PRODIGE

Zagreb Study Tour

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EU Digital Education Action Plan

(2021-2027)

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Overview of today's presentation

1. Background to the EU Digital Education Action Plan
2. What it is and what it consists of
3. What it means for HE institutions

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Background to the Digital Education Action Plan

Why did the EU create the Digital Education Action Plan?

- COVID-19 as catalyst
- Structural challenges exposed by the pandemic
- Digital divide and unequal readiness
- Need for coordinated European approach
- Connection with broader EU digital and skills agenda

What is the Digital Education Action Plan?

- Two main parts: 2 strategic priorities
- Under each priority: 7 actions
- Timeline: 2021–2027

2 strategic priorities

Priority 1:

High-Performing Digital Education Ecosystem

Priority 2:

Digital Skills and Competences

Priority 1: High-performing DE ecosystem

Infrastructure
- Connectivity
- Modern hardware
- Robust digital platforms

Institutional capacity
- Long-term strategy
- Leadership
- Support services

Teacher competencies
- Confidence w/ digital tools
- Blended learning design
- Technology in pedagogy

Governance and interoperability
- Common standards & aligned national strategies
- Compatible platforms

Ethical and secure digital systems
- Transparent technology
- Observing EU data security and privacy laws

Priority 2: Digital Skills and Competences

Basic digital skills
- Entire society
- Devices, online environments
- Safe and critical engagement

Advanced digital skills
- ICT specialists
- Innovators
- Competitiveness and leadership

AI, data literacy, cybersecurity
- Understanding
- Protection against digital threats

Upskilling and reskilling
- Adults, workers, teachers
- Training to cope with rapid technological change

Future workforce preparation
- Workers entering the labour market
- Thriving despite automation, AI, and emerging technologies

Key actions supporting PRIORITY 1

High-Performing Digital Education Ecosystem

1. **Structured dialogue**
   Identifying common challenges in EU countries and ways to overcome them

2. **Enabling factors for success**
   Promoting the necessary structural reforms at national level in EU countries

3. **Blended learning approaches**
   High-quality and inclusive education in primary and secondary schools

4. **Digital education content**
   Guidelines for teachers and interoperability framework

5. **Connectivity and digital equipment**
   Enhancing access to high-speed internet for schools

6. **Digital transformation plans**
   Support, resources and guidance at national level for education and training institutions

7. **Ethical guidelines on AI**
   Practical tips for primary and secondary teachers on using artificial intelligence

1. Structured dialogue

- Accessible, high-quality and inclusive digital education ← cooperation across society:
  governments + education institutions + private sector + civil society

- EC → structured dialogues with EU countries 2021 - 2023
  - "whole-of-government approach": **education + digitalization + employment + social affairs + finance sectors**

Key objectives
a) to mobilise EU **tools** (funds, dedicated programmes) → EU countries able to make additional reforms
b) to feed into **future action** → planned initiatives on digital education and skills

Key results
a) increased political commitment
b) shared experiences / best practices
c) greater awareness
d) adoption of the following acts:
   → *Council Recommendation on improving the provision of digital skills in education and training*
   → *Council Recommendation on the key enabling factors for successful digital education and training*

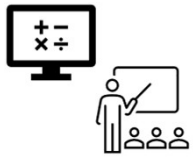
2. Enabling factors for success

- EC Recommendations → framework for investment, governance and capacity-building

Key objective:
to support **structural reforms**

Key priorities
a) coherent **national strategies** for DE / digital skills
b) improve monitoring, evaluation and evidence-based policymaking
c) "**whole-of-government**" approach + stronger **stakeholder cooperation** (esp. teachers/educators)
e) ensure digital training for all teaching staff
f) digital capacity-building in all education/training institutions

3. Blended learning approaches

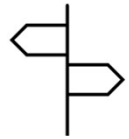


- COVID-19 pandemic → large-scale use of digital learning
- HE institutions = higher level digital capacity → online learning transition more successful
- many primary and secondary schools = limited expertise & access → struggled

Key objectives:
a) a shared understanding of blended learning
b) SHORT TERM: address the consequences of COVID-19 on learners, teachers/trainers, schools
c) LONG TERM: effective, inclusive and engaging approaches to blended learning in primary and secondary education → school education more flexible and inclusive of a broad range of pedagogical methods, technological tools, learner needs and changing circumstances.

