



# Trends in Compulsory Education



Five trends can be identified in compulsory education across the UK: changes in the attainment gap between different pupil groups, rising pupil numbers, decreasing numbers of people entering initial teacher training, the growing use of technology and changing levels of school autonomy and diversity. Three factors are shaping these trends: population growth, inequality and the changing labour market.

## Background

Education is a public good that benefits society in many ways such as social cohesion and health. It also has significant economic implications with the OECD estimating that equipping all UK children with basic skills would result in a 143% increase in GDP.<sup>1</sup> This POSTnote outlines established and emerging trends in compulsory education and training, which includes pupils from 4 to 16 years old across the UK and up to 18 years old in England, for those born on or after 1 September 1997.<sup>2</sup> Education is a devolved issue and there are differences between the education systems in each of the four UK nations. The note focuses on trends at a UK level and outlines where trends differ in individual nations. It is divided into two sections covering:

- trends in compulsory education
- factors that shape these trends.

## Trends in compulsory education

Trends in five areas are considered in this section: changing attainment gaps between particular groups of pupils, increasing pupil numbers, decreasing numbers of trainee teachers, growing use of technology and changing levels of autonomy and diversity in UK education systems.

## Differences in attainment between pupil groups

Educational attainment is linked to social and economic ('socioeconomic') deprivation, ethnicity and gender. Where one social group outperforms another the difference in

## Overview

- Education is a devolved issue. This has led to differences in education systems between UK nations, making comparisons difficult.
- A number of key trends are playing out differently in UK nations and at primary and secondary levels.
- The attainment gap between disadvantaged and non-disadvantaged pupils has reduced in England and Scotland. In Wales it has decreased at primary level and increased at secondary level. There has been little change in Northern Ireland.
- Technology has the potential to change education but so far has not had a widespread measurable impact on child outcomes. It has had an impact on school administration and governance.

performance is referred to as an 'attainment gap'. Attainment is measured differently in the UK nations. England, Wales and Northern Ireland use a threshold measure. The 'primary threshold measure' is the percentage of pupils who achieve the expected standard (level four) or above in reading, writing and maths (this also includes science and Welsh in Wales). Scotland does not have a national measure of attainment at primary level.<sup>3</sup> Data on attainment gaps at primary level in Northern Ireland could not be identified. The 'secondary threshold measure' is the percentage of pupils who achieve five or more GCSEs at A\*-C including English (or Welsh) and Maths. For the purposes of comparison with other UK nations, this note uses an overall measure of attainment known as an 'average tariff score' to examine the socioeconomic attainment gap in Scotland. This measure was used in Scotland until 2012/13 but has since been replaced. To examine the gender attainment gap in Scotland, the note uses a threshold measure based on Scottish GCSE equivalents (five or more awards at SCQF level 5).

Across the UK, at secondary level, the percentage of pupils passing GCSE and SQA qualifications has been rising since 2000/01.<sup>4</sup> The picture is more mixed at primary level. The largest attainment gap is between pupils from different socioeconomic backgrounds.<sup>5</sup> It is bigger than both the largest ethnic minority gap and gender gap. Measuring trends in educational attainment is difficult because grading

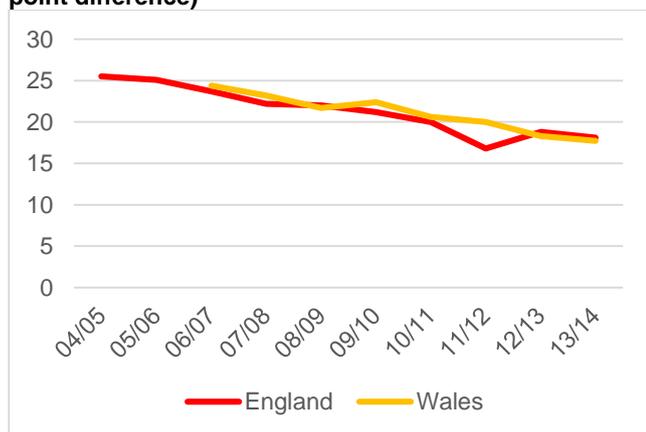
may not be consistent over time. For example, a 'B' grade in 1990 may not be the same as a 'B' grade in 2010. This may be because of revisions in the curriculum, examinations or assessment systems. A key area of focus in education research has been around understanding and reducing attainment gaps (see Box 1).

