EUROPE EDEN DIGITAL LEARNING

2025 EDEN White Paper

THE UNION OF SKILLS AND DIGITAL EDUCATION: MUTUAL IMPLICATIONS FOR PRACTICE AND POLICY

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Executive Summary

This white paper examines the European Commission's Union of Skills initiative through the lens of digital education, highlighting how EDEN Digital Learning Europe (EDEN DLE) and its network can contribute to the initiative's objectives of lifelong learning, upskilling, and reskilling across Europe. It argues that digital education, grounded in values of accessibility, inclusiveness, ethics, flexibility, and sustainability, plays a pivotal role in equipping citizens with future-oriented competences while supporting educators through research-informed practices. Drawing on over three decades of expertise and engagement in European projects, EDEN DLE emphasises the importance of striking a balance between technological innovation and educational values, ensuring that skills development policies promote equity, resilience, and meaningful participation in the evolving digital society. The paper concludes that the UoS will only achieve its full potential if the drive for competitiveness is complemented by a values-driven approach that places people, equity, and leadership development at the centre of skills policy and practice, thus ensuring sustainable, resilient, and human-centred education for Europe's future.

Introduction

EDEN Digital Learning Europe (EDEN DLE) is an international educational association and not-for-profit organisation. As Europe's leading network for advancing digital education, we provide a platform for knowledge sharing, collaboration and dialogue among professionals in digital education throughout Europe and beyond.

Our mission[1] is to advance digital education in Europe at all levels by serving the needs of our individual and institutional members through:

- providing a multi-stakeholder network for collaboration, discussion and professional learning
- acting as a knowledge-building community for creating and sharing research-informed best practices and learning innovation
- being an advocate for open, inclusive and sustainable policies and solutions at regional, national, European and international levels.

EDEN DLE represents academics and professionals working in the digital education space. By digital education, we understand all forms of education in which digital technologies are mobilised to support learning, teaching and assessment. This encompasses open and distance education, as practised by dedicated universities or departments, online education, in which learners study for all or part of their learning in an online environment, and all other forms of digital education, including the use of digital technologies in physical spaces. To improve readability, the term' digital education' is used from this point on, unless a specific distinction is required.

Scope and purpose

In this white paper, we examine the European Commission's Union of Skills (UoS) communication (European Commission, 2025) through a digital education lens, proposing concrete ways in which the leading European association on digital education - EDEN DLE - and the broader field of digital education research and practice can contribute to the enhancement and realisation of the goals of the UoS. We conclude by highlighting other approaches or areas that still require reinforcement or attention.

1 https://eden-europe.eu/eden-dle-strategy-2023-2028/

This white paper will be of interest to all those working in the digital education sphere, particularly policymakers at the EU and national levels, as well as those in leadership roles at all levels of education, academics, and practitioners.

The Union of Skills communication

"The Union of Skills aims to ensure that **everyone in Europe,** no matter where they are**, is empowered to build solid skills foundations and engage in lifelong upskilling and reskilling,** in line with the European Pillar of Social Rights" (p. 4):

- Support European education and training systems
- Support companies to be competitive
- Make skills and qualifications transparent, trusted and recognised across the single market

The UoS communication identifies challenges in all sectors of education and training. In schools, the priority is put on basic skills, including digital skills. For higher education, there is a need for Europe to produce and attract highly skilled talent. In the Vocational Education and Training (VET) sector, the UoS aims to address shortages in key professions, and in adult education, there is a need to tackle not only lifelong reskilling and upskilling but also the very participation of the adult population in education, together with the lack of basic digital skills in this demographic. These challenges are addressed through the four strands comprising the UoS:

A. Building skills for life through a solid educational foundation (pp. 6-9);
B. Upskilling and reskilling to ensure future-oriented skills (pp. 10-12);
C. Circulating and allocating skills to unlock the full potential of the single market (pp. 12-14);
D. Attracting and retaining skills from third countries to address skills shortages and develop top talent in Europe (pp. 14-15).

What can digital education and EDEN DLE contribute to the achievement of the Union of Skills goals?