Key activities
a) support knowledge sharing
b) develop resources, guidance material available on the European school education platform
c) support professional development opportunities:
→ Erasmus+ Teacher Academies
→ SELFIE tool for teachers

4. Digital education content guidelines



Key objective:
a) support educators when: selecting, creating, adapting, using digital resources
b) guidelines for safe, reliable, and effective learning

Content =

online lessons	structured digital textbook
videos	interactive maps
quizzes	materials generated by artificial intelligence (AI)

Target audience:

teachers/educators	school leaders
policymakers	researchers

Criteria:
a) curriculum alignment and pedagogical relevance
b) learning impact and assessment
c) learner engagement
d) accessibility and inclusion
e) reliability and security
f) legal compliance and copyright
g) technical compatibility
h) financial sustainability

5. Connectivity and digital equipment

- High-speed internet → access to a variety of online resources, platforms collaboration and tools
- Many schools in the EU - far from achieving digital capacity + high-speed internet
- Infrastructure gaps (broadband availability, adoption of digital technology)

Key objective:
a) to help reduce disparities
b) to address the uneven deployment of high-speed internet access in schools (gigabit and 5G connectivity for smart communities)
c) to encourage EU countries to make use of funding programmes (connectivity, digital technology, e-learning applications and platforms)

- EC – 2022-24 → 4 calls for proposals to accelerate secure 5G connectivity – total of €1bn

6. Digital transformation plans

ERASMUS+
- funding for cooperation projects on digital transformation planning
  (primary and secondary schools, VET, HE, and adult learning)

ERASMUS+ TEACHER ACADEMIES
to support the creation and application of
a) digital pedagogies
b) digital tools expertise for teachers, including accessible and assistive technologies

SELFIE for Teachers
- new online self-reflection tool for
  a) identifying strengths and gaps in digital competences
  b) planning further training
- basis: European Framework for the Digital Competence for Educators (2021)

7. Ethical guidelines on AI

- Opportunities + ethical / legal / pedagogical issues

- EC guidelines – for teachers/educators in primary and secondary schools
- Needed due to:
  a) increased use of AI in education
  b) compliance with the AI Act
  c) need for ethical and critical AI literacy
- Practical help directly applicable in teachers' setting

Content:
1) Guiding questions and scenarios + practical tools + examples for the classroom
2) Legal context with clear explanations of the AI Act and GDPR
3) Principles of responsible AI use
4) Glossary - AI and data terms + explanation why they matter in educational practice
5) Background extra resources: technical definitions, reference frameworks, policy context

Key actions supporting PRIORITY 2

Digital skills and competences

1. **Guidelines to foster digital literacy and tackle disinformation**
   Hand-on guidance for primary and secondary teachers

2. **Updating the European Digital Competence Framework**
   The inclusion of skills related to AI and use of data

3. **Digital skills certificate**
   A path towards certified digital skills across Europe

4. **Enhancing digital skills**
   Informatics guidelines for teachers and EU support

5. **Measuring student digital skills**
   Compare, analyses and set competence targets to strengthen evidence-based policy development across the EU

6. **Digital opportunity traineeships**
   Boost ICT talent in the EU

7. **Women in STEM**
   Empowering young women to develop digital and entrepreneurial skills

1. Guidelines on digital literacy and tackling disinformation

- Information bubbles + echo chambers + disinformation - affecting our democracies and well-being
- Guidelines for primary/secondary level teachers/educators

Content:

1) Practical tips to assess digital literacy
2) Glossary and lesson plans (critical thinking, cyberbullying and AI)
3) Digital pedagogy
4) Dimensions of disinformation + links to AI
5) Debunking / pre-bunking fake information
6) How to discuss controversial issues
7) Social media, influencers
8) Recommendations for school leaders and policymakers

International Computer and Information Literacy Study:

43% of 14-year-olds not reaching the basic level of digital skills

2. Updating the European Digital Competence Framework

- Society → need for basic understanding of new/emerging technologies to engage with them confidently, critically and safely

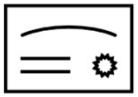
- Updated: Digital Competence Framework (skills, knowledge and attitudes re AI and the use of data)
- EC to support the development of AI learning resources for education and training

