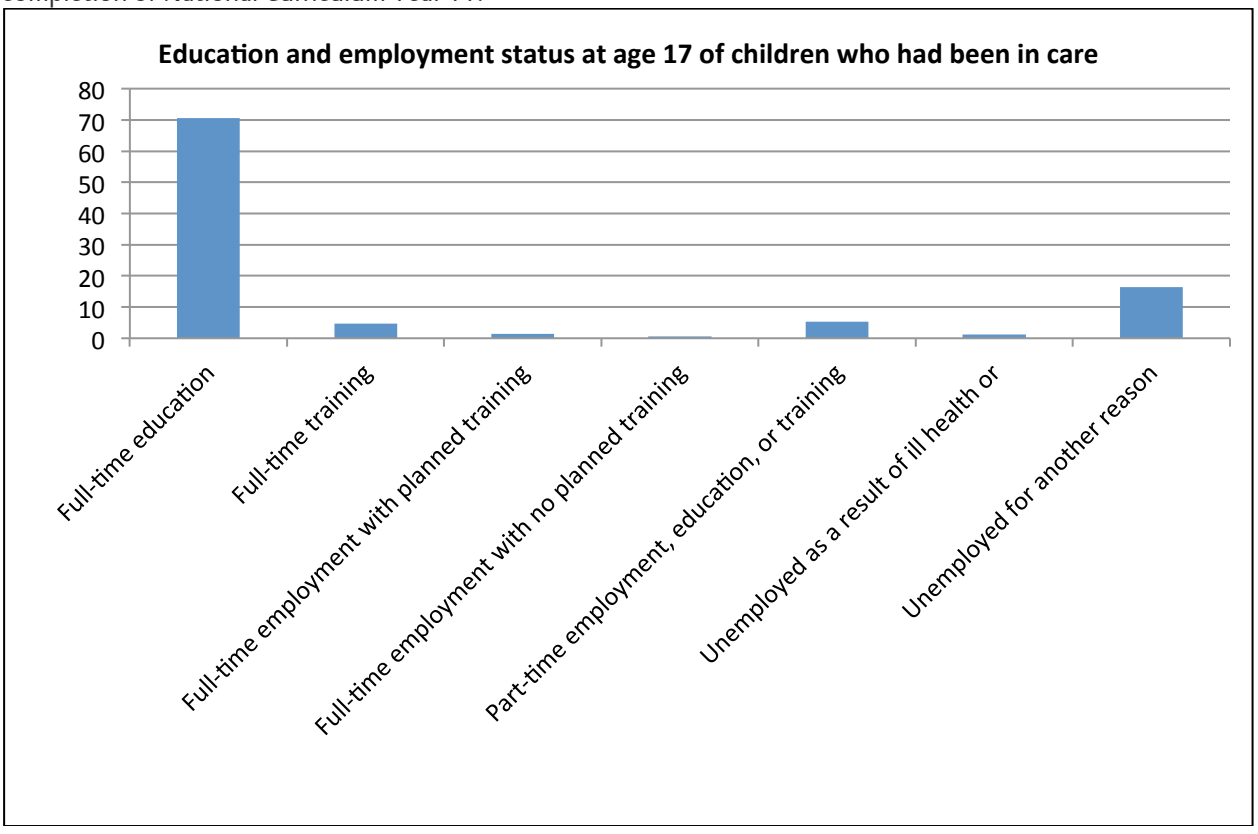


FIGURE 4.12 - Education and employment status of London children who had been looked after continuously for at least twelve months, following completion of National Curriculum Year 11.

[12] CLA – Children who are Looked After by the Local Authority

## 4.2 Children with special educational needs

A growing number of children and young people in London have a Statement of Special Educational Needs (SEN) or receive some sort of intervention in their school such as 'School Action' or 'School Action Plus'[13]. This group of children often requires different types of provision in order to help them reach their potential. London has a wide and varied range of special educational provision for these children but their performance continues to fall significantly below that of children with no additional needs.

- 12% of London's children who took Key Stage 2 SAT exams in 2012 had a statement of special educational needs. There are numerous classifications and varieties of SEN and even within these, children can have significantly different needs.
- In 2012, Newham had the smallest proportion of children with SEN in London, with just 0.8%, compared with the largest proportion in Wandsworth (3.8%). Although some variation could be a result of inconsistencies in approach to statements of need this is unlikely to account for such a great variation.
- The most common type of special educational need experienced by London children is autistic spectrum disorder (ASD), which accounts for 26.5% of the SEN population.

Figure 4.2 shows the variety of special educational needs catered for in London's schools.

