Pearson

Digital in Schools

Investing in the future

At a glance: an £8.7 billion boost to the UK economy

Learning is a lifelong journey and we believe in the power of technology to enable and enhance education like never before.

While every school is unique, all schools should have the choice and the capability to harness technology to support learning.

Building on our work with schools, families and sector experts, we commissioned the Centre for Economics and Business Research (Cebr) to define digital transformation in UK state-funded schools and where strategic investment can provide educational and economic benefits.

Key finding

Investing in digital in schools could see an **£8.7 billion boost to the UK economy over a 10-year period**.

"Investing in digital transformation in our schools is an investment in our future. The benefits of technology extend far beyond the classroom – helping underpin student outcomes, freeing up teacher time and driving economic growth too."

Sharon Hague
Managing Director of
Pearson School Qualifications

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The current landscape

As we work with schools in the UK every day, we're privileged to support *and* witness the power of digital innovation and tech-enabled education in action.

However, that means we also understand and see the challenges schools face in incorporating technology...

Only 53% of teachers

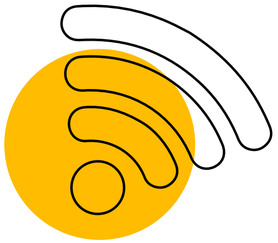
feel **confident using technology** in their role[1]

Almost half of teachers

said their **school doesn't have the adequate infrastructure** to adopt new technology[2]

Only 55% of schools

have access to **reliable Wi-Fi** across their whole school[3]



Defining digital transformation

We believe wholesale digital transformation is needed in schools – and as the world's lifelong learning company, we embrace our role in driving this forward.

Cebr | Pearson

See the full **research report**

About the Pearson-Cebr report

We asked Cebr to scope digital transformation in schools and where strategic investment can provide educational and economic benefits. Specifically, we asked them to:

- **define what 'good' looks like** in terms of access to technology in schools – using Pearson's digital transformation for UK schools framework as a guide
- **calculate the investment needed** to achieve this status
- **analyse the economic benefits** of making that investment.

In this summary report, you can discover the headline findings from our research.

About the framework

We provided Cebr with a high-level digital transformation framework, which we developed based on evidence from academic research and insights from educators and the sector.

Three key areas form the framework and should be the starting point for any national digital strategy:

- **Infrastructure** – investment in broadband connection and devices so that all schools are equipped to use technology effectively for teaching and learning
- **Leadership and teaching practice** – investment in Initial Teacher Training (ITT) and Continuous Professional Development (CPD) to support with digital leadership and effective pedagogy
- **Curriculum and assessment** – teaching and assessment of the digital skills students need for future life and work.

Our headline findings

Investment in digital in schools is an investment in the future

Investing **£130 million a year** in technology in schools could see an **£8.7 billion boost to the UK economy over a 10-year period**.

Cebr's analysis showed **four key areas would benefit** as a result of strategic investment in line with our Pearson's digital transformation framework for UK schools:

- **Teacher time saving**

  Teacher time savings of around £900 million would be seen in the first year alone – this is equivalent to almost 5 average working weeks.

- **Student skills, attainment and earnings**

  Improved skills through the use of EdTech would lead to higher student attainment, which in turn leads to higher productivity. As a result, additional earnings would grow from under £7 million in year 1 to around £200 million by year 10.

- **A more skilled workforce**

  Wider economic benefits from a more digitally skilled workforce would see returns starting at around £6 million in the first year and rising to around £180 million by year 10.

- **Positive environmental impact**

  There is the potential for nearly 2 million kg of CO_2e savings by the 10th year of the appraisal period – that's enough to power hundreds of households for a year.

Cebr's analysis shows that to achieve these benefits, we need to invest £1.3 billion over 10 years, which averages to around £130 million a year.

This investment has a benefit-cost ratio of 7.9, **meaning that for every £1 invested in digital technology in schools, there would be a £7.90 return for both the education sector and the economy**.

While this is high-level analysis, it clearly demonstrates that the benefits of investing in digital transformation in schools far outweigh the costs – and that these benefits can be realised from as early as year 1 of a 10-year plan.

A closer look: where investment is needed

In order to realise the benefits highlighted, our work with Cebr identified four key areas where investment is needed across UK state-funded schools. These are:

- **device provision**
- **broadband upgrades**
- **teacher training**
- **examination formats.**

Device provision

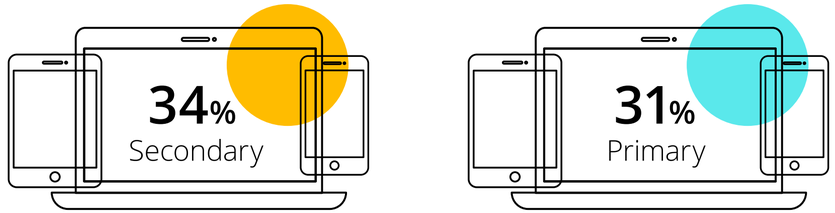
Effective use of EdTech requires and relies upon adequate hardware. There is a gap to be closed in the availability of devices in schools, including laptops, desktops and tablets, where there are disparities in provision between schools, especially at secondary.

