Educating to Thrive in the Digital World

Webinar Summary

Community for Educational Innovation - CEI

29/04/2026

European Commission | CEI

Educating to Thrive in the Digital World

Thematic Strand 3: Education for Green and Digital Innovation

This webinar examined how education can foster authentic digital transformation that extends beyond mere tool adoption, aiming to engage learners, educators, and institutions at all levels. It featured insights from three experts discussing digital literacy on a national scale, the evidence and limitations of AI-driven personalised learning, and governance challenges related to digital identity within European Universities alliances.

Presentation 1: Developing future-ready learners in Estonia — the ProgeTiger Programme approach

By Kirke Kasari, Head of Development, ProgeTiger Programme; Junior Researcher | Estonian Education and Youth Board / Tallinn University.

Estonia's Education Strategy 2021–2035[1] considers digital competence essential and aims to achieve ambitious national goals, including increasing basic digital skills among:

- 16–74 year-olds from 37% to 60%.
- 16–24 year-olds from 76% to 90%.

In this context, a significant shortage of Information and Communications Technology (ICT) specialists and the transformation of all careers by Artificial Intelligence (AI) and automation create a dual mandate: training more specialists and improving everyone's digital literacy.

To bridge the gap between the policy ambition for a sustainable digital transformation and actual classroom practices, the driver cannot depend solely on teachers' motivation, short-term funding, or isolated classroom efforts. The 2023 ProgeTiger evaluation[2] revealed that, despite reaching most schools, engagement was still superficial. Sustainable change requires aligned efforts across the curriculum, teacher competence, school leadership, and institutional culture.

The ProgeTiger Programme was created as an integrated system, with each component supporting the others. It functions across six interdependent pillars:

[1] Estonian Minister of Education and Science, *Education Development Plan 2021-2035,* https://www.hm.ee/sites/default/files/documents/2022-09/eesti_haridusvaldkonna_arengukava_2035_seisuga_2020.03.27.pdf

[2] Õunapuu, T., Raun, M., Lauringson, D., and Vint, G., *Evaluation of the effectiveness of the ProgeTiger program activities, Education and Youth Board,* 2023, https://harno.ee/sites/default/files/documents/2023-08/ProgeTiigri%20uuringu%20l%C3%B5ppraport%202023.pdf

- **Curriculum:** Development of the national informatics curriculum, which establishes learning goals, a progression pathway, and a shared language across schools, aligning educational activities.
- **Learning materials:**[3] Digital textbooks, lesson plans and videos for all informatics courses, freely available and aligned with the curriculum, reducing the burden on individual teachers of creating resources from scratch.
- **Teacher and leadership training:** Practical, subject-linked seminars and professional development designed for principals and management teams. Research consistently indicates that digital transformation often stalls at the classroom level; school leaders are the key strategic agents who decide whether innovation is integrated or fades away.
- **IThoog school mentoring programme:** A comprehensive one-year programme for the entire school where schools evaluate their digital maturity, create a customised ICT education plan, and get continuous support from a dedicated mentor. The programme covers digital skills, AI literacy, informatics education, and change management.
- **Equipment funding:** Approximately 700 educational institutions received around €3 million over eight years in funding to purchase robots, drones, microcontrollers, and other devices. This initiative served as an equity measure, ensuring that hands-on technology learning is not exclusive to well-resourced urban schools.
- **Student engagement:** National competitions, regional events, and inspiration activities, with a current focus on closing the gender gap.[4] Recently, the ProgeTiger event called Spark gathered over 300 girls for a full day of workshops and interactions with women in engineering, development, and science.

The interconnected system forms a closed loop from policy to learner: the curriculum establishes goals, materials facilitate teaching, training enhances delivery skills, equipment supplies practice tools, school mentoring embeds whole-school change, and student activities foster motivation. Estonia still has progress to make, as informatics remains an elective and ICT education varies, but

[3] ProgeTiger, ProgeTiger resources, https://progetiiger.ee/

[4] Estonia's gender balance in ICT is improving, supported by initiatives including the HK Unicorn Squad, a nationwide programme offering STEM and programming clubs exclusively for girls. https://unicornsquad.ee/?lang=en

ProgeTiger shows that a systematic approach from curriculum to classroom lays the foundation for future advancement.

Presentation 2: Myth and evidence in personalised learning

Julian Estevez, Professor, Expert on AI Ethics in Education, University of the Basque Country.

Is AI-driven personalised learning truly a pedagogical breakthrough, or just a marketing catchphrase? This presentation critically examined this widely promoted claim for AI in education, drawing on research literature and institutional case studies.

The initial challenge is one of definition: there is no accepted definition of 'personalised learning.' The term overlaps with concepts such as customised learning, adaptive learning, individualised instruction, and competency-based learning. Researchers,[5] have pointed out the lack of a clear, stable definition. This ambiguity complicates efforts to assess what is truly promised or delivered by personalised learning.