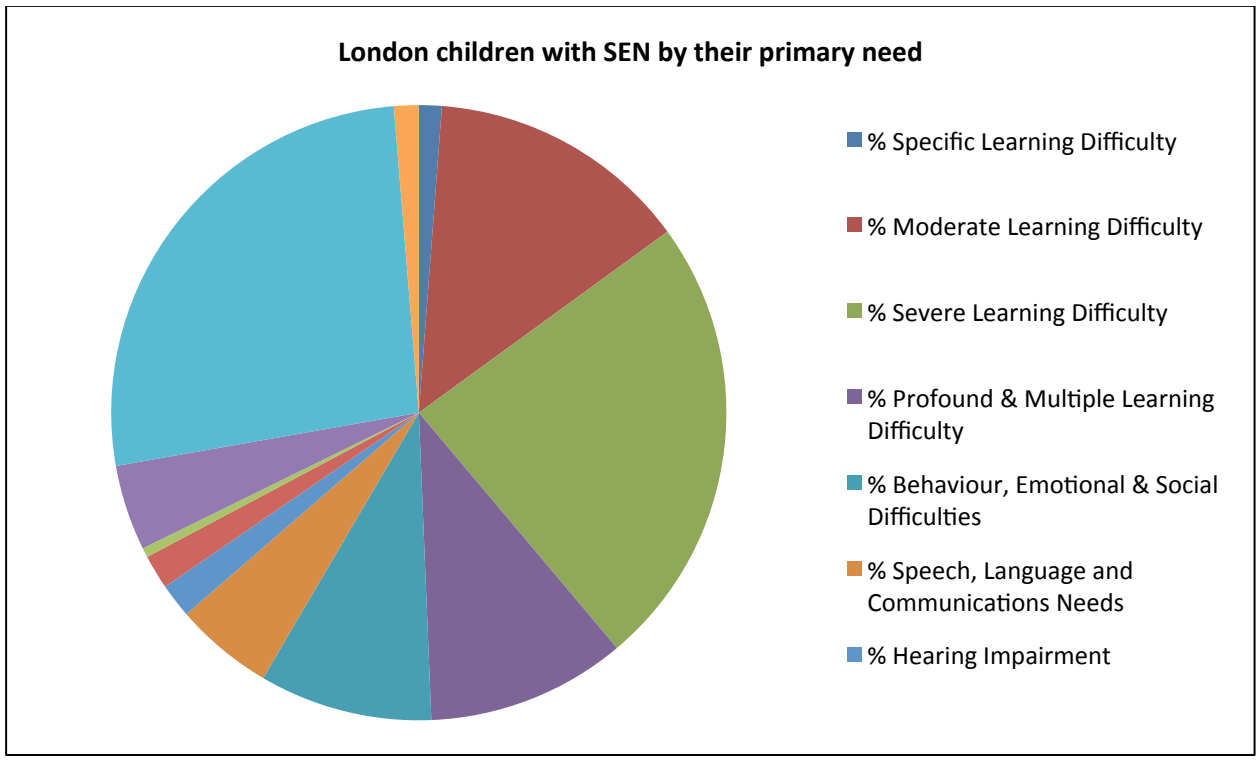


FIGURE 4.2 – London Children with SEN, by their primary need

[13] School Action (SA) is used when there is evidence that a child is not making progress at school and there is a need for action to be taken to meet their learning difficulties. SA can include the involvement of extra teachers and may also require the use of different learning materials, special equipment or a different teaching strategy.

School Action Plus ("SA+") is used where SA has not been able to help the child make adequate progress. At SA+ the school will seek external advice from external support services, the local clinical commissioning group or from social services. For example, this may be advice from a speech and language therapist, an occupational therapist or specialist advisory services dealing with autism, or behavioural needs.

Figure 4.22 shows that the proportion of children with a statement of special educational needs in London has remained fairly static over the last 4 years, despite concerns that this group is growing. There are a number of possible reasons for this, including earlier identification of children's needs that do not require a statement and improving medical treatment in early life. There is also some research to show that the types of special educational need that children are experiencing are becoming increasingly complex, but there is little quantitative data to support this yet. There is also concern that the label has been too commonly misapplied to students by schools and assessors.

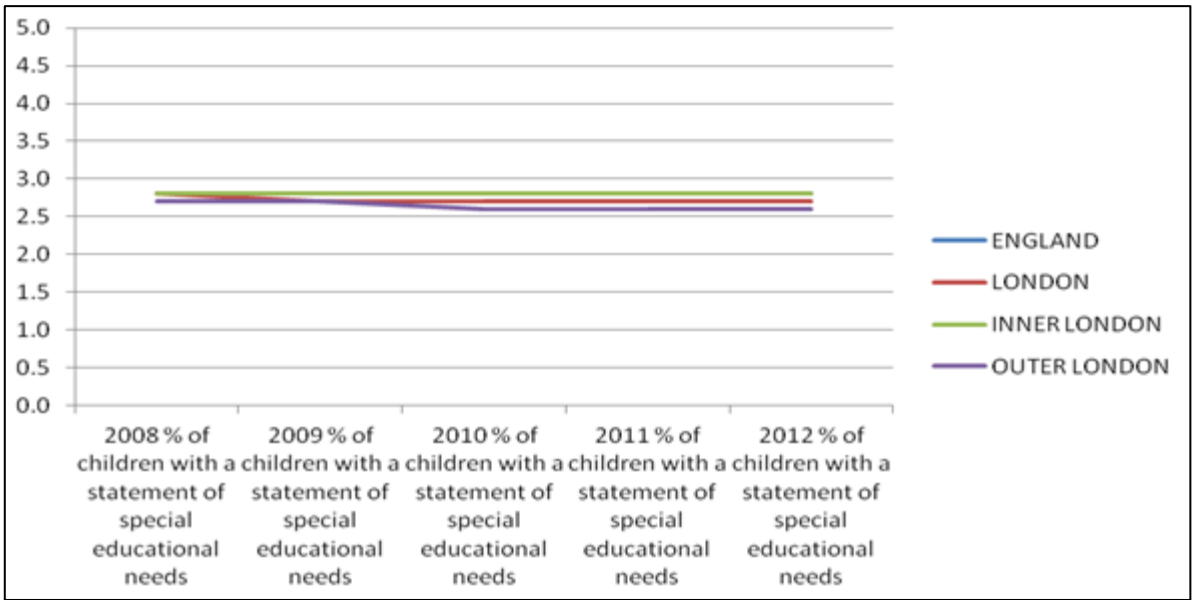


FIGURE 4.21 – Attainment of children with SEN over the last 4 years

The following chart shows how significantly SEN affect a child's attainment, both in London and nationally. Amongst those children with the most severe needs (those with statements), there is very little variation in performance nationally or within London. The bars after the blue line represent children with some form of special educational need.