Key objective:
a) to empower citizens to become critical and responsible users of digital technologies/AI
b) to improve their understanding of AI's potential and limitations

Result: improved sensibility towards issues with emerging technologies
→ ethics
→ data protection / e-privacy
→ environmental sustainability
→ children's rights, discrimination and bias

- Educators in all sectors and at all levels need to have these skills to be able to implement these technologies in their work

3. Digital Skills Certificate



- Quality label for digital skills certification across Europe
- Based on the European Digital Competence Framework

BUT:

Feasibility study:

a) demand for EDSC in EU – limited
b) certificate should be better adapted to labour market needs
c) only moderate level of readiness for EDSC in EU → substantial effort re implementation and benefits
d) significant implementation and permanent operational costs
e) supporting digital skills development trumps certifying them

Way forward:

a) updating the **Digital Competence Framework** with learning outcomes
b) improving transparency and comparability of digital skills across Europe
c) supporting education, training and certification activities through practical guidance

4. Enhancing digital skills: informatics guidelines

Guidelines for teaching informatics:
– for primary/secondary schools to strengthen digital competence in the classroom
– beyond basic coding or digital literacy: understanding how technology works

The guidelines
a) support equity and inclusion - gender bias, non-inclusive teaching materials, unequal access to tools limit participation in informatics – esp. for girls
b) strengthen quality and consistency – often no specialised training or clear guidance
→ structured support
→ practical examples
→ trusted resources

Expected results:
a) improved digital skills across Europe
b) improved gender balance in ICT and STEM
c) stronger national digital education strategies
d) better support for high-quality informatics education

5. Measuring student digital skills

- Cross-national data on the level of digital skills of young people – limited (unlike other basic skills)
- More data needed to better understand why skill gaps arise
- EU countries could then formulate effective actions to address these gaps
- EC supports the collection + analysis of comparable data on young people's digital skills

- Target: share of low-achieving eighth-grade students (aged 13-14) to less than 15% by 2030
- Performance measured by the data from the International Computer and Information Literacy Study (ICILS).

Key activities:

- Financially support the participation of EU + third countries in the Erasmus+ programme in ICILS 2023
- Monitor progress
- Report on digital skills in the Education and Training Monitor (annual report)

Results:

- Internationally comparable data on digital skills in EU: from 7 countries in 2018 → to 22 EU countries in 2023
- More accurate picture of students' digital skills levels + factors influencing their development
- 43% of students possess only limited digital skills → EU faces a considerable challenge!

6. Digital opportunity traineeships

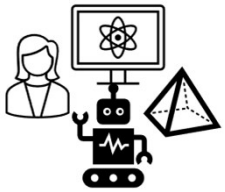
- 40% of people in EU in 2025 lack basic digital skills (Eurostat)
- Companies in EU struggle to find qualified workers to help them go digital
- Digital opportunity traineeships – 2018 pilot programme – 154,000 people
  → for undergraduates and recent graduates in all disciplines.
  → to gain hands-on valuable professional experience in digital skills: cybersecurity, big data, quantum technology, machine learning, web design, digital marketing, software development

- Programme extended twice – 2021 (higher education staff), 2022 staff in the school+VET+adult-learning sectors), ends in 2027

Expected results

- Improved digital skills for VET + university students and recent graduates
- Improved digital teaching skills for school, VET, higher education and adult learning staff

7. Women in STEM



Girls / Women:

- 1 in 3 STEM graduates (Eurostat, 2022); 1 in 5 ICT specialists (Digital Decade Progress Report, 2024)
- just 24% of self-employed professionals in technical professions ("She Figures" study ,2021)
- girls generally outperform boys in computer/information literacy (ICILS, 2023), but as they get older and at higher levels of education, girls tend to steer away from ICT and STEM subjects
- the share of women in ICT jobs in EU – up by just 0.5% 2012 - 2016

Key objectives:

- To increase the number of women studying, working and doing business in digital + STEM fields
- To improve female inclusion in the digital economy

Key activities for women:

- Digital + entrepreneurship skills training for girls in secondary education - online learning platform Girls Go Circular
- ESTEAM festivals to improve their digital+entrepreneurial skills to take opportunities, innovate and create value for society
- New HE programmes for engineering and ICT, based on the STEAM approach.