*The socioeconomic attainment gap*

Comparing data on socioeconomic attainment is problematic because definitions of the term vary from one nation to another.<sup>6</sup> England, Wales and Northern Ireland define it as the difference in attainment between pupils receiving and not receiving free school meals (FSM).<sup>7,8,9</sup> Pupils who have been in care continuously for at least six months are also included in the definition used in England. Scotland uses the Scottish Index of Multiple Deprivation, which combines 38 indicators across seven domains: income, employment, health, education, skills and training, housing, geographic access and crime.<sup>10</sup> The gap at primary level has reduced overall in England and Wales (Figure 1).

Figure 2 shows trends in socioeconomic attainment at secondary level in each UK nation. Data for Scotland is not comparable to that of England, Wales and Northern Ireland. The figures report data from 2006/07 although earlier data is available for England and Scotland. Overall, since 2006 there has been little change in the gap in England and Northern Ireland. The gap has increased in Wales. It has decreased in Scotland. Some researchers suggest that this may be due to other factors, such as data collection changes and interpretation.<sup>11</sup>

**Figure 1: Socioeconomic attainment gap at primary threshold level in England and Wales (by percentage point difference)<sup>12,13</sup>**



*The ethnicity attainment gap*

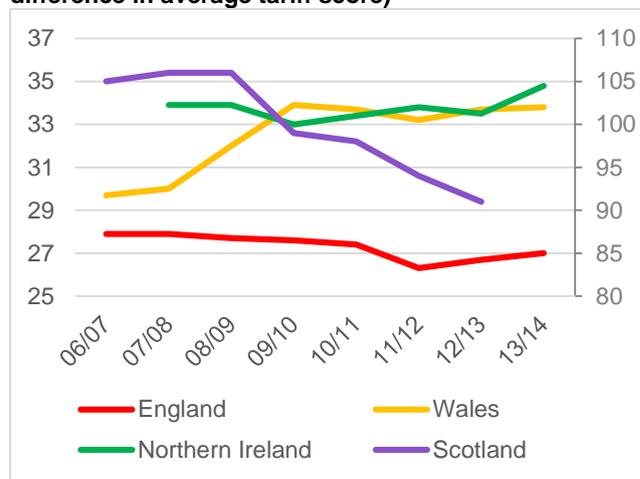
There are differences in attainment between pupils from different ethnic groups across the UK. Comparisons between UK nations is difficult because of low numbers of ethnic minority pupils in Scotland, Wales and Northern Ireland, and differences in data collection. This section presents attainment data at secondary level only.

In England and Scotland (since 2005/06) and Wales (from 2012-14) Chinese children perform best.<sup>14,15,16</sup> In 2005/06, the gap between Chinese pupils' average performance and the national average was 22 percentage points in England. The gap was 18 percentage points in 2013/14.<sup>17,18</sup>

Northern Ireland data (from 2008/09) do not differentiate between different ethnic minority groups and distinguish only between white and ethnic minority pupils. White pupils outperformed ethnic minority pupils (including pupils from white Irish Traveller backgrounds) by six percentage points in 2008/09 and seven percentage points in 2013/14.<sup>19,20</sup>

Data on underachieving ethnic groups for England, Scotland and Wales is more complex. How different ethnic minority groups are characterised changes over time within nations. As such, it is not possible to summarise it accurately here. For more detailed information see references for England,<sup>21</sup> Scotland<sup>22</sup> and Wales.<sup>23</sup>

**Figure 2: Socioeconomic attainment gap at secondary threshold level in England, Wales and Northern Ireland (by percentage point difference) and Scotland (by difference in average tariff score)<sup>24,25,26, 27</sup>**