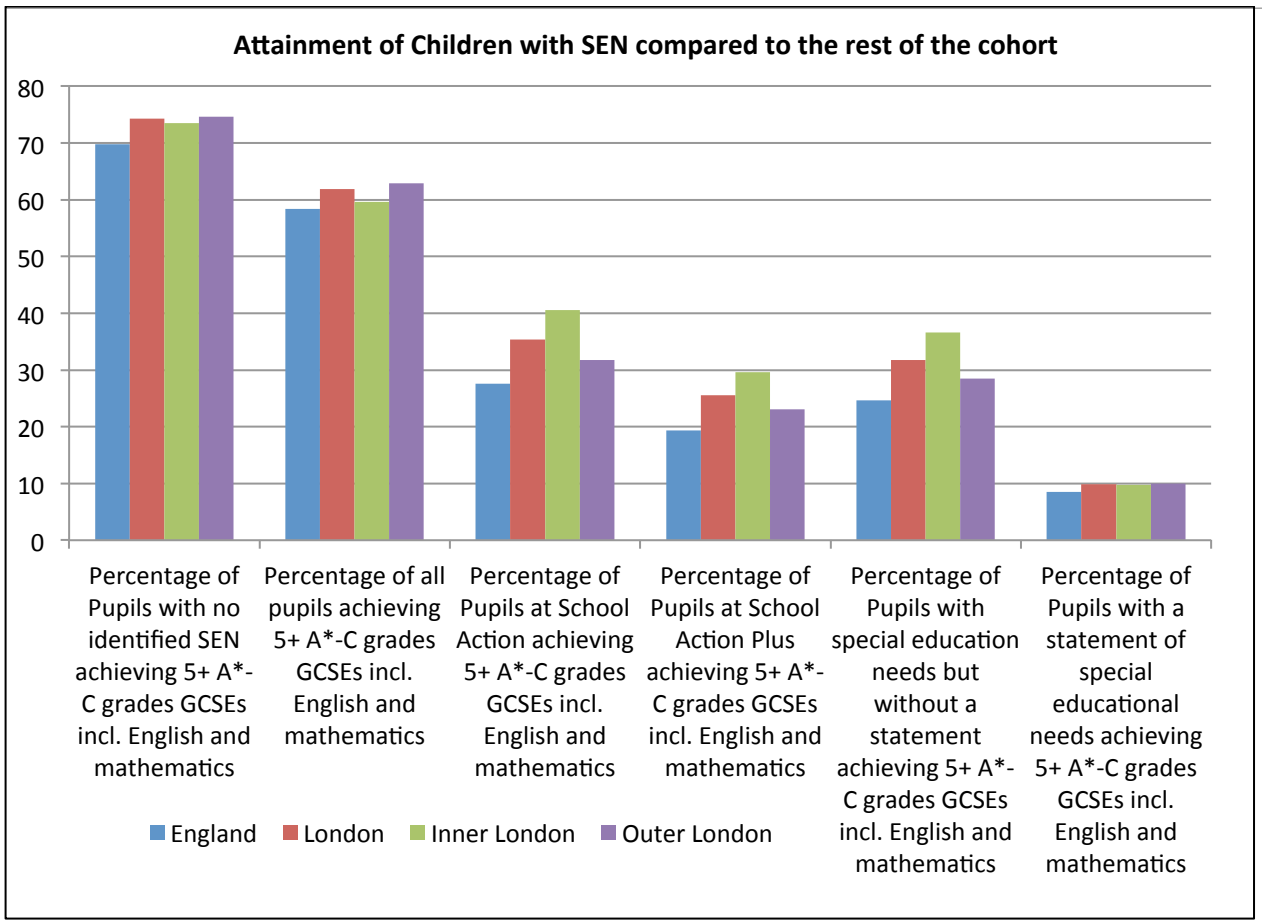


FIGURE 4.22 – Attainment of children with SEN compared with the rest of the cohort

The next chart shows more clearly how well children with SEN have achieved across London in comparison to those without SEN. Clearly the complexity of this group of children creates a fluctuating picture, but the enormous gap in attainment between those with and without SEN remains fairly constant across the city.