Now

Cebr looked at the proportion of schools who reported, through BESA's research, that they had an insufficient number of devices.[4] This was **34% of secondary schools** and **31% of primaries**.

Next

Cebr's findings propose that those schools should be provided with additional devices so they match the average (mean) number of devices in schools nationwide.



Schools with an insufficient number of devices

> *"I have pushed to provide 1–1 devices [...] as I believe this will help reduce the digital divide and engage this generation in a way they can relate to. The impact it has had within just a few weeks [...] is overwhelming."*
>
> **Primary Middle Leader** [5]

A closer look: where investment is needed

Broadband upgrades

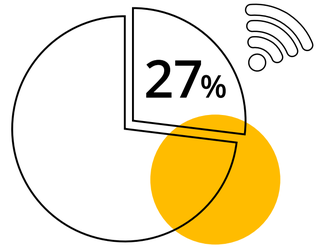
To successfully make use of EdTech, schools also need a broadband connection that teachers feel is sufficiently strong and reliable.

Now

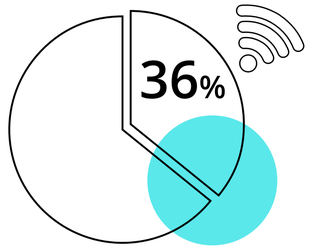
BESA's research showed **27% of secondary schools** and **36% of primary schools** report having slow internet speed.[6]

> *"I would love our primary schools to reflect the world we live in technology-wise."*
>
> **Primary SLT** [8]

Schools affected by slow internet speeds



Secondary



Primary

Next

Cebr have therefore proposed investment would be needed to overhaul the broadband network in this proportion of schools, and that investing at the top end of the range quoted by Classroom365 for broadband costs will achieve the desired improvement.[7]

A closer look: where investment is needed

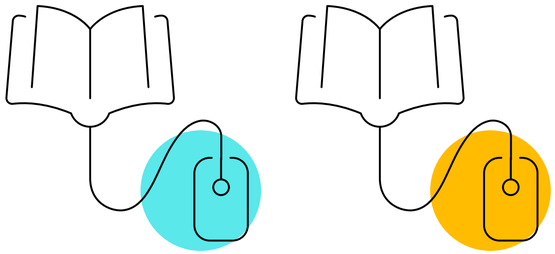
Teacher training

Now

Many digital innovators are trailblazing the use of EdTech both inside the classroom walls and beyond. And pleasingly, **over half (53%) of teachers** do **feel confident** using technology in their role.[9]

Yet there is much more to do. According to a Digital Poverty Alliance report, **24% of teachers** consider a **lack of confidence** in their digital skills to be a **barrier** to using technology in learning.[10]

It is therefore assumed that training is needed to support these teachers, so that their confidence increases to a level where they can use technology to positively impact learning.



24%
Lack of confidence is a barrier

53%
Feel confident

Educators' EdTech confidence levels

> *"The teacher that positively impacted my life is my current English teacher who brought us a new way of learning with tablets."*
>
> **Primary Pupil** [12]

Next

Cebr's analysis proposes 20 hours of training are needed per teacher that needs support, in line with the EdTech training that is currently available through the Education and Training Foundation.[11]

A closer look: where investment is needed

Examination formats

Now

Pearson currently offers a range of onscreen GCSE, International GCSE and International A level exams.

This is in addition to the word processing of exams (in line with JCQ arrangements) and interactive electronic question papers (e.g. editable PDFs) to support students' access arrangements.

Across Pearson Edexcel exams in summer 2024 alone, there were more than **14,000+ exams taken onscreen** in selected qualifications, plus **91,000 typed responses** and **13,700+ interactive electronic question papers** used.

Next

Given the increasing appetite for tech-enabled exams and projections Pearson has provided, Cebr expect to see more schools choosing these options for their students.

Cebr's high-level analysis projects positive environmental impact with reduced carbon emissions.

> *"Digital learning provides an exciting opportunity for developing and diversifying forms of assessment in the future."*
>
> **Secondary Teacher** [13]

Tech-enabled Pearson Edexcel exams in summer 2024:

14,000+
Onscreen exams

91,000
Word processed scripts

13,700+
Interactive electronic question papers

A closer look: what will it cost?