Digital education integrates digital tools, technologies, and content to enhance teaching, learning, and assessment across all educational levels, fostering personalised, accessible, and flexible learning experiences. Digital education promotes student-centred learning, equipping learners with digital skills for the connected world and empowering educators with innovative tools for greater engagement and impact, even supporting lifelong learning pathways. It plays a crucial role in creating a modern and resilient education system across the European Union and globally. The European Commission has been fostering digital education through many policy initiatives, i.e., Digital Skills Agenda, Digital Education Action Plan 2021- 2027, European strategy for Universities, Council Recommendation on improving the provision of digital skills in education and training, European Pillar of Social Rights Action Plan, Europe's Digital Decade, The Digital Europe Programme (DIGITAL), DigComp 2.2.

As Europe's leading network for advancing digital education, bringing together a wealth of experience and expertise, EDEN DLE and its predecessor, the European Distance and E-learning Network, have long supported EU education policy through over 35 years of involvement in European projects, the organisation of annual conferences and research workshops, and a number of other (online) activities and initiatives, participation in the European Digital Education Hub (EDEH), in EU working groups and much more, including contributing to the definition of the Digital Education Action Plan

from the outset and to its implementation through projects and studies.

These contributions are made by members of the different bodies that make up EDEN DLE: the Management Board for strategic initiatives, the Network of Academics and Professionals (NAP) for community-led activities and the EDEN Fellows Council, which brings together over 100 individuals recognised for their contribution to the field of digital education through Fellows and Senior Fellows awards. In this section, we reference selected publications by EDEN Fellows Council members, alongside publications from other reputable authors and organisations, to showcase how the community is already addressing the challenges and policy priorities of the UoS.

In 2023, the Previsions survey conducted within the EDEN Fellows Council identified three highly impactful trends and four emerging areas to follow closely (Teixeira et al., 2023).

The most impactful trends identified by EDEN Fellows and Senior Fellows (n=40) were:

- Future work and new skills
- Equity, accessibility, and inclusion
- Digital citizenship and digital literacies

Future work and new skills (Ehlers & Eigbright, 2024) are featured prominently in the UoS under Strand B, "Upskilling and reskilling to ensure future-oriented skills" (pp. 10-12). Such future skills include communication, cooperation, self-efficacy, design thinking, systems thinking, and the ability to identify, understand and handle ambiguity[2]. It is clear that these go way beyond purely technical skills, which risk becoming rapidly outdated in a fast-evolving and increasingly complex world.

Equity, accessibility and inclusion form the cornerstone of open education principles (Teixeira & Mota, 2020) and reflect the overarching goal of the UoS "to ensure that everyone in Europe, no matter where they are, is empowered to build solid skills foundations and engage in lifelong upskilling and reskilling" (UoS, p. 4).

Reference to **Digital citizenship and digital literacies** can be found in Strand A of the UoS "Building skills for life" as a contribution to preparedness.

Turning to the four most promising emerging areas in open and digital education, the Previsions survey identified:

- Artificial Intelligence and machine learning applications in education
- Hybrid learning environments
- Microcredentials and new forms of certifying learning outcomes
- Open educational resources and practices, including MOOCs

As the UoS highlights, education systems need to adapt, and teachers require support, not only in the implementation of digital technologies and in digital pedagogies but also in the integration of Generative Artificial Intelligence (GenAI). We welcome the **AI in education and training initiative** and the associated AI literacy framework (UoS, strand A) and stress the need for such frameworks to emphasize the ethical and responsible use of GenAI. In other words, "Embracing AI requires balancing innovation with transparency and responsibility" (European Association of Distance Teaching Universities (EADTU), 2024, p. 1). Alignment on such principles across stakeholders (learners, workers, educators, leaders, policymakers, and industry representatives) will be challenging, but it is critical in developing citizens capable of making informed decisions regarding the appropriate use of GenAI. As the European Universities Association (2025) highlights, it is vital that AI initiatives serve the public interest, that the academic community should take the lead, and that European values and sovereignty should be central.