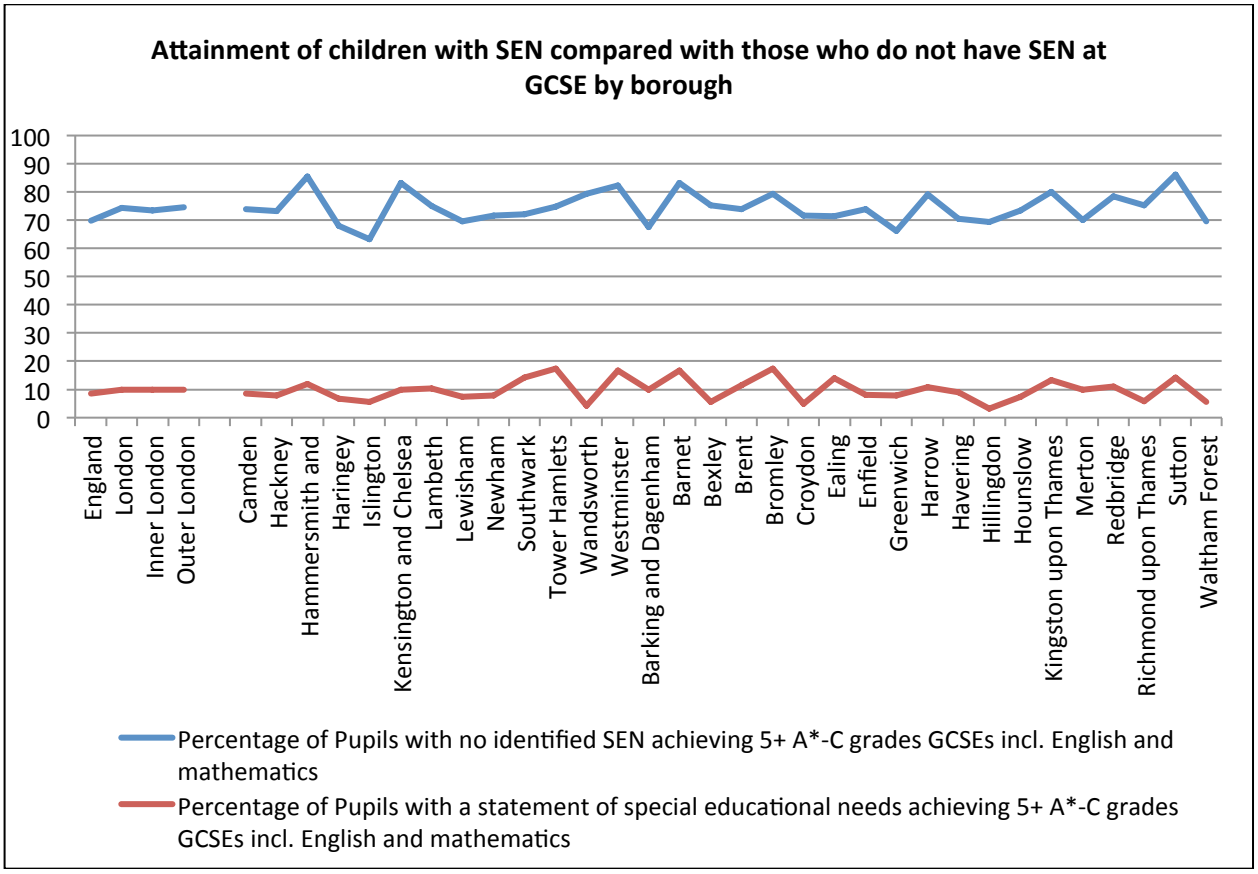


FIGURE 4.23 – Attainment of children with SEN at GCSE, by borough and compared with the rest of the cohort.

## 4.3 Case study: Pield Heath House Special School in Hillingdon[14]

Pield Heath is a special school which provides for students with a wide variety of complex learning needs, including those with moderate to severe learning difficulties and/or disabilities and those with social, emotional and behavioural needs. There is also a minority of students with ASD and with associated speech, language and communication difficulties.

All the students achieve well and many make outstanding progress. The students make excellent progress in meeting challenging targets in English and maths and in their personal development. This has a significant impact on their achievement throughout the curriculum.

Students in Years 5 and 6 have made very good progress because of the high level of individual tuition they receive. As students move through the school and gradually overcome the emotional and behavioural or communication barriers to their learning, so the rate of their progress accelerates. As a result all the students in Years 9 to 14 are consistently successful in gaining a range of nationally accredited qualifications.

The students' excellent progress in personal development reflects the school's exceptional management of behaviour and the very strong emphasis on mutual respect and care. The students' spiritual, moral, social and cultural development is outstanding. Students are supportive of one another and pleased for their friends, for example, when they receive praise in assembly. Teachers encourage the students' spiritual and moral development in each learning activity and this has a substantial impact on their understanding. The students regularly celebrate their own and other cultures in themed days.

[14] Pield Heath House School, Ofsted Inspection Report. 27 January 2009.

## 5. Is education in London equipping young people to secure the best jobs they can?

Education is the foundation for the future of London's economy. Supporting excellence in education is a key component of the Mayor's wider economic vision. When London children grow up, they will compete with young people educated all over the world for jobs here in their own city. That is as true in the cafes and service industries as it is for banks and high-tech businesses.

- London's participation rate for young people in education and training in 2012 was 89.6% and improved by 1.4% on 2011 participation levels. London's participation is also 2.3% above the national figure.
- The majority of 16 and 17 year olds in London (87.3%) are participating in full time education and training, which is 5.6% higher than the national figure.
- A smaller proportion of children in London are participating in apprenticeships and employment with training than nationally.
- The percentage participating in education or training at age 16 in London is 4.4% higher than those participating at age 17, and participation levels are higher amongst girls.

Children who are not in education, employment or training (NEET) are not a homogenous group. The NFER (National Foundation for Education Research) has categorised NEETs into three distinct groups in terms of their attitudes to education and future employment and their likelihood of re-engaging with either education, employment or both. Nationally approximately 41% of NEETs are 'open to learning', 22% are 'undecided' and a further 38% are 'sustained'. This last group is most difficult to target and is made up of children who find re-engagement with education or employment most challenging. Typically they come from deprived backgrounds, have no recent history of employment, have low educational attainment and have had very negative experiences of school.

### 5.1 16 to 18 year olds

Figure 5.1 shows the percentage of 16 -18 year olds who were not in education, employment or training (NEET) during the last 4 years. In most boroughs this figure has been decreasing, with London seeing a reduction of 0.6% since 2008. However there are some boroughs, notably Camden and Westminster, where the proportion of young people who are NEET has grown in the last year. There could be a number of reasons for the increase and it is notable that inner London boroughs have generally seen higher NEET levels than the outer boroughs.