**Box 1. Using research to improve attainment**

In 2011, the Education Endowment Foundation (EEF) was established in England to raise the attainment of children facing disadvantage.<sup>28</sup> In March 2013, the EEF was designated as the What Works Centre for Education. The EEF is one of seven What Works Centres covering social policy, which together seek to inform public spending of more than £200 billion.<sup>29</sup> The UK-based 'grass-roots' organisation ResearchED aims to raise teachers' research literacy and create more links between schools and research institutions.<sup>30</sup> Evidence suggests that schools are receptive to engaging with research.<sup>31</sup>

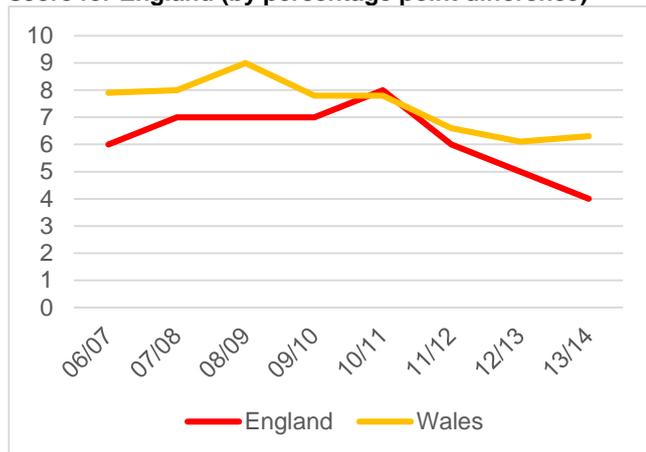
Research in three areas may impact UK education in the near future:

- **Teacher quality:** Teaching quality is key to pupil attainment, which has led research to focus on approaches to, and methods of, teacher education, from initial training and induction for beginning teachers, to on-going professional development.<sup>32</sup>
- **Preschool and early years:** There is good evidence that the first five years of a child's life strongly influences later achievement, particularly for children from low-income families.<sup>33</sup> Results from large-scale trials and assessments of early years' interventions show that early education can have a substantial impact on children's learning and development, albeit at a high financial cost.<sup>34</sup> There is debate about the forms of education that are appropriate in the early years.<sup>35,36,37</sup>
- **Insights from neuroscience:** Research in neuroscience has the potential to develop understanding of teaching and learning.<sup>38</sup> A £6 million scheme was launched in 2014 by the EEF and the Wellcome Trust to develop, evaluate and communicate the impact of interventions grounded in neuroscience research.

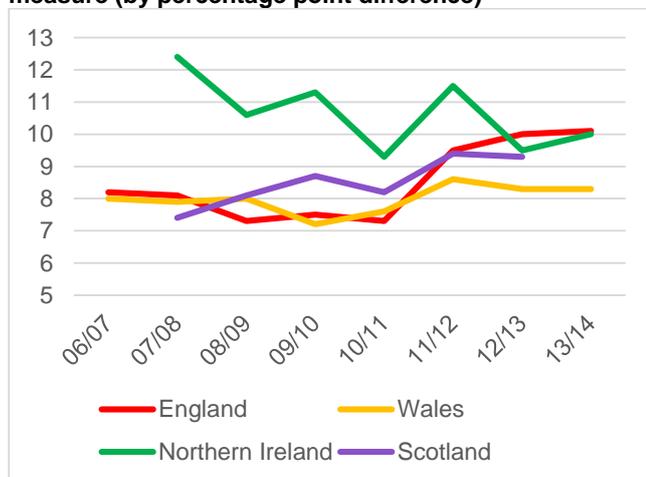
*The gender attainment gap*

Girls outperform boys at the end of primary schooling and at GCSE across the UK. At primary level, the gender attainment gap has decreased in England and Wales since 2006/07 (see Figure 4). Figure 5 shows that at secondary level the gap has increased overall in England and remained broadly the same in Wales. In Scotland, the gap has increased while in Northern Ireland the gap decreased overall but there is variation between different years.