2 https://nextskills.org/en/

Hybrid learning environments (Goeman et al., 2021) receive less direct attention in the UoS; however, we believe that the ability to design and navigate such environments in a pedagogically sound manner should be an essential element of the forthcoming **European competence framework for academic staff** and indeed should also feature prominently in staff development at all levels of education. Both the EDEN Previsions survey and the UoS stress the importance of **microcredentials** (Ferguson & Whitelock, 2024) to contribute to upskilling, and here we recommend drawing on the extensive experience of EDEN through numerous national and EU-funded projects and research (Read & Arnold, 2020; Tamoliune et al., 2023) to avoid reinventing the wheel and to ensure the strategic relevance of microcredentials, particularly for higher education institutions (McGreal & Olcott, 2022). Finally, the UoS appears to overlook the potential of **Open educational resources and practices, as well as MOOCs (Ossiannilsson et al., 2024; Van Valkenburg, 2019),** to contribute to more flexible and accessible learning opportunities.

A digital education values approach

The overall approach of the UoS is understandably grounded in policy priorities to address Europe's most pressing challenges in the areas of education, training and employment, under the overarching banner of competitiveness and preparedness. However, we strongly believe that a complementary framing in terms of values would contribute to sense-making and greater uptake, particularly within the education and training sectors.

EDEN DLE defines its core values as integrity, openness, innovation, collegiality and sustainability[3]. We translate these into EDEN value statements for digital education, map them to selected key UoS deliverables, and highlight how EDEN DLE and its members can contribute to achieving the UoS goals. While we focus primarily on digital education and related research, many of these values can and should be applied to education in general. Details of EDEN DLE projects cited as examples can be found in the dedicated sections of the website[4].

1. *Digital education should be accessible and inclusive.*

To achieve the overarching goal of the UoS, "ensur[ing] that everyone in Europe, no matter where they are, is empowered to build solid skills foundations and engage in lifelong upskilling and reskilling, in line with the European Pillar of Social Rights" (European Commission, p. 4), a focus on inclusivity and increasing access to education is vital. The UoS goals of increasing the accessibility of higher education and expanding the use of micro-credentials, combined with key deliverables such as the 2030 Roadmap on the future of digital education and skills, the Skills Portability Initiative and Virtual Study Fairs, should all be developed in line with this value.

EDEN DLE's contribution to this goal is evident in the numerous events, activities and projects it organises to promote the importance of accessibility and inclusiveness in digital education, as well as in sharing the expertise of its members. **Open and distance education** play a clear role here, with EDEN endorsing and contributing to Open Education Week[5] in March each year, celebrating the global Open Education Movement through a series of online events. In addition to the core role of the open and distance universities that are members of EDEN (in Europe: Hellenic Open University (Greece), Universidad Aberta (Portugal), Universidad Nacional de Educacion a Distancia and Universitat Oberta de Catalunya (Spain)), EDEN DLE has also supported accessibility and inclusiveness through EU projects such as ReOPEN, OpenMed and OpenVM, the latter with a specific focus on **virtual and hybrid mobility** skills. Furthermore, EDEN DLE has long been a key actor in **micro-credentials and digital credentials projects** (e.g. MicroHE, Open Badge Network, MicroCredX), the results of which

3 https://eden-europe.eu/eden-dle-strategy-2023-2028/
4 https://eden-europe.eu/eu-projects/ and https://eden-europe.eu/projects/
5 https://eden-europe.eu/open-education-week-oew-march-3-7-2025/

should be mobilised in any further such initiatives to maximise the impact of EU funding and avoid reinventing the wheel. EDEN DLE also demonstrates the benefits of open educational resources by providing access to conference proceedings, keynote session recordings, webinars, and other resources under Creative Commons licences.

2. *Digital education should be fair and ethical.*

Complementary to the value of accessibility and inclusiveness is the need to ensure that digital education is both fair and ethical. Any initiatives to develop the use of GenAI, such as the UoS AI in education and training initiative, must be grounded in ethical principles, and this consideration will need to be fully integrated into the 2030 Roadmap on the future of digital education and skills. Ethical approaches to digital education also entail considering the potential harm to both learners and educators.

EDEN is a project member of the AI Pioneers project, with one objective focusing on ethics in the use and implementation of AI in education. Complementary to this, EDEN is also a member of the WINDEE project, which focuses on well-being in digital education ecosystems, and the AI-Teach project, which supports teachers in navigating artificial intelligence in education. The gathering of the community and sharing of new research, experiences, and knowledge are the focus of EDEN DLE events, such as the annual conference and the EDEN research workshop, as well as online events that reach a global audience, including EDEN Open and Digital Learning Week. Additionally, EDEN DLE maintains a vast repository of webinars, sessions, and interviews with experts on digital education, accessible to everyone[6].