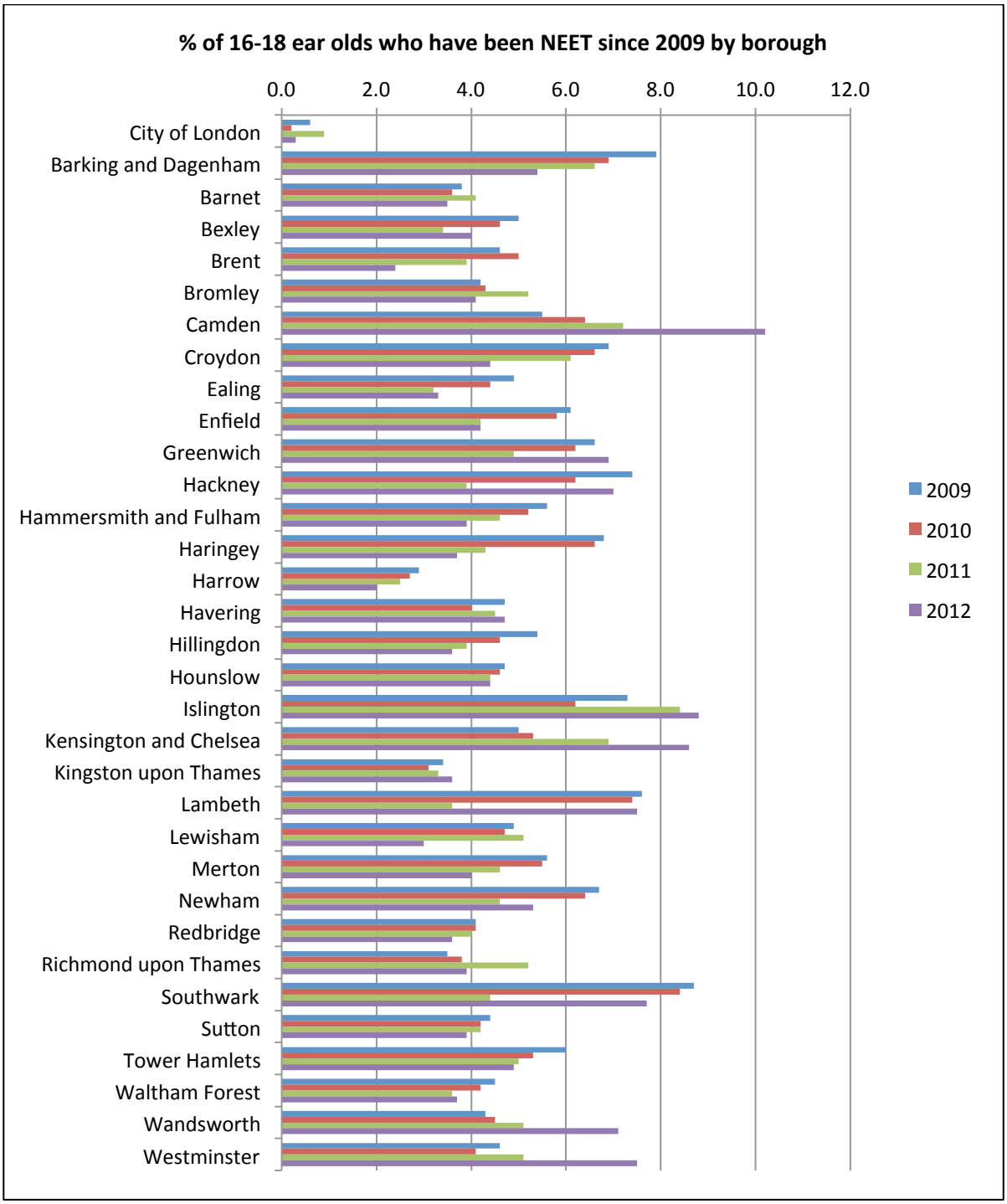


FIGURE 5.1 – The percentage of 16 to 18 year olds who have been NEET over the last 4 years, by their declared category.

## 5.2 16 to 24 year olds

Amongst 16 to 24 year olds, we see a different picture. Figure 5.2 shows that NEET levels in this cohort have changed very little in the last three years, but that inner London has seen levels dropping, while there were more NEET young people in outer London in 2012 than in 2010. This could be a result of demographic changes and the significantly larger population of young people in outer London.