Results:

- 2022–2025 – 21 ESTEAM festivals; 4,400 women/girls across 38 countries, 2025 - final festival →ESTEAM guide pub.
- by 2024 – 47,000 female students received circular economy and digital skills training in 30 countries
- 2024-2027 - ambassador programme, expansion to the Western Balkans, educator training course development

European Digital Education Hub

- Online collaborative community - EDEH
- Connects education professionals, researchers, and policymakers across Europe and beyond

- Members collaborate on:
  - digital education policy
  - research
  - practices to tackle fragmentation in the field
  - address modern challenges – e.g. AI in education

- Serves as a central space for sharing
  - effective strategies
  - learning from peers
  - building cross-sector partnerships

- By joining you can:
  - help shape the future of digital education in Europe
  - get support and mentorship from experienced professionals
  - boost your innovative ideas and projects
  - stay up to date with the latest trends and best practices in education

What does the Digital Education Action Plan mean for the European HEIs?

Major transformation

- Governance
- Infrastructure & security
- Teaching & learning
- Staff development
- HEI cooperation
- Relationship to labour market

Governance

- Create a clear institutional plan for digital transformation – digital education strategy — Aligned with EU and national strategies
- Establish clear leadership and responsibilities
  → senior leadership involvement
  → digital transformation committees/roles
  → IT/AI/data governance structures
  → learning technology teams
  → Roles such as: Chief Digital Officer / AI Governance Lead / Director of Digital Learning
  Digital Pedagogy Coordinator
- Develop formal policies and rules: → online teaching
  → AI use
  → academic integrity
  → data protection and cybersecurity
  → digital accessibility
  → online assessment
  → ethical use of technology
- Improve coordination across the institution:
  → IT services, academic departments, libraries, student services, administration, quality assurance offices
- Investment and securing (sustainable) funding + accessing EU funding (Erasmus+, Digital Europe, Horizon Europe, Recovery and Resilience Facility)
- Financial management and appropriate resource allocation

Infrastructure and security

Building a strong + secure + sustainable + accessible digital infrastructure

Online learning
Hybrid teaching
Digital assessment
Communication
Administration
Collaboration across the institution

High-speed campus internet and Wi-Fi
Cloud services
Servers and storage & backup systems
Disaster recovery plans
Modern learning management systems (LMS)
Video conferencing platforms + facilities
Digitally equipped classrooms
Digital collaboration tools

Scalable!
· no of students
· digital resources
· data usage

→ keep growing

Student information systems
Learning platforms
Library services
Digital credentials,
Finance systems
Communication platforms

← Interoperable! - to achieve efficiency, institutional coordination, user experience

Accessible systems → students with disabilities/different learning needs
→ remote or disadvantaged students

Legal + quality requirement in the EU!

Cybersecurity & GDPR – vast amounts of

- personal data
- financial data
- research data + IP

Ransomware attacks on the rise!

Teaching & learning

→ The way of both teaching and learning changes
→ The content and format of education changes

- HEIs – increasingly asked to embed digital competences into all programmes of study
- Teachers – digital pedagogy skills
- Graduates of non-ICT disciplines – strong digital skills for the modern labour market
- Curriculum reform
- Interdisciplinary approach to digital competence development

- EU Digital Education Action Plan – importance of lifelong learning + reskilling + upskilling
- HEIs – central role in this!
- Flexible learning pathways:
  → microcredentials & short courses
  → stackable qualifications
  → online professional education
  → modular learning structures

Strong emphasis on:
- Inclusive learning design + accessible digital content (students with disabilities or disadvantaged or remote)
- Appropriate student support services
- Student engagement
- Online assessment
- Quality digital learning resources

Staff development

Academic staff - great challenges:

- Expected to have advanced digital pedagogy skills and online teaching methods (not just uploading materials online!)
- Expected to teach effectively in both online, hybrid and conventional learning environments
- Pandemic showed many educators lacking these skills
  → major investment in academic staff upskilling

HEIs must:

A) Provide continuous professional development (CPD) supported by institutional ecosystems in a range of fields:

- Digital course design
- Accessible course design
- Ethical use of AI, dealing with plagiarism
- AI-supported teaching
- AI-assisted & online assessment
- Student engagement
- Flexible course delivery
- Digital well-being

B) Recognise and reward digital teaching innovation – not just research!

