

2nd Survey of Schools: ICT in Education

The study follows the Digital Education Action Plan Communication's call to provide more data and evidence regarding digitisation in education and digital technologies in learning.

The survey was conducted in a partnership between Deloitte and IPSOS, on behalf of the European Commission and builds upon the European Commission's first Survey of Schools: ICT in Education.

Objectives of the study

The **2nd Survey of Schools: ICT in Education** had two objectives:

1. **Objective 1: Benchmark progress in ICT in schools** - to provide detailed and up-to-date information related to access, use and attitudes towards the use of technology in education by surveying head teachers, teachers, students and parents covering the EU28, Norway, Iceland and Turkey;
2. **Objective 2: Model for a 'highly equipped and connected classroom'** - to define a conceptual model for a 'highly equipped and connected classroom' (HECC), presenting three scenarios to describe different levels of a HECC and to estimate the overall costs to equip and connect an average EU classroom with advanced components of the HECC model.

Objective 1: Benchmark progress in ICT in schools

The survey was carried out in **31 countries** (EU28, Norway, Iceland and Turkey), by conducting interviews with **head teachers, teachers, students** and **parents** (ISCED level 1: primary schools; ISCED level 2: lower secondary schools; ISCED level 3: upper secondary schools). A range of different topics was covered, including:

- Access to and use of digital technologies
- Digital activities and digital confidence of teachers and students
- ICT related teacher professional development
- Digital home environment of students
- Schools' digital policies, strategies and opinions

Key finding 1: Connectivity

The European broadband targets foresee that by 2025 all schools have access to Gigabit Internet Connectivity. In fact, being **connected to the Internet** is a prerequisite for schools to, for example, access up-to-date resources or access online learning platforms. In addition, schools are increasingly requesting **bandwidth-demanding applications** such as video streaming or video conferencing. However, the results of the 2nd Survey of Schools: ICT in education show that **less than 1 out of 5**

of European students attend schools which have **access to high-speed Internet** above 100 mbps. In addition to that, large differences between and within European countries prevail: whereas Nordic countries are clear frontrunners regarding the deployment of high-speed Internet in schools, other countries and schools located in villages/small cities clearly are lagging behind. The results of the survey, which show that the Gigabit connectivity goal is very much out of sight at the moment, clearly back the future Connected Europe Facility Programme's aim to support access to Gigabit connectivity for socio-economic drivers including schools.

Key finding 2: Coding & related gender gap

Digital skills including coding skills are essential so that everyone can take part in society and contribute to economic and social progress in the digital era. Coding helps practice 21st century skills such as problem solving or analytical thinking. The results of the 2nd Survey of Schools: ICT in education however show that students rarely regularly engage in coding/programming activities at European level. In fact, **79%** of lower secondary school students and **76%** of upper secondary school students **never or almost never** engage in **coding** or programming at school. In light of these figures, activities to strengthen students' coding skills at EU, Member States and local level need to be further scaled up. In fact, the goal of the European Commission is to encourage 50% of schools in Europe to participate in the **EU Code Week** by 2020, which is a grassroots movement promoting programming and computational thinking in a fun and engaging way.

Moreover, the results show that **female students** less frequently engage in coding than their male counterparts. On average, more than **4 out of 5 female** European students attending secondary schools **never or almost never engage in coding** school. These figures support the European Commissions' strategy to get more women interested in digital by tackling three areas: the image of women in the media, digital skills for girls and women and increasing the number of female tech entrepreneurs.

Key finding 3: Teachers' training

Continuous professional development is key for teachers to integrate digital technologies into their teaching practices. In fact, the results of the 2nd Survey of Schools show that more than **6 out of 10 European students** are taught by teachers that engage in professional development activities about ICT in their **own time**. In contrast, participation in a **compulsory ICT training** is less common. In short, as teacher training in ICT is rarely compulsory, most teachers end up devoting their spare time to develop these skills.