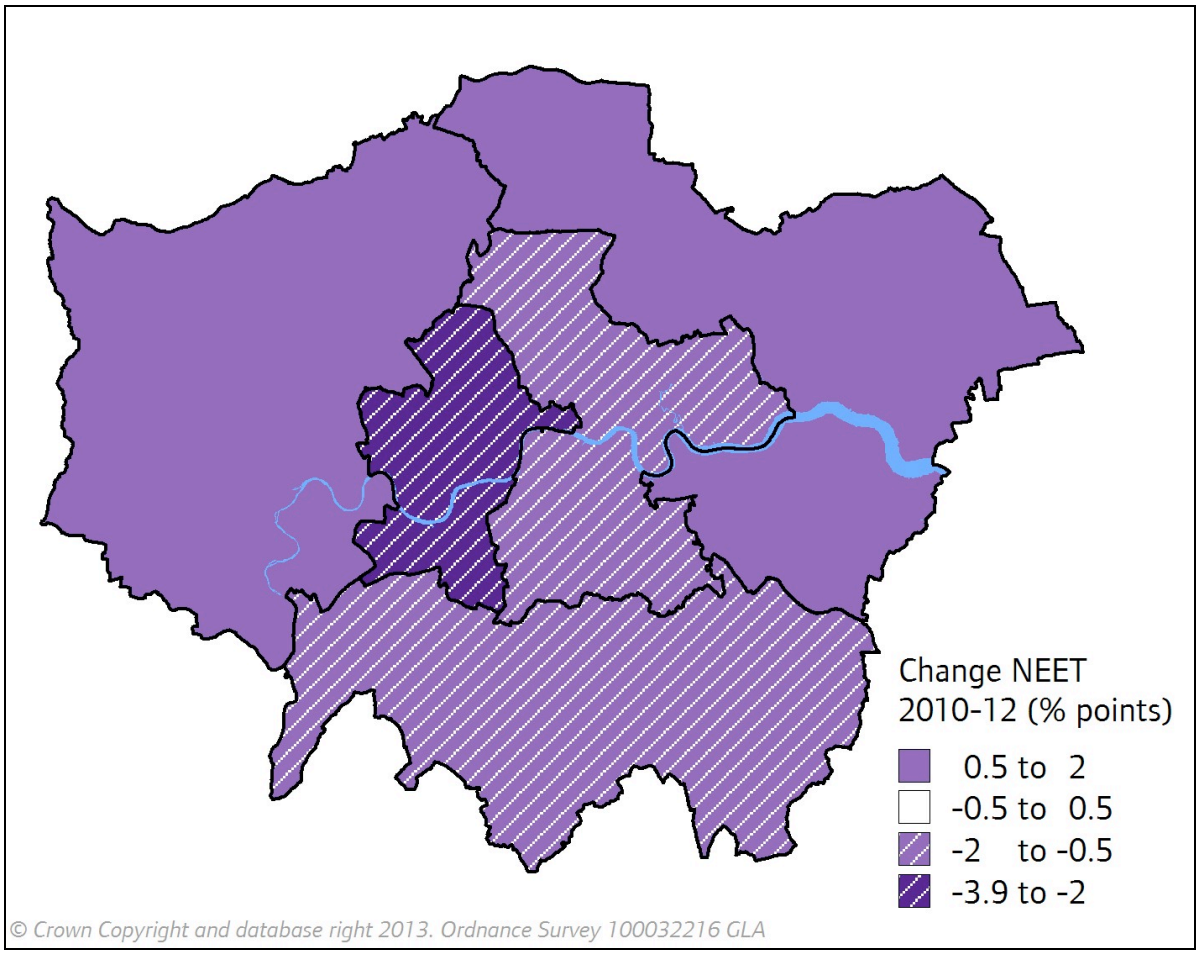


FIGURE 5.2 – Proportions of 16 to 24 year olds who are NEET, over the last 3 years.

## 5.3 Case study: Da Vinci Studio School of Science and Engineering in Stevenage [15]

Da Vinci Studio School of Science and Engineering is a studio school which opened in September 2012. Based in Stevenage, it is sponsored by North Hertfordshire College and offers a curriculum specialising in science, technology, engineering and maths.

At the heart of a studio school are seven key elements:

- Employability and enterprise skills – how the world of work operates, how wealth is created and managed, how to make your ideas come to life
- Key qualifications – students are taught the national curriculum at 14-16 with additional science/engineering/technology qualifications. At post 16 qualifications are available from the academic - science and mathematics - to the vocational - engineering and technology. Students gain credit for projects, both as qualifications and in industry led initiatives
- Personalised curriculum – students meet frequently with their 'personal coach' to tailor the curriculum to their individual needs and aspirations, to review their progress and to set regular targets

[15] Studio School Trust. Da Vinci Studio School of Science and Engineering, Stevenage

- Practical learning – learning is delivered mainly through themed projects in the school, local businesses and the community. These are varied and include science, engineering, technology and enterprise. These projects are led by employers keen to share their experience with young people to help them progress.
- Real work – students spend a significant portion of their weekly time in real work. At post 16 this is paid work
- Small schools – students learn in a small, supportive and personalised learning environment of around 300 students
- Students of all abilities can apply to join

Da Vinci School has a close partnership with local science and engineering employers including Astrium, GSK and Weldability who are involved in all aspects of the curriculum, offer work placements and industrial mentors, and provide real world problems and research projects for learners. The studio school also utilises the specialist facilities and equipment at the Stevenage Skills Centre, a local vocational training facility. Students can study a range of core qualifications including GCSEs, A levels and BTECs whilst developing a portfolio of personal and employability skills, which prepare them for employment or progression to apprenticeships or higher education. North Hertfordshire College is sponsoring another studio school planned to open in September 2013, specialising in the creative industries and enterprise.

## 6. Are London's young people attending the best universities?

The Mayor agreed in the final report of his Education Inquiry to champion greater collaboration between schools and leading research-intensive universities such as the Russell Group and 1994 Group, in order that all young people, particularly those from disadvantaged backgrounds, can both aspire to study at the best universities and succeed in their applications.

- 30% of young Londoners currently go on to study at university.
- 4% more young people living in inner London go to university than those living in outer London.
- The London borough with the greatest proportion of young people going to university is Harrow, where 60% of young people attend.

London itself offers excellent post-16 education and training routes, with more of the world's top universities than any other major city, and a range of further education colleges and sixth forms. However, at university-level, London education is a net importer of students, which makes it even more important that young Londoners are well equipped to take advantage of London's higher education offer.

The graph overleaf shows the percentage of young Londoners attending university in 2011.

