



# **Re-imagining education – and the future classroom**

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# FRAMING A NEW POLICY

## THE CONTEXT

- Digital technologies mediate how most people interact, work and trade – though the same is not really happening at scale in education
- Learners expect more personalization, collaboration and better links between formal and informal learning
- Several countries are investing in ICT-based strategies to reshape education and training.
  - transforming, modernizing and internationalising education systems
  - with tangible effects on access to and cost of education and training, on teaching practices and worldwide reputation or branding.



## ***In Europe education is failing to keep pace with the digital society and economy...***

- 63% of nine year olds do not study at a 'highly digitally-equipped school'
- 70% of teachers recognize the importance of training in digital-supported ways of teaching and learning,
- But only 20-25% of students are taught by digitally confident and supportive teachers
- Between 50% and 80% of students in the EU never use digital textbooks, exercise software, broadcasts/podcasts, simulations or learning games
- Marked country differences across Europe

# The study recommends

- An integrated approach to ICT teaching in schools
  - investment in infrastructure
  - greater investment in teachers' training
  - Rewards for teachers using ICT in the classroom
  - creation of ICT coordinator posts.
- At EU level
  - Commission to work to reduce divergence in ICT teaching between countries
  - support projects on new approaches to teaching through digital technologies
  - support high quality digital learning resources for teachers
  - regularly monitor progress in the use of digital technologies and digital competence.

## The key questions we set out to answer

- Are our education systems delivering 21<sup>st</sup> Century skills – problem solving, collaborative and team working, creativity plus knowledge?
- How to keep schools & education relevant in global, interconnected world – anywhere, anytime, anyplace interactions and knowledge
- Why the lack of ICT skills?
- Why lack of students in STEM?

# Problems we need to address

- Implementation gaps and slow uptake
- Digital skills
  - key drivers for innovation, yet challenged by declining numbers of students in STEM, etc. and continuing brain drain
  - Teaching ICT at all levels – and using ICTs to teach
- Digital divide and access to knowledge - at individual and country level
- Inefficient use of resources
  - Economies of scale in creation and access to content ,
- Technological leadership

# Why is the policy context today different?

- Past efforts have replicated traditional models – "silo" approach to policies - educational, ICT, or digital economy/market and business opportunities
- Effective mainstreaming of ICT in education needs:
  - connectivity in the classroom (provision of and access to affordable broadband;
  - provision of and access to digital content;
  - integration of technologies in the classroom;
  - teachers with skills , training, incentive and reward.
- Approach needed – joining up policies and strategies – at all levels

# Opening up education

.... opening up education to the considerable benefits the digital revolution offers

- Creating and leading digital learning environments, teachers
- Creating and accelerating digital learning for better quality
- Working in digital service environments, products and

Communication from the  
Commission, joint initiative  
of Vice President Kroes and  
Commissioner Vassiliou

*A European agenda to seize the opportunities of the digital revolution in education and training*



# Opening up education

.... is about opening up education to the considerable benefits the digital revolution has to offer

- Increase **effectiveness of education** – OER, public procurement, sharing practices, opportunities to innovate
- Increase **equity** – knowledge more accessible to all, individuals get access to new learning opportunities, lowering costs
- Produce positive **impacts in the economy** – stronger more structured uptake of ICT and upskilling the workforce, helping industry manage disruptive change, new market opportunities through partnerships for infrastructures, new products and services
- Increase attractiveness of European education

*A European Agenda to seize the opportunities of the digital revolution in education and training – set out in 4 actions*

# Open Learning Environments

- Catalyse transformation in organisational strategies and innovative in teaching and learning practices.
- Empower teachers through digital competences, online communities of practice and rewards for innovation in teaching methods.
- Enable delivering of skills for the 21st century, and have them easily certified or recognised

# Open Educational Resources

- Ensure visibility and accessibility to high-quality European OER
- Making rights and obligations for educational materials under copyright more transparent and easier to grasp

# Connectivity and Innovation

- Enhance local ICT infrastructure (broadband, content, tools) across Europe
- Support interoperability between educational resources, services and devices
- Promote economies of scale in digital apps and digital contents markets

# Research and innovation at EU level – current focus

- Understanding of how ICT can improve learning processes and digital teaching practices - effectiveness and efficiency
- Central role of ICT in personalisation – working to the individual's needs
- Models of the future classroom – merging technology and teaching practices – improving the understanding of both
- Innovative tools – serious games, emotive computing, collaborative learning tools
- Cluster on technologies for teaching science and maths
- Extending brokerage and discovery of repositories
- Learning analytics

# Research and innovation – developing impact and supporting mainstreaming

- Tools at our disposal
  - Large scale pilots in real settings – growing the grass roots experiences
  - Showcasing them – at local, regional and national level – creating hubs of excellence, spreading excellence
  - Pre-commercial public procurement; support to specifications for joint procurement
  - Supporting industry – interoperability and standards
  - Multidisciplinary research & technology platform for networking and capacity building
  - Research focus on adaptivity, games

# Opening up education – a joined up effort by all stakeholders

- An integrated approach with all actors
- Grassroots approach with role for voluntary actions - networks of volunteer teachers, digital communities and ICT experts, coding clubs
- A platform open to all stakeholders to record and benchmark the digital state of educational institutions
- A better understanding of all opportunities that the digital revolution is yet to unfold.

## Opening up education - find out ore

- [http://europa.eu/rapid/press-release\\_IP-13-859\\_en.htm](http://europa.eu/rapid/press-release_IP-13-859_en.htm)
- [http://ec.europa.eu/education/news/doc/openingcom\\_en.pdf](http://ec.europa.eu/education/news/doc/openingcom_en.pdf)
- <http://www.openeducationeuropa.eu/>
- <http://ec.europa.eu/digital-agenda/en/education>

## And in conclusion

- *"The digital world is not just about machines and microchips: it's about giving people the tools to make their lives better, achieve their dreams and maximise their opportunities. Soon 90% of jobs could require digital skills: yet not enough Europeans are getting them. .. we can change this trend from the classroom. If teachers are themselves more confident using ICT, they can better inspire the next generation"*

Neelie Kroes, Vice-President of the European Commission.