Cebr's analysis identified the following investment required for the proposed digital transformation

Cost-benefit analysis, all categories, constant 2025 prices, £ millions, net present value

Benefits	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Additional earnings	£6.7	£16.4	£29.4	£46.2	£69.0	£95.8	£122.9	£150.3	£177.5	£199.1
Wider productivity impacts	£5.8	£22.8	£43.2	£51.3	£71.6	£101.4	£129.8	£152.6	£170.9	£181.1
Teacher time savings	£894.1	£865.5	£836.2	£807.9	£780.6	£754.2	£728.7	£704.1	£680.2	£657.2
SEN teacher time savings	£50.1	£48.5	£46.8	£45.2	£43.7	£42.2	£40.8	£39.4	£38.1	£36.8
Emissions savings	£0.0	£0.0	£0.0	£0.1	£0.2	£0.3	£0.4	£0.5	£0.5	£0.5
Total benefits	**£956.7**	**£953.1**	**£955.7**	**£950.7**	**£965.1**	**£994.0**	**£1,022.7**	**£1,046.8**	**£1,067.2**	**£1,074.8**

Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Device provision	£39.4	£38.1	£36.9	£35.6	£33.4	£32.2	£31.1	£30.1	£28.5	£27.5
Device maintenance	£9.2	£8.9	£8.6	£8.3	£7.9	£7.6	£7.3	£7.1	£6.5	£6.2
Broadband	£27.2	£26.3	£25.4	£24.6	£23.7	£22.9	£22.1	£21.4	£20.7	£20.0
Teacher training	£71.3	£69.0	£66.7	£64.4	£62.3	£60.2	£58.1	£56.2	£54.3	£52.4
Total costs	**£147.1**	**£142.4**	**£137.6**	**£132.9**	**£127.3**	**£122.9**	**£118.8**	**£114.7**	**£109.9**	**£106.2**
Benefits minus costs	**£809.5**	**£810.6**	**£818.1**	**£817.8**	**£837.8**	**£871.1**	**£903.9**	**£932.1**	**£957.3**	**£968.6**
Net present value, Year 1–10	**£8,726.9**									
Benefit-cost ratio, Year 1–10	**7.9**									

Here, we can see that the main costs are associated with the provision of devices, improved broadband speeds and teacher training. However, the benefits far outweigh these costs, with substantial improvements in student attainment, teacher efficiency and environmental impact.

As previously referenced, Cebr's calculations are intended as a piece of foundational work – there are some generalisations and assumptions made that mean more detailed work would be required to provide exact costings.

A closer look: the benefits of digital transformation

As outlined at the start of this summary report, four key areas of benefit were identified as a result of delivering digital transformation. These are:

- **teacher time saving**
- **student skills, attainment and earnings**
- **a more skilled workforce**
- **positive environmental impact.**

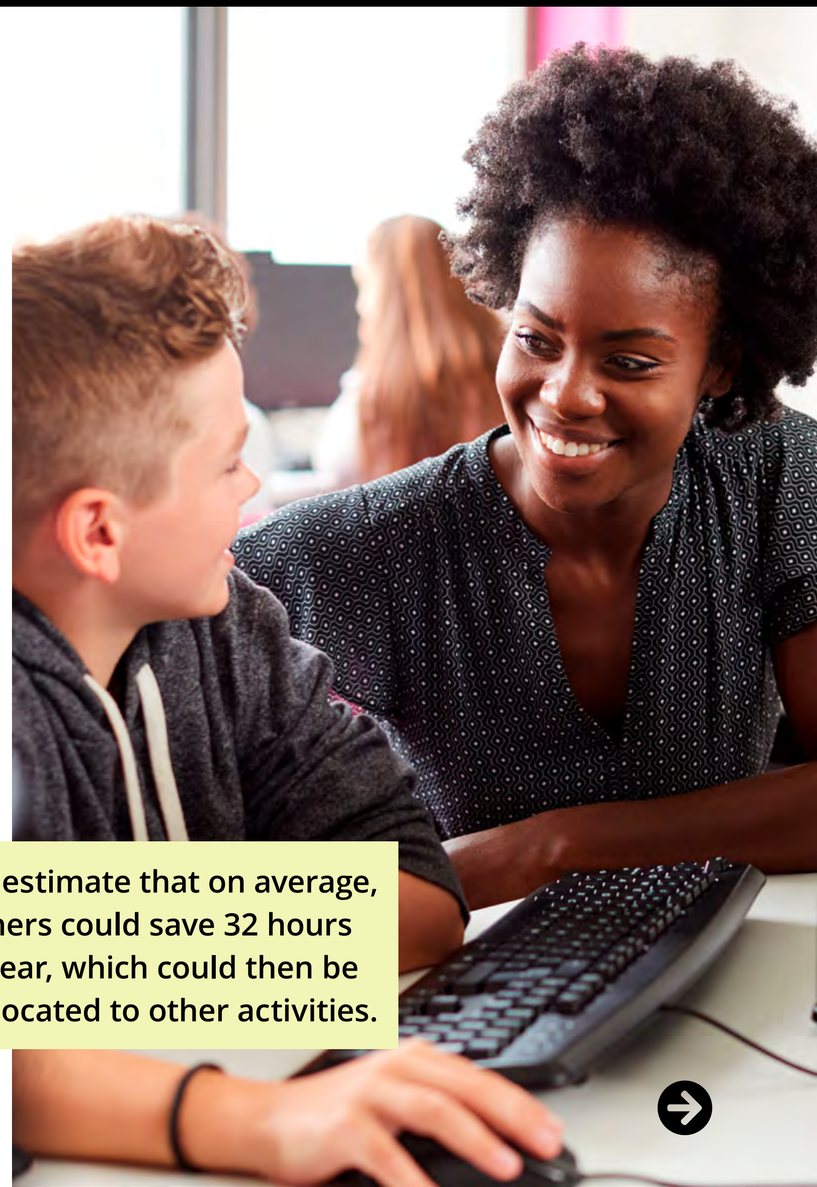
Teacher time saving equivalent to almost 5 average working weeks