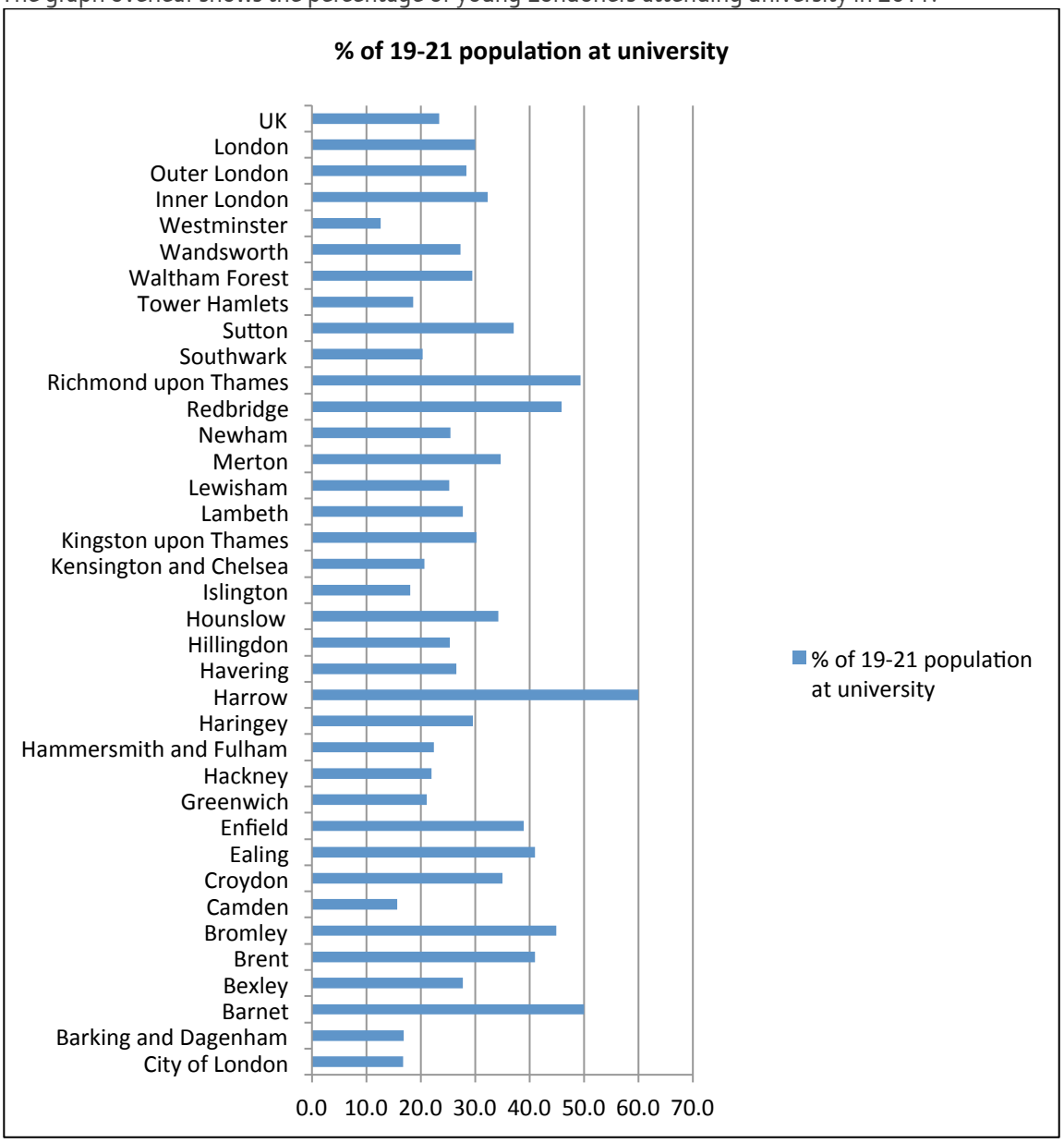


FIGURE 6.0 – Proportion of 19-21 year olds at university, by borough

The following graph shows the proportions of London's young people who attend Russell Group universities. This is broadly in line with the national average in terms of the proportion of young people attending Russell Group universities, but there are some boroughs where an exceptionally high proportion of those attending university go to Russell Group institutions, such as Kensington & Chelsea and Richmond upon Thames.

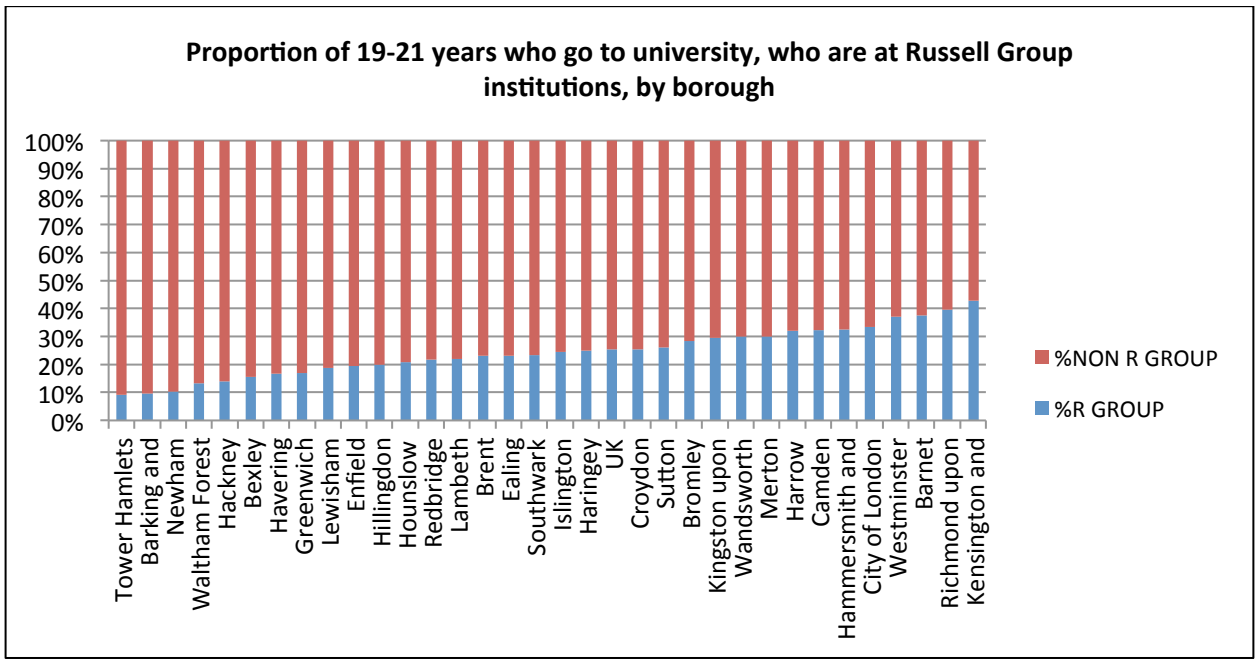


FIGURE 6.1 – Proportion of Londoners attending Russell Group institutions, by borough.