Current intelligent tutoring systems (ITS) can be better described as 'Skinner 2.0':[6] They deliver content in small, incremental units with the pace adjusted based on learner performance data. All students follow a uniform path and receive the same material; only the speed varies. This method emphasises deterministic scaffolding over fostering lateral thinking, creative problem-solving, and critical agency. As Pelletier[7] points out, present forms of personalised learning do not enable learners to break free from the system-defined trajectory.

Research on ITS effectiveness began with Benjamin Bloom's 1984 finding[8] that one-to-one human tutoring led to a two-sigma improvement over traditional classroom instruction. However, later studies[9] have lowered this estimate, showing that genuine one-to-one tutoring yields improvements closer to 0.8 sigma. Notably, the same research indicates that current AI-based ITS achieve roughly the same 0.8 sigma improvement as individual human tutoring. No method has yet

---

5 Shemshack, A., & Spector, J. M., *A systematic literature review of personalised learning terms*, Smart Learning Environments, 7(1), 33., 2020, https://doi.org/10.1186/s40561-020-00140-9

6 Skinner 2.0 describes contemporary AI tutoring that leverages Burrhus Frederic Skinner's behaviourist teaching methods on digital platforms. It refers to systems employing 'programmed instruction,' which divide learning into small, reinforced steps, with the algorithm customising only the pace of delivery, not the content.

7 Pelletier, C., Against personalised learning. *International Journal of Artificial Intelligence in Educatio*n, 34(1), 111-115, 2024, https://doi.org/10.1007/s40593-023-00348-z

8 Bloom, B. S., The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher*, *13*(6), 4–16, 1984, https://doi.org/10.2307/1175554

9 Holmes, W., & Tuomi, I., State of the art and practice in AI in education. *European Journal of Education*, 57(4), 542-570, 2022, https://doi.org/10.1111/ejed.12533

reached the two-sigma mark. Therefore, the potential of AI personalisation remains more limited than what its supporters often claim.

In the case of AltSchool, Mark Zuckerberg introduced a Silicon Valley 'micro-school' startup in 2013, intended to disrupt traditional education by replacing the standard classroom with a data-driven, personalised learning approach. It was shut down in 2019 after investing US$174 million. A 2019 Forbes article[10] mentioned that the system struggled to become profitable in a cautious market with limited budgets. Likewise, a 2025 UNESCO article titled *Bespoke or prescribed? The myth of personalised learning*[11] questioned whether AI systems genuinely support individual strengths or simply fix algorithm-identified flaws.

In conclusion, this presentation emphasised that AI is beneficial in supporting translation for learners unfamiliar with the language of instruction, students with special needs, and easing administrative and preparatory tasks for teachers. Nonetheless, AI should be used where it truly adds value, rather than simply because it is trendy.

Presentation 3: Governing digital identity in university alliances — trust, standards, delivery

Francisca Martín Vergara, Senior Systems Analyst, IT Coordinator, UNINOVIS European University alliance, University of Málaga.

This presentation provided a technically grounded perspective on the experience within the UNINOVIS European University alliance,[12] which comprises eight institutions from six countries. The main argument was that interoperability should be seen as a governance challenge, not just a technical one.

In many European University alliances, students' and staff' digital identities are often fragmented. They manage multiple credentials across partner institutions. The systems lack full interoperability, and moving between universities, which involves accessing courses, services, and resources, requires overcoming various technical and administrative challenges. Without a unified digital identity framework, there is no seamless experience across alliance institutions.

The notion of digital identity extends beyond simple authentication. It is a unified identity for each user that allows federated access to services across different

[10] Adams, S., *Zuckerberg-Backed AltSchool Gives Up on Schools and Focuses on Tech*, Forbes, 01 July 2019, https://www.forbes.com/sites/susanadams/2019/07/01/zuckerberg-backed-altschool-gives-up-on-schools-and-focuses-on-tech/

[11] Farthing, B., *Bespoke or prescribed? The myth of personalised learning*, UNESCO 27 October 2025, https://www.unesco.org/en/articles/bespoke-or-prescribed-myth-personalised-learning

[12] UNINOVIS - The New European University, https://uninovis.eu/

institutions, while also managing attributes, roles, and affiliations in a structured manner. For example, a student at any UNINOVIS partner institution should be able to use a single, trusted identity to access learning management systems, library resources, and student services at other partner institutions. Achieving this requires the necessary technical infrastructure and institutional governance agreements concerning data sharing, conditions, and levels of assurance.

Trust serves as the essential foundation: institutions need to trust each other's identity systems to securely exchange data, recognise users, and adhere to legal standards such as the General Data Protection Regulation (GDPR) and the electronic Identification, Authentication, and Trust Services (eIDAS). This trust is established through technical frameworks such as EduGAIN,[13] which allows institutions to federate authentication systems across countries and to define responsibilities through governance agreements. Verifiable credentials are an emerging model that could transform identity management significantly in the future, with the EU Digital Identity Wallet framework[14] likely to be adopted by educational systems in the next few years.

The key challenge is not the lack of standards, since they are well-established and mature. Instead, the main difficulty is in their adoption. Different institutions interpret and apply these standards in diverse ways, causing friction at each point of integration. The key obstacle is organisational: differing levels of digital maturity, diverse security policies, and misaligned IT governance structures across institutions.