Member States have the important role to promote all forms of professional development, including incorporating digital skills in the curriculum of initial teacher training and in-service training of teachers. Their role also includes guiding schools in incorporating the goals on digital technologies in school policies, strategies and overall vision. To facilitate teachers' professional development and further integration of ICT in education, Erasmus+ offers many successfully established tools for exchanging best practices, peer learning and professional development of teachers at EU level (e.g. through tools as eTwinning, School Education Gateway, Teacher Academy, SELFIE) – more common efforts will be needed to further scale-up and promote them among schools, teachers and policy-makers. Furthermore, the recognition by Member States of those existing tools (e.g. by integrating eTwinning in the curriculum) and rewarding the use of those tools will be key.

Key finding 4: Parents

In this new era of pervasive technology, a **positive attitude of parents** towards digital technologies is key for the successful implementation of ICT at school. Unlike their parents, most students today were born in a completely digitised world. The results of this survey reveal that the **majority of European parents** nevertheless believe that digital technologies can help their children to study more efficiently.

The results show that parents recognise that the world has changed and that the use of ICT at school has become fundamental to prepare young people for the future: over **90% of the European parents** believe that the use of ICT at school will potentially help their child **find a job** in the labour market.

Moreover, parents can play a key role in helping their children face the challenges digital technologies may bring, including online threats. However, the dialogue between parents and child appears to decrease as children become older. The results show that only about **1 in 2 students attending secondary schools** regularly **discuss online risks** with their **parents**. In a similar vein, only about **1 out of 2 students attending secondary schools have parents that feel they know enough** about their child's computer use. These results are in line with the European Commission's Strategy for a Better Internet for Children. Among other things, the Commission co-funds Safer Internet Centres in Member States whose main task is to raise awareness and foster digital literacy among minors, teachers and **parents**. The Commission's Safer Internet Day is now a worldwide event in over 140 countries aiming to raise awareness of online safety. The Commission also launched in 2018 the EU-wide #SaferInternet4EU Campaign on online safety, media literacy and cyber-hygiene.

Objective 2: Benchmark progress in ICT in schools

The **second objective** of the '2nd Survey of Schools: ICT in Education' aimed at designing a **conceptual model** for a '**highly equipped and connected classroom**' (HECC), defining three scenarios of a HECC and estimating the **costs** to equip and connect an average EU classroom with advanced components of the HECC model.

- The **entry level scenario** outlines the **minimum and essential** components of a HECC.
- The **advanced scenario** further advances the entry level scenario, e.g. by entailing more advanced digital equipment, as well as a greater number of teachers' professional development activities and access to paid-for contents.
- The **cutting-edge level** is a further advanced scenario in relation to network requirements, it also includes a greater variety of digital equipment and increased opportunities for face-to-face professional development for teachers, and leadership training.

The results show that the **average cost per student per year** to equip and **connect an average EU classroom** with advanced components of the HECC model is in the range of **224-536 EUR**. This cost range includes costs for digital technology equipment, network requirements, professional development of teachers and for access to content. Costs for setting up the physical infrastructure in terms of high-capacity networks is not included.

Final report, country fiches and background material

- Final report Objective 1 - Benchmark progress in ICT in schools
- Executive summary Objective 1 - Benchmark progress in ICT in schools - French version available here

- Final report Objective 2: Benchmark progress in ICT in schools
- Executive summary Objective 2: Benchmark progress in ICT in schools - French version available here
- Specific country profiles are available for the following countries:
 - Austria
 - Belgium
 - Bulgaria
 - Croatia
 - Cyprus
 - Czech Republic
 - Denmark
 - Estonia
 - Finland
 - France
 - Germany
 - Greece
 - Hungary
 - Iceland
 - Ireland
 - Italy
 - Latvia
 - Lithuania
 - Luxembourg
 - Malta
 - The Netherlands
 - Norway
 - Poland
 - Portugal
 - Romania
 - Slovakia
 - Slovenia
 - Spain
 - Sweden
 - Turkey
 - United Kingdom

Additional background material (technical reports, questionnaires, etc.) is available in the form of the following documents:

- Technical report accompanying the Objective 1 report: Benchmark progress in ICT in schools
- Survey questionnaires in all translated languages
- SPSS file for head teachers
- CSV and SAS file for head teachers
- SPSS file for teachers
- CSV and SAS file for teachers
- SPSS file for students
- CSV and SAS file for students
- SPSS file for parents
- CSV and SAS file for parents

Related topics

Digital learning & ICT in education

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