## 6.1 Case study: Imperial College London and the Pimlico Connection

The Pimlico Connection is a peer-tutoring scheme that has been running at Imperial College London since 1975. Imperical College students volunteer as classroom assistants and mentors in local primary and secondary schools on a Wednesday afternoon between November and March each year. The emphasis is on inspiring the pupils in STEM subjects whilst raising aspirations and providing a positive role model for both science and higher education.

Each year the scheme attracts over 100 student volunteers and has recently won the Outstanding Project Award at the Student Volunteering Awards in December 2004. The schools benefit from students:

- Sharing specialist knowledge with pupils and teachers
- Helping with English language/technical problems
- Targeting support to fast or slow learners
- Facilitating STEM projects in the classroom or after-school clubs
- Providing positive role models to motivate and raise aspirations.

A series of evaluation studies and papers were published about the way in which the Pimlico Connection was increasing pupils' aspirations to attend higher education and enhancing their knowledge of STEM. Although resources were not available to conduct a longitudinal, quantitative assessment of the effects of the Pimlico Connection in terms of pupils entering Higher Education, it was clear that having a Pimlico tutor in the classroom certainly increased the amount by which pupils were prepared to try. There are, for example, currently at least two student volunteers working for the Pimlico Connection who were themselves tutored by a Pimlico Connection volunteer some years ago at a state school within central London.

## Conclusion

This London Annual Education Report paints an encouraging picture of education performance in London but also shows how we must continue to work to maintain the rapid improvement that has taken place over the last decade.

This report has looked at the picture both across and outside London and shows that whilst the story for London as a whole is one of improvement and progress, there remains variation in performance across geographical and demographic boundaries. To be a global education leader we need to enable all children to reach their potential regardless of where they live or their families' income.

Much of the data presented in this report is not unexpected. Whilst all demographic groups of children perform well in London in comparison to their equivalents in other parts of the country, there are still significant differences in the performance of the most able and the most disadvantaged, with those eligible for free school meals performing less well. Children who are looked after and those with special educational needs perform the least well of all groups in London, as with the rest of the country. Improvement has taken place for these groups, but it has not been as rapid as for other young Londoners.

There are very strong examples of excellent practice for these groups, but the impressive results some disadvantaged children are achieving have not yet been seen across the board. By using the data to identify these differences we aim to stimulate dialogue and further research to enable us to develop a better understanding of the factors influencing this picture, and so help pave the way for sharing best practice and improving outcomes.

In order to take full advantage of the opportunities that the capital has to offer in terms of work and further study, young Londoners must be well equipped in STEM subjects and modern foreign languages as well as in literacy and numeracy. Whilst great improvements have taken place in London's performance in literacy and numeracy, a recent OECD report[16] shows that in literacy, the UK was ranked 13th and in numeracy 16th, falling behind world leaders such as Japan, Finland, the Netherlands, Australia and Sweden.

The London Annual Education Report also shows that uptake of modern foreign languages and STEM subjects in state schools is still relatively low compared with the independent sector and to other countries, and performance in these subjects is generally weaker. To address these subject-specific challenges we need to continue building our understanding of the factors that contribute to them, of which the quality of teaching is surely one.

The report shows that rates of participation in education or training amongst 16-19 year olds in London are good, but many still struggle to get a job after leaving education. Again the picture is better in London than at the national level, with 4.5% of young people not in education or training compared with 6.1% nationally. Similarly many young people in London go on to attend university, with more going on to Russell Group universities than in the rest of the country.

The better we understand what is happening in our city and how it is happening, drawing on good practice both at home and abroad, the more we will be able to keep building on London's success and address its challenges to make this city a truly global leader in education.

[16] VIEWING THE UNITED KINGDOM SCHOOL SYSTEM THROUGH THE PRISM OF PISA – 2009: http://www.oecd.org/pisa/46624007 .pdf

# Other formats and languages

For a large print, Braille, disc, sign language video or audio-tape version of this document, please contact us at the address below:

**Public Liaison Unit**
Greater London Authority
City Hall
The Queen's Walk
More London
London SE1 2AA

Telephone **020 7983 4100**
Minicom **020 7983 4458**
**www.london.gov.uk**

You will need to supply your name, your postal address and state the format and title of the publication you require.

If you would like a summary of this document in your language, please phone the number or contact us at the address above.

## Chinese
如果需要您母語版本的此文件，
請致電以下號碼或與下列地址聯絡

## Vietnamese
Nếu bạn muốn có văn bản tài liệu này bằng ngôn ngữ của mình, hãy liên hệ theo số điện thoại hoặc địa chỉ dưới đây.

## Greek
Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος εγγράφου στη δική σας γλώσσα, παρακαλείστε να επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυδρομικά στην παρακάτω διεύθυνση.

## Turkish
Bu belgenin kendi dilinizde hazırlanmış bir nüshasını edinmek için, lütfen aşağıdaki telefon numarasını arayınız veya adrese başvurunuz.

## Punjabi
ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਹੇਠ ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

## Hindi
यदि आप इस दस्तावेज की प्रति अपनी भाषा में चाहते हैं, तो कृपया निम्नलिखित नंबर पर फोन करें अथवा नीचे दिये गये पते पर संपर्क करें

## Bengali
আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি (কপি) চান, তা হলে নীচের ফোন্ নম্বরে বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

## Urdu
اگر آپ اِس دستاویز کی نقل اپنی زبان میں چاھتے ھیں، تو براہ کرم نیچے دئے گئے نمبر پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

## Arabic
إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى الاتصال برقم الهاتف أو مراسلة العنوان أدناه

## Gujarati
જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

GREATER LONDON AUTHORITY