Educating to Thrive in the Digital World

Webinar Background Note

Community for Educational Innovation - CEI

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European Commission | CEI

BACKGROUND NOTE

Educating to Thrive in the Digital World

Thematic Strand 3: Education for Green and Digital Innovation

The Community for Educational Innovation (CEI) webinars bring together education, research, industry, civil society and public sector stakeholders to share good practices and discuss innovation in education. These sessions focus on strategic competence development to boost student success and advance education and training systems, aligning with the Communication of the European Commission on the Union of Skills.

This document outlines the background and key questions for the upcoming webinar 'Educating to Thrive in the Digital World' on 29 April 2026.

Digital transformation is reshaping every dimension of modern societies, from how individuals communicate and work to how educational institutions teach and generate knowledge. Digital skills have become essential for civic participation and economic inclusion, and "boosting digital skills at all levels helps increase growth and innovation and build a fairer, more cohesive, sustainable and inclusive society."[1] However, significant digital competence gaps persist across Europe. In 2023, only 55% of EU adults had basic digital skills,[2] 25 percentage points below the 80% target set for 2030 under the Digital Decade policy programme.[3] At the school level, 43% of secondary students did not reach basic digital proficiency.[4] Widespread exposure to technology has not automatically translated into the digital competences needed to use it critically and responsibly.

Policy framework for digital education

The digital education framework is nested within the vision of *Shaping Europe's Digital Future*[5] and the *Digital Decade Policy Programme 2030*.[6] These high-level agendas set the mandatory targets for the EU's digital transformation, positioning

[1]European Commission, Digital Education Action Plan 2021–2027, COM(2020) 624 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52020DC0624

[2]Eurostat, *Digital skills in 2023: impact of education and age*, 22 February 2024, https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240222-1

[3]Decision (EU) 2022/2481 establishing the Digital Decade Policy Programme 2030, OJ L 323, 19.12.2022, https://eur-lex.europa.eu/eli/dec/2022/2481/oj/eng

[4]Binder, K., *Growing focus on digital skills, European Parliament Think Tank*, 4 March 2025, https://epthinktank.eu/2025/03/04/growing-focus-on-digital-skills/

[5]Communication on Shaping Europe's Digital Future, COM(2020) 67 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52020DC0067

[6] Decision on establishing the Digital Decade Policy Programme 2030, OJ C 323, 19.12.2022, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022D2481

education as both a beneficiary of infrastructure and a primary driver for developing a digitally competent workforce.

To operationalise this vision specifically for the learning sector, the Commission adopted the *Digital Education Action Plan (DEAP) 2021–2027*.[7] As the core strategic engine, the DEAP translates broad digital goals into two educational priorities: fostering a high-performing digital ecosystem and enhancing digital skills. This strategy has already yielded functional tools, such as the *European Digital Education Hub,*[8] *diverse practitioner guidelines*,[9] and the *digital competence frameworks for citizens*,[10] which provide the standards for citizens and educators.

Building on the DEAP's strategic foundations, the Council adopted two Recommendations in 2023 that establish a formal EU-level governance framework. These instruments move from vision to national implementation:

- **Key enabling factors for successful digital education and training**:[11] This Recommendation calls on Member States to shift from ad hoc responses to strategic, whole-of-government coordination. It emphasises institutional capacity building and impact-focused investment, ensuring that technology serves pedagogical outcomes rather than being an end in itself.
- **Improving the provision of digital skills and competences in education and training**:[12] This acts as a roadmap to reach the 2030 Digital Decade targets. It focuses on lifelong learning trajectories, from early childhood to adult upskilling, and mandates the strengthening of informatics and advanced skills (AI, cybersecurity) within VET and higher education.