Through the use of EdTech, teachers can save time on a range of tasks, particularly those of an administrative and repetitive nature. This can subsequently be refocused into higher-value activity, such as teaching time.

Based on research pieces by Pearson and McKinsey, Cebr estimate that on average, teachers would save 45 hours per year on administration and 115 hours per year on preparation.[14,15]

Additionally, research shows that EdTech has particular benefits for students with SEND. It was therefore identified that there was a further time-saving benefit for teachers in supporting these students. Cebr considered the amount of time teachers spend on behavioural, social, and emotional skills development with students.

Cebr estimate that on average, teachers could save 32 hours per year, which could then be re-allocated to other activities.



A closer look: the benefits of digital transformation

Student skills, attainment and earnings

A number of studies show a positive link between the use of EdTech and student attainment.[16,17,18]

Cebr's analysis focused on a study identifying a link between EdTech use and stronger GCSE performance, as well as Department for Education research that shows higher GCSE grades are associated with higher lifetime earnings.[19]

While the research data is limited to GCSE, this can be seen as a useful proxy for skills development and attainment more broadly. Through their use of EdTech, students develop their skills and are therefore likely to be higher attainers; this in turn means they are likely to benefit from higher lifetime earnings.

Cebr estimated that total additional earnings accrued by those using EdTech during schooling would be around £200 million by the end of the 10-year appraisal period.

A closer look: the benefits of digital transformation

A more skilled workforce

If students can make better use of technology in school, they will develop skills that will be of benefit when they enter the workforce, and ultimately this will lead to an improvement in productivity.

Cebr used Pearson's Faethm data set[20] and the Lloyd's Bank Customer Digital Index[21] to identify where the skills gaps are and where the biggest productivity gains would be.

Cebr calculated that by the end of the 10-year appraisal period, the boost to the UK's productivity over 10 years resulting from students' exposure to EdTech would be worth over £930 million.

Environmental impact savings – enough to power hundreds of households

Cebr worked with assumptions from Pearson that over a 10-year period, onscreen exam formats will increasingly be an option alongside traditional paper formats. As onscreen options are increasingly used, this would reduce the usage of materials and hence, reduce the emissions associated with exams.

Cebr based their analysis on emissions data relating to GCSEs. It was concluded that there is the potential for nearly 2 million kg of CO_2e savings in the 10th year of the appraisal period – that's enough to power hundreds of households for a year.

What's next?

To drive positive change, digital transformation will take time and a sector-wide effort.

Our goal with this Pearson-Cebr analysis is to help to progress sector-wide discussions on unlocking the benefits of technology in schools, along with practical suggestions for where investment is needed.

We're committed to continuing our advocacy for digital investment in schools. We call for a holistic national strategy and investment in digital transformation in schools to help equalise access, enhance teaching, learning and assessment, and better equip teachers and students alike for future life and work.

In 2025, we will launch a wider **Digital in Schools project** to help unlock the benefits of EdTech in schools – guided by research, insights and practical suggestions.

We invite you to join us in this conversation, bringing collective curiosity and constructive challenge to what's possible. Together, we can unlock the potential of technology in education, champion technology, overcome barriers, and enhance education for generations to come.

Share your thoughts with us

- **@PearsonSchools**
- **@PearsonUKSchools**
- **@Pearson UK & International Schools**

References and credits

All works accessed and accurate as of October 2024

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