3. *Digital education should be future-oriented, helping learners and citizens to face the challenges of a Volatile, Uncertain, Complex and Ambiguous (VUCA) world.*

Preparedness is a key priority for Europe in addressing geopolitical challenges. The UoS frames this in terms of developing human capital through the "skills and competences needed for success in learning, work and life" (European Commission, 2025). The 2030 Roadmap on the future of digital education and skills is expected to address these challenges in combination with other key UoS initiatives and deliverables such as micro-credentials, the EU Skills Academies and innovative joint European study programmes.

EDEN DLE firmly believes in a future-oriented approach, as demonstrated by the Prevision survey and participation in EU working groups. Furthermore, the EDEN PhD symposia focus on supporting and developing the next generation of digital education professionals and researchers, and the EDEN NAP webinars provide a forum for the exchange and dissemination of innovative practice. In addition to these longstanding activities, EDEN is now proactively supporting professional development in digital education through the Digital Education Leadership Academy (DELA).

4. *Digital education should be flexible and empowering, enabling all citizens to develop the knowledge, skills and mindsets they need to thrive in and contribute to society.*

Flexibility is a core principle of open, distance and online education. Flexibility means not only supporting citizens in making informed choices about their education and employment but also ensuring that they are well-informed about the opportunities available to them. Empowerment needs to be combined with inclusiveness, so that it benefits not only the most confident and competent citizens and learners, but also those who may be less so. Addressing the digital divide is therefore essential, as unequal access to digital tools, skills, and connectivity can limit participation

6 https://eden-europe.eu/

and reinforce existing inequalities. Empowerment also applies to teachers, providing them with a supportive environment that fully recognises the key role this profession plays, and which gives them sufficient time for professional development.

A further aspect of flexibility is providing opportunities for people to engage in education and training whenever needed, as embodied by the concept of lifelong learning (LLL). Professional bodies such as the European Society for Engineering Education (SEFI) advocate for "a systemic, collaborative approach across stakeholders such as policy makers, education institutions, employers, and professional associations [...] to support the LLL of engineers" (European Society for Engineering Education, 2025, p.2), a principle that applies to any professional field and which is vital if the EU is to meet the 20230 goal of 60% adult participation in lifelong learning (EADTU, 2024).

The UoS features several initiatives and key deliverables that contribute to flexibility and employment, including micro-credentials, the EU Skills Academies and Skills Portability Initiative, the common European framework for the automatic recognition of study qualifications and learning periods abroad, the MCSA Choose Europe pilot, and virtual study fairs. Specific to teachers in higher education, the UoS also aims to develop a European competence framework for academic staff.

One contributing factor to such flexibility is the interoperability of digital systems across the European Education Area. We thus strongly recommend that all digital initiatives under the UoS pay attention to the important work being done here, as exemplified by EDEN's work on interoperability through the European Digital Education Hub (EDEH). Important lessons learned can also be gleaned from the results of the micro-credentials and digital credentials projects cited previously.

With respect to teacher training and (digital) competency frameworks, again, our recommendation is to avoid reinventing the wheel. EDEN and EDEN members have been closely involved in the development of such initiatives and frameworks for over 20 years, from the eLene family of projects (eLene-TT, eLeneTLC, eLene4LIFE), OpenPROF, DigiSkills, eTTnet, and eTTCampus to the current generation of projects and related work on GenAI (AI Teach, AI Pioneers) and digital education more generally (DigiProf).

5. *Digital education should be grounded in sound scientific principles and in turn, contribute to advancing knowledge in the field.*

This value should be transversal to all policy initiatives, frameworks and actions. To contribute to this, EDEN DLE has a wealth of research to draw on, including publications in our scientific journal EURODL[7], the outcomes of the bi-annual EDEN research workshops and annual PhD Symposia, combined with the expertise of the EDEN Fellows Council and the EDEN Network of Academics and Professionals (NAP). Beyond this, collaboration with sister and partner organisations across Europe (Coimbra Group, EUA, EADTU, the European University Continuing Education Network (EUCEN)) and globally (International Council for Distance Education (ICDE), ASCILITE in Australia, the Flexible Learning Association of New Zealand, the United States Distance Learning Association (USDLA) and Contact North in Canada) contributes to broadening perspectives and advancing knowledge and practice in digital education.