While these Recommendations guide development, the *Artificial Intelligence Act* (2024)[13] introduces a necessary layer of binding regulation. As the framework is phased in through 2026, it classifies AI systems used for student assessment or behaviour monitoring as 'high-risk.' This elevates AI governance from a

[7] Digital Education Action Plan 2021-2027: Resetting education and training for the digital age, 2020, https://education.ec.europa.eu/sites/default/files/document-library-docs/deap-communication-sept2020_en.pdf

[8] European Digital Education Hub, https://education.ec.europa.eu/focus-topics/digital-education/action-plan/european-digital-education-hub

[9] New guidelines to help teachers lead Europe's digital education, 5 March 2026, https://education.ec.europa.eu/news/new-guidelines-to-help-teachers-lead-europes-digital-education

[10] Updating the European Digital Competence Framework, https://education.ec.europa.eu/focus-topics/digital-education/action-plan/updating-the-european-digital-competence-framework

[11] Council Recommendation on the key enabling factors for successful digital education and training, 23 November 2023, OJ C/2024/1115, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C_202401115

[12] Council Recommendation on improving the provision of digital skills and competences in education and training, 23 November 2023, OJ C/2024/1030, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C_202401030

[13] Regulation (EU) 2024/1689 laying down harmonised rules on artificial intelligence (AI Act), OJ L 2024/1689, 12 July 2024, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401689

pedagogical choice to an immediate operational and compliance priority for all education providers.

Finally, to ensure these educational advancements align with economic needs, the framework connects to the *European Skills Agenda*[14] and the *Pact for Skills*.[15] These workforce-facing initiatives are now consolidated under the *Union of Skills* (2025).[16] This evolution reinforces the commitment to closer alignment between education providers and employers, ensuring that the digital competences developed within the classroom translate directly into the high-quality jobs required for Europe's digital transition.

Digital competence frameworks

The European Commission has developed three frameworks to standardise digital competence across educational areas. These frameworks provide the technical criteria used to design assessment tools, professional development programmes, and national education strategies:

- **DigComp 3.0 (European Digital Competence Framework for Citizens):**[17] Aimed at all citizens, this framework defines five core areas of digital competence, including Information & Data Literacy, Communication & Collaboration, Digital Content Creation, Safety, and Problem Solving.
- **DigCompEdu (European Framework for the Digital Competence of Educators):**[18] Aimed at all educators, this framework outlines 22 competences across six strategic areas—professional engagement, digital resources, teaching & learning, assessment, empowering learners, and facilitating learners' digital competence—serving as a foundation for self-assessment and continuous professional development (CPD).
- **DigCompOrg (European Framework for Digitally-Competent Educational Organisations):**[19] Aimed at schools and educational organisations, this framework focuses on seven organisational dimensions: teaching practices,

[14]European Commission, *European Skills Agenda for sustainable competitiveness, social fairness and resilience*, COM(2020) 274 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52020DC0274

[15]European Commission, *Pact for Skills*, https://pact-for-skills.ec.europa.eu/index_en

[16]Communication on the Union of Skills, COM(2025) 90 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025DC0090

[17]Cosgrove, J. and Cachia, R., *DigComp 3.0: European Digital Competence Framework – Fifth Edition*, Publications Office of the EU, 2025, https://data.europa.eu/doi/10.2760/0001149

[18]Redecker, C., *European Framework for the Digital Competence of Educators: DigCompEdu*, Publications Office of the EU, 2017, https://publications.jrc.ec.europa.eu/repository/handle/JRC107466

[19]Kampylis, P. et al., *Reviewing the European Framework for Digitally-Competent Educational Organisations (DigCompOrg)*, Publications Office of the EU, 2015, https://publications.jrc.ec.europa.eu/repository/handle/JRC98209

collaboration, leadership, infrastructure, staff competences, continuing professional development, and assessment.

The DigComp frameworks are operationalised in practice through the SELFIE tools (Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies), which provide free, structured self-assessment processes to help identify gaps, set priorities and track progress against the competence standards the frameworks define:

- **SELFIE for Schools:**[20] Whole-school self-reflection tool gathering views from leaders, teachers and students to assess digital maturity and identify priorities.
- **SELFIE for Teachers**:[21] Individual self-assessment of teachers' digital competences and pedagogical practices.
- **SELFIE for Work-based Learning**:[22] Assesses digital readiness across Vocational Education and Training (VET) providers and workplace environments offering work-based learning.

Practical implementation across education levels

The European Commission has developed targeted instruments providing classroom-ready tools for school education, alignment with the labour market in VET, and structural digital transformation in higher education.

For primary and secondary education, the European Commission released four sets of guidelines under the DEAP, offering practical tools ready for classroom use. These guidelines mark a notable move from merely developing frameworks to supporting practitioners' efforts.