**Figure 4: Gender attainment gap at primary threshold measure for Wales and Key Stage Two reading test score for England (by percentage point difference)<sup>39,40</sup>**



**Figure 5: Gender attainment gap at secondary threshold measure (by percentage point difference)<sup>41,42,43,44,45,46</sup>**



**Pupil numbers**

Pupil numbers have increased across the UK in recent years.<sup>47</sup> The balance between pupil numbers and school places varies between and within UK nations. There are differences across local areas and between schools.<sup>48,49</sup>

- Pupil numbers have been growing in England since 2001. Data going back to 1970 suggest that the number of children in primary and secondary schooling in England tends to follow a cyclic pattern of peaks and troughs. The number of children born in England between 2001 and 2011 was the largest ten-year growth since the 1950s and increased demand for primary school places. This is projected to continue beyond 2014/15 and is not expected to reach secondary schools until 2016.<sup>50</sup> Local authorities have a legal responsibility to provide sufficient school places.<sup>51</sup> The National Union of Teachers has

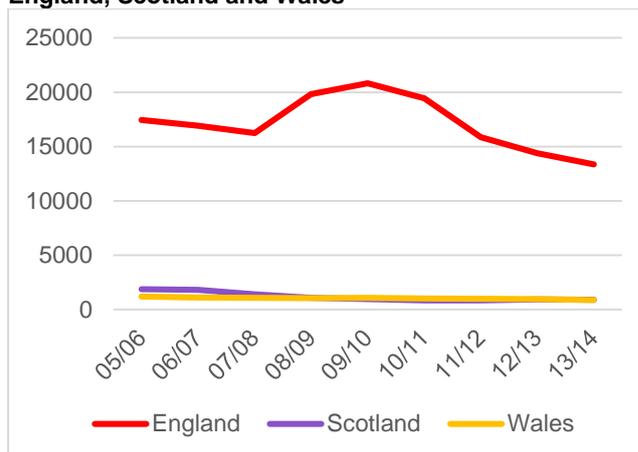
raised concerns that removing local authorities' power to create new schools limits the ability of the system to meet demand.<sup>52</sup> However, local authorities can still instruct existing maintained schools to expand, although they do not have this power over academies or free schools. Academies and free schools can be created by the Secretary of State for Education.<sup>51</sup>

- Pupil numbers at primary and secondary level fell by 2.8% in Scotland from 2007 to 2010.<sup>53</sup> Since then, the number of primary school pupils has increased although numbers of secondary school pupils continue to decline. Information on school places is not available in Scotland.
- The numbers of pupils in Wales has been increasing since 2011, reversing a long term downward trend.<sup>54</sup> The Welsh Government does not publish data on surplus school places in Wales. However, a 2012 report from Estyn, the Welsh inspectorate for education and training, found more unfilled school places in 2011 than 2006, with no local authority achieving the Welsh Government's recommended level of no more than 10% surplus places across primary and secondary schools.<sup>55</sup>
- In Northern Ireland there is a long term trend of falling pupil numbers (although since 2010 pupil numbers have started to go up at primary level) and there is a surplus of school places at both primary and secondary levels in all geographical regions.<sup>56</sup>

**Teacher numbers and distribution**

The number of people entering initial teacher training is declining at secondary level in England, Scotland and Wales since 2005/06 (see Figure 6).<sup>57</sup> Data could not be identified for Northern Ireland. With the exception of Wales, the ratio of pupils to teachers has remained constant across the UK at both primary and secondary level.<sup>58</sup> In Wales, the ratio of pupils to teachers decreased from 20.1 in 2010 to 16.1 in 2014. It increased from 16.5 to 20.8 at secondary level over the same period.<sup>59</sup> Teacher retention is also a concern in England (at primary and secondary level)<sup>60</sup> and Wales (at secondary level since 2010).<sup>61</sup> From 2008/09, there has been a general trend of unfilled teacher vacancies in Northern Ireland.<sup>62</sup> The distribution of teachers is a concern across the UK: the most highly qualified teachers tend to go to high performing schools in more affluent areas.<sup>63,64,65</sup> In Scotland, teacher recruitment is difficult in rural areas and for subjects including maths and science.

