Restoring balance in education: addressing the need for hybrid learning

Balancing digital and paper-based resources for classrooms

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Introduction

We live in an era of rapid technological advancement, and classrooms are feeling the effects. Interactive boards, laptops, online learning platforms and digital tools have become commonplace across the education sector. Yet, there is growing evidence that hard copy and paper-based learning materials remain vital, often being seen as more important than some technologies.

Further, UNESCO highlights that society's growing use of connected technology in education is widening several inequalities, with many students risking falling behind.[1]

To gain a better understanding, Epson recently commissioned research asking over 4,000 teachers and 20,000 parents across Europe for their input (see Methodology for full details). The research sought to understand how they feel classroom technology is impacting student outcomes. Through this research, we can more clearly see some of the challenges faced and the opportunities available to better support the future of education.

Key findings

71%
of teachers and 63% of parents want a greater focus on hard copy materials such as textbooks and worksheets in classrooms

86%
of teachers and parents have seen a positive impact from the use of traditional hard copy textbooks and worksheets in classrooms

40%
of teachers believe that laptops can have a detrimental effect on learning

39%
of teachers say that the use of laptops in classrooms has led to a decline in reading skills

In support of a more balanced use of technology:

Teachers:
57%

Parents:
52%

Technology's impact on learning

As education systems across Europe and beyond integrate more digital tools into classrooms, educators, parents and policymakers are grappling with how technology best supports learning. In many classrooms, paper has been replaced by laptops and tablets, and pens by keyboards.

And while these digital tools offer numerous benefits, there is a growing concern that their overuse may be hindering rather than enhancing educational outcomes. Educators and parents alike recognise the role that technology plays in modern learning, especially working collaboratively as a group, but Epson's latest research shows that a heavy reliance on digital tools – specifically laptops and tablets – can lead to learning gaps. Now, 40% of teachers believe that laptops can have a detrimental effect on learning.

Specifically, when asked to reflect on the impact of laptops within the classroom, 86% of teachers noted one or more challenges. Nearly two fifths (39%) say they've seen a decline in reading skills, 27% say it's reduced knowledge retention and 16% say they've seen a correlation with reduced attainment.

The impact laptops and tablets can have in the classroom, according to teachers:

A decline in reading skills

39%

Reduced knowledge retention

27%

Reduced engagement

25%

Reduced ability of a teacher to lead a lesson effectively

21%

Correlation with reduced attainment

16%

For parents, 58% report that managing screen time has become more challenging with the proliferation of tech-based homework assignments. This growing tension between home and school use of technology has led to a call for a more cohesive strategy, one where digital tools are seen not as a replacement for traditional learning but as a complement to it. It's a matter of rebalancing digital and paper-based resources for classrooms.

In fact, over 86% of teachers and parents have seen a positive impact from the use of traditional hard copy textbooks and worksheets in classrooms. Nearly two thirds (63%) of teachers say they improve reading skills while 47% of teachers – and 42% of parents – say that hard copy materials allow for greater knowledge retention.

These resources are also valued for their ability to accommodate different learning styles, with 44% of teachers and 46% of parents agreeing that they better support diverse learners. This creates an opportunity to invest in the right technology that supports, rather than replaces, hard copy materials.

Epson's findings align with growing academic evidence that suggests children learn better on paper than on individual screens.[2] Studies from institutions like Sweden's Karolinska Institute have highlighted that digital tools, while beneficial in some contexts, often impair rather than enhance learning when used excessively or without balance.[3]

While the research underscores some of the critical challenges associated with the increased use of technology in education, it also uncovers an opportunity to blend both worlds with more hybrid learning materials where digital and paper-based resources are used together. However, to achieve this, both parents and teachers will require the support of policymakers.

Aligning policy with classroom needs

The relationship between policymakers and educators has always been a delicate balance. Teachers are now concerned whether the decision-makers outside of the classroom are fully equipped to make the best recommendations about technology in education. In fact, 50% argue that these decision-makers aren't close enough to teaching to make the best recommendations.

Policymakers set the broader framework for educational standards, funding and curriculum requirements, they often rely on high-level data and general trends to make these decisions.[4] This can sometimes result in a mismatch between policy initiatives and classroom realities.

For instance, the widespread rollout of laptops across Europe following the COVID-19 pandemic was seen as a necessary step to bridge the gap in remote learning. In fact, the education sector was one of the strongest customers for laptops.[5] In their haste, policymakers may have overlooked the nuanced needs of students in traditional classroom settings, such as the different learning styles, development of reading comprehension and long-term knowledge retention.

The challenge, therefore, lies in balancing innovation with evidence-based teaching practices. All this must be informed by the knowledge of those on the front lines of education. Both parents and teachers often see the firsthand effects of policies aiming to modernise education, and their views should be considered.