At UNINOVIS, the MetaCampus concept addresses this challenge by providing a unified identity and access layer. This layer links various institutional systems, learning platforms, library services, and student portals across all eight partners. Instead of requiring each institution to overhaul its systems, MetaCampus operates above them, facilitating identity federation and service access. It allows diverse institutions to maintain their own systems without forcing a single technical solution.

Transitioning from strategy to implementation is iterative: establish the identity model, gradually incorporate local systems, oversee attribute and role management across institutions, and expand through piloting. Three key success

[13] What is eduGAIN, https://edugain.org/about-edugain/what-is-edugain/

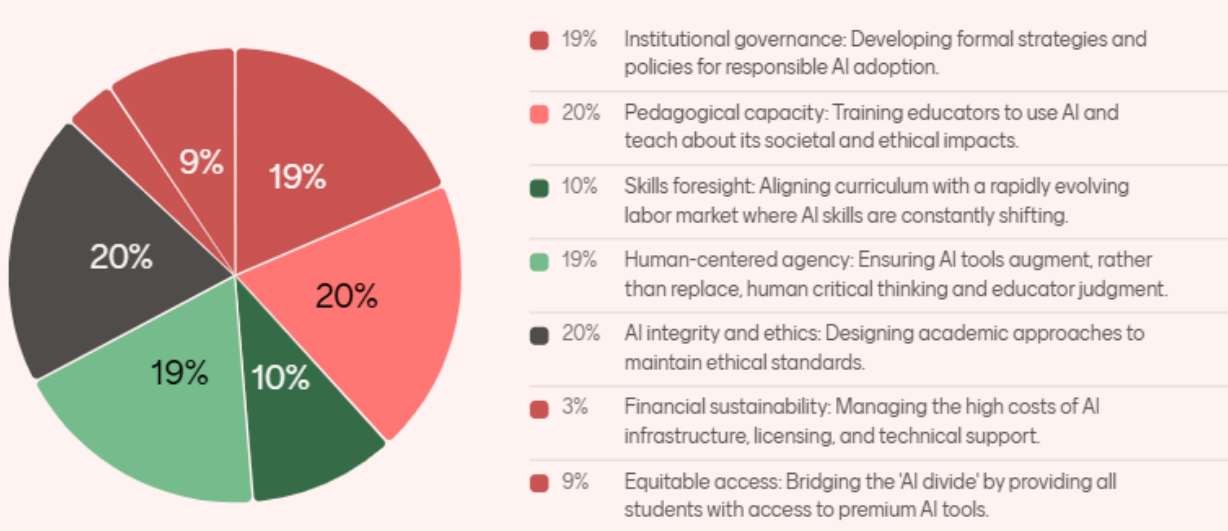
[14] European Commission, A digital ID and personal digital wallet for EU citizens, residents and businesses, https://ec.europa.eu/digital-building-blocks/sites/spaces/EUDIGITALIDENTITYWALLET/pages/694487738/EU+Digital+Identity+Wallet+Home

factors have been identified: institutional alignment, strong institutional leadership, and a pilot-first strategy that fosters confidence and identifies issues at a manageable scale before wider deployment.

Interactive poll: Most urgent AI interventions in education

A live Mentimeter poll asked participants to identify the most urgent operational and ethical issues in AI in education that need to be addressed. The results, based on 35 responses, were spread across seven options, highlighting the challenge's complexity.

Figure 1. Which operational and ethical areas of AI in education require the most urgent intervention?



Introduction to the European Digital Education Hub (EDEH)

Channa van der Brug presented EDEH,[15] an initiative by the European Commission funded through the Digital Education Action Plan 2021–2027. With around 7,300 members from diverse sectors, including education, research, policy, schools, vocational education and training, and higher education, the EDEH functions as a cross-sectoral, Europe-wide community of digital education stakeholders. It employs a bottom-up 'innovation funnel' approach, where members suggest and vote on themes, leading to online working groups ('squads'), face-to-face workshops, articles, and shared resources.

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

Upcoming activities include webinars on the EU AI guidelines for educators (7 May)[16] and disinformation and digital literacy guidelines (12 May),[17] as well as the full-day *Collaborate for Impact event*[18] in Brussels on 18 June 2026. Participation is free and open to everyone.

Upcoming Activities

- **Next webinar:** 'Leading Sustainability in Education', 10 June 2026.
- **Call for Good Practices:** Share initiatives or policies on Education for Green and Digital Innovation.
- **CEI Semester poll on Education for green and digital innovation**: Your insights will provide evidence for our upcoming 2026-I Thematic Report. Vote here!

16 EDEH Webinar on Updated AI guidelines, https://ec.europa.eu/eusurvey/runner/AI_guidelines

17 EDEH Webinar on Disinformation Guidelines, https://ec.europa.eu/eusurvey/runner/webinar_disinformation_guidelines

18 Collaborate for Impact: Advancing European Digital Education and Skills, https://education.ec.europa.eu/event/collaborate-for-impact-advancing-european-digital-education-and-skills