- **Ethical use of AI and data:**[23] Helps educators navigate AI tools, based on four principles: human agency, fairness, humanity and justified choice. The 2025 update incorporates the Artificial Intelligence Act and General Data Protection Regulation (GDPR) in classroom scenarios. Includes guiding questions, risk-awareness tools and emerging competences for educators.
- **Tackling disinformation and digital literacy:**[24] Hands-on guidance for building learners' critical thinking and resilience in complex digital information environments. The 2025 update addresses generative AI's role

[20] *SELFIE for Schools*, https://education.ec.europa.eu/selfie/about-selfie

[21] *SELFIE for Teachers*, https://education.ec.europa.eu/selfie-for-teachers

[22] *SELFIE for Work-based Learning*, https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/selfie-work-based-learning-launch-2021-10-08_en

[23] European Commission, *Ethical guidelines on the use of AI and data in teaching and learning for educators (updated 2025)*, https://education.ec.europa.eu/focus-topics/digital-education/action-plan/ethical-guidelines-for-educators-on-using-ai

[24] European Commission, *Guidelines for teachers and educators on tackling disinformation and promoting digital literacy (updated 2025)*, https://education.ec.europa.eu/focus-topics/digital-education/action-plan/guidelines-for-teachers-to-foster-digital-literacy-and-tackle-disinformation

in disinformation, social media dynamics, influencer culture and algorithmic content curation. Includes lesson plans, activity guides and policy recommendations for school leaders.

- **Making informed choices on digital education content:**[25] Introduces the EU's definition of digital education content and provides quality criteria for selecting, creating and adapting digital teaching resources. Covers safety, reliability, accessibility and pedagogical effectiveness, with step-by-step school scenario guidance.
- **Guidelines for teaching informatics:**[26] Practical strategies for delivering inclusive, high-quality informatics education. Moves beyond coding to encompass computational thinking, problem-solving and real-world application. Addresses equitable access, teacher professional development, assessment approaches and the integration of AI concepts across the curriculum.

VET systems occupy a strategic position in the digital transition, as they are most directly responsible for aligning learner competences with labour market needs. The *European Skills Agenda*,[27] the *Pact for Skills*[28] and the *Erasmus+ Centres of Vocational Excellence (CoVE)*[29] are the primary EU policy instruments targeting VET digital transformation. Additionally, *SELFIE for VET* supports institutional self-reflection adapted to the specific context of vocational providers.

In higher education, the development of the *Higher Education Interoperability Framework*[30] marks a significant step towards enabling seamless digital collaboration across institutions. By establishing common standards and protocols for exchanging data across teaching and learning platforms, the framework supports joint digital campuses, cross-border micro-credentials and integrated learning pathways. Linked to this, the *European Digital Student Card*[31] initiative aims to provide students with a secure, portable digital identity that enables access to

[25]European Commission, *Making informed choices on digital education content: EU guidelines for teachers and educators*, Publications Office of the EU, 2024, https://op.europa.eu/en/publication-detail/-/publication/1fa0183b-dbbe-11f0-8da2-01aa75ed71a1

[26]European Commission, *Guidelines for Teaching Informatics: Practical Strategies for European Classrooms*, Publications Office of the EU, 2025, https://education.ec.europa.eu/focus-topics/digital-education/action-plan/council-recommendation-improving-the-provision-of-digital-skills

[27] European Skills Agenda, https://employment-social-affairs.ec.europa.eu/policies-and-activities/skills-and-qualifications/european-skills-agenda_en

[28] Pact for Skills, https://pact-for-skills.ec.europa.eu/index_en

[29] Centres of Vocational Excellence (CoVE), https://erasmus-plus.ec.europa.eu/programme-guide/part-b/key-action-2/centres-vocational-excellence

[30]European Commission, *Interoperability framework: innovating cross-border learning and collaboration in higher education*, https://education.ec.europa.eu/focus-topics/digital-education/digital-education-hub/workshops-and-working-groups/interoperability-framework

[31]European Commission, *European Student Card Initiative and European Digital Student Card*, https://education.ec.europa.eu/education-levels/higher-education/european-student-card-initiative

services, resources, and mobility programmes across participating institutions, underpinning a more interoperable and student-centred digital ecosystem in higher education.