**Figure 6: Entrants to Initial Secondary Teacher Training England, Scotland and Wales<sup>66,67,68,69</sup>**



## Technology and education

Technology is being adopted increasingly in schools in the classroom, and in school administration and governance. Technology can be used to support many different methods and practices of teaching.<sup>70,71</sup> Most teachers use technology to supplement existing teaching methods.<sup>72</sup> Research has shown that technology does not in itself improve student learning: the impact on student learning depends on how the technology is used.<sup>73</sup>

One of the most promising ways in which technology could benefit teaching and learning is through changes to assessment.<sup>74</sup> Technology can provide rich data about the learning process that individual learners go through as well as about learning outcomes. This can support assessment and could lead to the development of more technologies that adapt to individual learner's needs.<sup>75</sup>

Schools now use technology to monitor attendance, share information among staff, store assessment records and manage their finances.<sup>76</sup> There is also a trend towards bringing together different datasets in education for research purposes. The Small Business, Enterprise and Employment Act 2015 will help link education datasets with datasets in other areas (for example income tax) in order to look at the relationships between specific educational features or qualifications and people's economic and social outcomes.<sup>77</sup>

## School autonomy and diversity

There is a trend in the English school system towards greater autonomy and diversity. In Wales there is a trend towards greater accountability. School autonomy refers to the level of control given to schools from local authorities (and central government in the case of curriculum). Individual schools can be given control over their curriculum, expenditure and resourcing decisions. Education systems can also contain a number of different types of school categorised by ownership, source of funding and responsibility for admissions.<sup>78</sup> Schools in England have more autonomy from local authorities than in other UK nations, and there is a greater diversity of types of school.<sup>79</sup> The English system now includes maintained schools, sponsored academies, converter academies, grammar schools, independent schools and free schools.<sup>80</sup> There is high diversity in terms of timetabling, delivery and beliefs about the purpose of education and learning.<sup>81</sup> In comparison, Wales has a stronger centralised education system with local authorities retaining a high degree of control. In recent years the Welsh system has seen a focus on accountability in order to improve school standards, and the introduction of four regional Consortia to oversee the local authorities.<sup>82</sup> There are also differences in curriculum and assessment between the UK nations, which has led to debate about what a good education system looks like and discussions about the purpose of education.<sup>83,84,85</sup>

## Factors shaping the trends

This section outlines three factors that affect UK education. These are: population growth, levels of inequality and the

changing labour market.

## Population growth

Population growth is raising demand for school places in urban areas. This is due a rise in the birth rate, which is primarily caused by an increase in the number of children born to non-UK-born women<sup>86</sup> (accounting for 78% of the increase in the number of births).<sup>87</sup> A study by the University of Bristol found that higher levels of educational attainment in London schools may be explained by the larger proportion of pupils of relatively recent immigrants.<sup>88</sup>

## Inequality

Increases in income inequality have been shown to be linked to lower educational attainment.<sup>89,90,91</sup> Income inequality refers to the extent to which income is distributed unevenly among a population (see [POSTnote 500](#)). In most OECD countries over the past 30 years, the gap between the income of the rich and poor has been rising. In the UK, different measures of inequality reveal varying patterns. Data from the 1970s shows that economic inequality (illustrated as the proportion of household income held by the top 1% of individuals and the ratio between the top 10% and the bottom 10% of the population) increased during the 1980s, tailing off thereafter and falling after the 2008 recession (see [POSTnote 491](#)).<sup>92</sup>

## Changing labour market

Concerns have been raised about the extent that schools are providing children with the right knowledge and skills for the labour market of the future.<sup>93</sup> This has led to changes in curriculum in both England and Scotland.<sup>94</sup> The English National Curriculum is the first country in the world to have mandatory computer programming at primary and secondary level (in maintained schools).<sup>95</sup> The UK has a long-standing problem with skills: one in five children leave school without basic maths and literacy.<sup>96</sup> Basic literacy and numeracy are necessary to develop digital skills and increasing numbers of jobs now require a high level of digital competency.<sup>97,98,99</sup> As such, basic skills will be essential in maintaining the UK's competitive advantage which depends on its capability to produce relatively high value added goods and services.<sup>100,101,102,103</sup>

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