Role of teachers → from content delivery to facilitation, mentoring, learner support

Cooperation with other HEIs

EU Digital Education Action Plan encourages universities to become part of connected European digital education networks:

Cross-border collaboration

- European cooperation
- student mobility
- shared learning
- cross-border innovation
- co-teaching
- shared online modules
- collaborative digital learning platforms
- shared infrastructure and resources

Virtual mobility

- virtual exchange
- online international classrooms
- shared online courses
- collaborative digital learning
- international online projects

University alliances

- joint programmes
- shared courses
- research
- collaboration
- digital learning
- student mobility

= European inter-university campuses

Recognition of digital / micro credentials

- compatible systems
- interoperable digital credentials
- recognition of learning across countries
- European standards,
- microcredential framework

= easier recognition of learning across EU

Alignment with labour market needs

- Link to the labour market → one of the core ideas behind the Digital Education Action Plan
- EU very worried about:
  → digital skills shortages
  → rapid technological change
  → automation and AI
  → future competitiveness of the European economy
- Education – strongly linked to employability and workforce preparation

Implication #1	Implication #2	Implication #3	Implication #4	Implication #5
HEIs expected to help students develop skills employers need: digital literacy required in all fields of study	HEIs expected to regularly update curricula, monitor labour market trends, demonstrate labour market relevance of courses	HEIs expected to support adult learners, professionals, and lifelong learners → HEIs are now lifelong learning providers, not just degree providers	HEIs expected to cooperate with industry to increase graduate employability + women in STEM	HEIs and industry to develop internships, digital traineeships, co-designed curricula, industry guest lecturers, and collaborative projects

Trends and the future

- AI
- Data analytics
- Flexible learning
- Digital credentials & interoperability
- Lifelong learning

AI

AI increasingly used to support
- personalised learning
- automated feedback
- adaptive assessment
- student support services

Generative AI tools beginning to influence
- teaching practices
- academic writing
- assessment methods

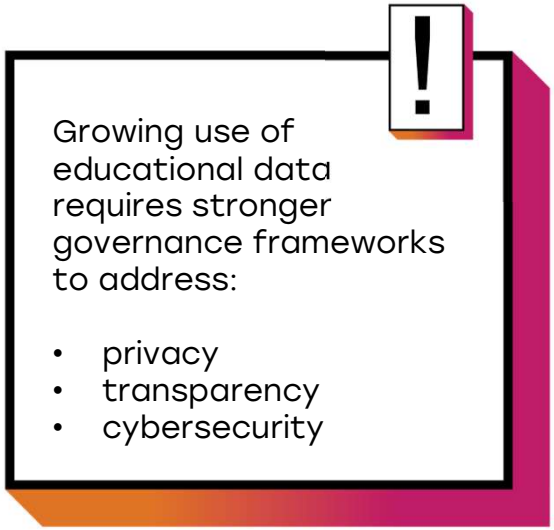
Concerns regarding
- ethics
- bias
- data privacy
- academic integrity

→ Universities and policymakers - focusing on trustworthy and human-centred approaches to AI in ducation

Data analytics

HEIs collect and analyse learner data to
- improve teaching quality
- identify students at risk
- provide more personalised support

Learning analytics
- Supports evidence-based decision-making
- Improves student success rates



Flexible learning

- Microcredentials and flexible learning pathways – increasingly important
- Traditional full degree programmes gradually expanding & include shorter targeted learning modules:

→ Microcredentials
- to acquire specific skills in flexible education formats
- support professional development and lifelong learning
- EU supports a common approach to microcredentials and digital credentials to improve portability and recognition Europe-wide

→ Digital credentials & interoperability
- qualifications + skills records – stored + shared digitally
  → easy for learners to prove competence across institutions & borders
- supports mobility, employability, international cooperation

Lifelong learning

Lifelong learning - emerging as a key feature of future education systems

Rapid technological advancements → need for continuous reskilling and upskilling throughout careers

Universities – evolving:
- traditional degree providers → long-term learning partners
- offering flexible and continuous education opportunities to learners of all ages

Good luck to you all

on your path to digital education!

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