Challenges in the digital transformation of education

- **Digital divides and equity:** "Inequalities of access to connectivity and digital tools within education systems, and notably the inequalities of access to digital devices and connectivity."[32] Socioeconomic status, geography and age are among the strongest predictors of digital disadvantage. These divides risk entrenching existing inequalities and are particularly acute in adult learning and rural school contexts.
- **Digital infrastructure, interoperability and costs:** "Information technology and infrastructure and the necessary services remain a major concern due to challenges involving interoperability, safety and security, sustainability and the related costs."[33] Building and maintaining the digital infrastructure required for quality education (reliable high-speed connectivity, cloud services, managed devices, learning management systems and data platforms) demands sustained financial investment. Furthermore, the lack of common standards for data exchange, credential formats and platform interfaces often limits the portability of learner records, the scalability of joint programmes and the effectiveness of institutional cooperation. This underscores the need for interoperability solutions that enable "learners to build personal learning paths (…) [and] smooth mobility between institutions and countries."[34]
- **Artificial intelligence (governance, ethics and capability):** The rapid integration of AI tools into education (for learning, assessment, administration and research) raises questions of academic integrity, data protection, algorithmic fairness and institutional liability. "To fully exploit the potential of these technologies, universities – and the people who work, study and conduct research within them – must take a balanced, human-centred approach that upholds ethical principles, protects academic values and safeguards the wellbeing of academic and student communities."[35]

[32] OECD, *OECD Digital Education Outlook 2023: Towards an Effective Digital Education Ecosystem*, 2023, https://doi.org/10.1787/c74f03de-en

[33] Global University Forum, *Similarities and Differences in the Digital Transformation of Higher Education,* 2024, https://eua.eu/images/publications/Publication_PDFs/GUAF_SPHERE_report.pdf

[34] European Digital Education Hub, *An analysis of the state of interoperability across Higher Education systems in Europe (Synthesis report)*, 2025, https://knowledgeinnovation.eu/kic-publication/an-analysis-of-the-state-of-interoperability-across-higher-education-systems-in-europe-synthesis-report/

[35] Jørgensen, T., and Phelan, C., *Adopting AI that serves the needs and values of universities: Final report of the EUA Task-and-Finish Group on Artificial Intelligence*, European University Association, 2026, https://eua.eu/publications/reports/adopting-ai-that-serves-the-needs-and-values-of-universities.html

- **Educator capacity, professional development and recognition:** "It is in the area of digital competence that most teachers feel a strong need for professional development."[36] Encouraging educators to invest in developing digital skills and adopting new pedagogical approaches requires structural incentives and institutional support.
- **Pace of change and skills foresight:** "Given the scale and speed of change, it is difficult to predict what types of skills will be in demand and how best to create them."[37] There is no fixed definition of 'future digital skills' as technologies, regulatory standards and labour market demands continuously evolve. This creates structural planning challenges for education providers at all levels and demands more dynamic, anticipatory approaches to curriculum design and skills governance.

Webinar Educating to Thrive in the Digital World

This webinar will explore how education and training institutions at all levels can move towards genuine digital transformation. Key questions guiding the discussion will include:

- What are the most significant barriers institutions face in moving from technology adoption to genuine digital transformation?
- How can institutions approach digital competence development in teaching and learning at the institutional level (how do these differ across school, VET, higher education and adult learning contexts)?
- How can AI tools be integrated into teaching, learning and assessment in ways that are transparent, equitable and beneficial to learners?

This webinar is part of the 'Thematic Strand 3: Education for Green and Digital Innovation.' It also includes the webinars *Twin Transition – Understanding the Why and Building the How* (5 March 2026) and *Leading Sustainability in Education* (10 June 2026, 15:30 CET).

[36] Council Recommendation on improving the provision of digital skills, OJ C/2024/1030, citing OECD TALIS data, November 2023, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C_202401030

[37] Graf, L., Marques, M., and Lambrechts, A., *Skills Development for the Twin Transition: Building Transnational Skills Ecosystems Through Experimentalist Governance*, Regulation & Governance, p.1, 2025, https://doi.org/10.1111/rego.70076