Balancing technology and education

The findings of this research commissioned by Epson highlight that the solution lies not in eliminating technology from classrooms, nor in over-relying on it, but in striking the right balance and providing a hybrid approach to learning and learning materials. The majority of parents and teachers (52% and 57% respectively) support a model where technology is used to enhance teaching and learning, rather than for the sake of it.

More investment is needed in the right technology, including printers and collaborative, interactive displays, to support traditional methods and better align a balanced approach. This will allow students to develop critical digital literacy skills while still benefiting from the cognitive advantages that hard copy materials offer. The goal is to encourage a generation that is not only digitally proficient but also deeply engaged and with strong foundational learning skills.

Policymakers, technology manufacturers and their sales partners must collaborate with educators to ensure the right technology is integrated in ways that enhance learning, rather than disrupt it.

By addressing these challenges and seizing the opportunities, together they can create an education system that equips students with the tools and skills needed for the future while preserving the time-tested methods that promote deeper understanding and lasting knowledge retention.

Methodology

The research was commissioned by Epson, with fieldwork conducted via Focaldata's in-house platform, with API integration to an online panel network. In total, 4,239 teachers and 20,690 parents (of children aged 8-16) were surveyed across 20 European countries (shown below), between August and September 2024.

Finland: 1,028 parents, 243 teachers

Sweden: 1,005 parents, 216 teachers

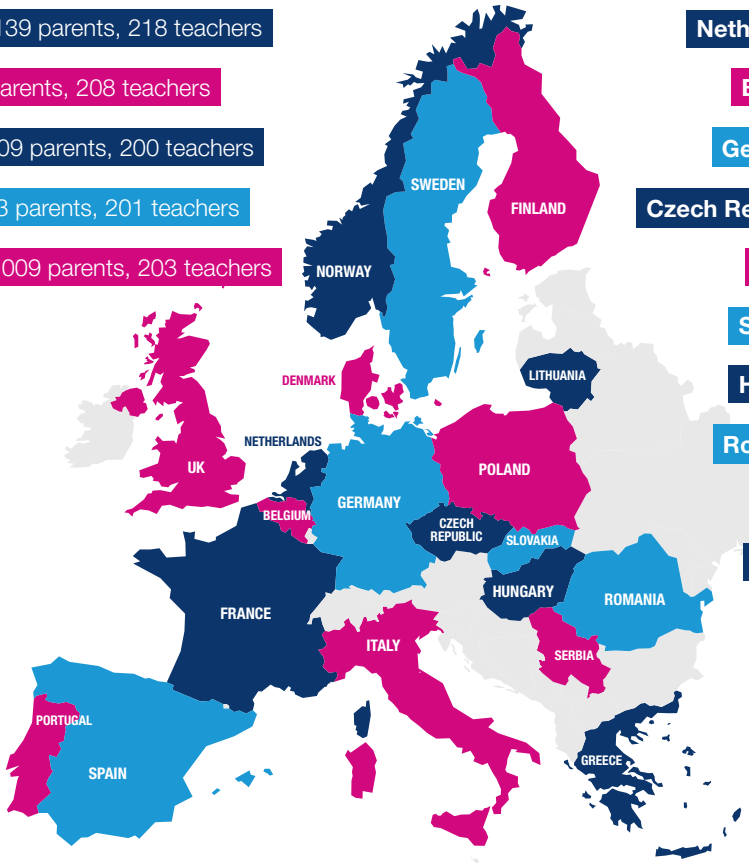
Norway: 1,139 parents, 218 teachers

UK: 1,006 parents, 208 teachers

France: 1,009 parents, 200 teachers

Spain: 1,013 parents, 201 teachers

Portugal: 1,009 parents, 203 teachers



Lithuania: 1,008 parents, 210 teachers

Denmark: 1,054 parents, 205 teachers

Netherlands: 1,127 parents, 225 teachers

Belgium: 1,021 parents, 207 teachers

Germany: 1,071 parents, 225 teachers

Czech Republic: 1,002 parents, 217 teachers

Poland: 1,032 parents, 203 teachers

Slovakia: 1,004 parents, 231 teachers

Hungary: 1,007 parents, 214 teachers

Romania: 1,008 parents, 207 teachers

Serbia: 1,060 parents, 200 teachers

Greece: 1,074 parents, 200 teachers

Italy: 1,013 parents, 206 teachers

Respondents provided insights into the perceived benefits and drawbacks of digital tools in education, as well as their preferences for balancing technology with traditional learning materials.

Further information

To learn more about Epson's education solutions, please visit
https://www.epson.eu/en_EU/verticals/business-solutions-for-education

1. UNESCO, An ed-tech tragedy? Educational technologies and school closures in the time of COVID-19
2. Columbia University Teachers College, Children Derive Deeper Meaning from Printed Texts Than Screens, According to New Brain Study from Teachers College, Columbia University
3. The Guardian, Switching off: Sweden says back-to-basics schooling works on paper
4. BERA, Towards a mechanism for expert policy advice in education
5. Microscope, Education still spending on laptops

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