What other issues need to be addressed?

As a flagship initiative, the UoS covers a wide range of measures designed to meet the strategic priorities of competitiveness and preparedness by addressing skills shortages and gaps, accelerating technological transformation, and harmonising skills intelligence and policies. However, from

7 https://sciendo.com/journal/EURODL

our position as digital education specialists (including formal and informal leaders, researchers, educators, learning designers, educational developers, and learning technologists), we believe that several complementary issues and perspectives should also be considered.

For higher education, the skills approach should be considered more broadly. We recognise that the term' skills' is often used as shorthand to refer to a variety of conceptualisations that include knowledge, competences, attitudes, and values, in addition to task-related and cognitive skills, according to one of the most widely cited works in the field (Spencer & Spencer, 1993). While this White paper is not the place to engage in an academic discussion on the differences between skills and competences, it is important to include this broader perspective. The purpose of higher education should not be restricted to skills development and STEM. This is a call to fully recognise the role of the humanities in developing well-rounded citizens capable of understanding the complex world in which we live and finding solutions to the vast challenges we face, while respecting both people and the planet.

While the UoS places great emphasis on research excellence in technological fields, there is also a need to focus on research in education and training. This would contribute to supporting the goal of increasing the attractiveness of the teaching profession, as well as supporting educators in developing new skills grounded in scientific evidence, while providing them with adequate support in the educational process and recognition of their excellence in teaching.

The attraction of talent (brilliant students) to Europe is put forward as an initiative to help close the skills gap and address labour market shortages. This needs to be balanced with the priorities of access and inclusion to ensure that educational and employment opportunities are open to all, and not just the highest performers.

Finally, the uptake of the UoS initiatives in schools, higher education, VET and adult education requires effective leadership, not just from formal governance but throughout these organisations. We thus strongly recommend introducing a focus on leadership development (Arnold & Sangrà, 2020; Olcott et al., 2023). Excellent work is being carried out by initiatives such as the European Universities Association (EUA) Leadership Development Programme[8], at the school level by the Educational Leadership Network Europe (ELNE)[9] and by EDEN DLE with the Digital Education Leadership Academy (DELA)[10]. The EU should reinforce support for and recognition of these initiatives.

Conclusion

This White Paper has examined the Union of Skills (UoS) communication through the lens of digital education, identifying key policy priorities with direct implications for the European Commission's Digital Education Action Plan and the broader European Skills Agenda. It has demonstrated how the activities and initiatives of EDEN Digital Learning Europe (EDEN DLE) contribute to empowering European citizens to engage in lifelong learning and to acquire the skills necessary to participate meaningfully in a digitally transformed society.

Our main recommendation is to enrich the UoS by focusing on educational values. This is especially important to ground all technological initiatives in accessibility, inclusiveness, ethics, fairness, future orientation, flexibility, and empowerment. This values-driven approach counters techno-solutionism by placing people at the heart of policy design and decision-making, always anchored in rigorous research evidence.

8 https://www.eua.eu/our-work/projects/eua-projects/eua-leadership-development-programme.html
9 https://www.elnenetwork.org/en/
10 https://eden-europe.eu/event/eden-digital-education-leadership-academy-dela-2/

As Neil Selwyn says, "What we need now is to start constructing other narratives, other imaginaries and, above all, other practices that allow us to think about educational technology from the perspective of care, equity, sustainability and the possibility of imagining fairer futures" (Selwyn et al., 2025, p. 6).

We have also formulated a series of specific key recommendations designed to fill some of the gaps we have identified in the UoS, namely to balance the focus on STEM with support for the humanities, to encourage and value research in education and training, to respect the principle of equity in attracting talent, and finally to provide further support to educational leadership development initiatives.

With over 30 years of sustained presence in the European Educational Area, EDEN DLE has confirmed its role and impact as Europe's leading network for advancing digital education. Strong collaboration with professionals, institutions, other networks, and associations, as well as with the European Commission, and extended outreach on the global level, have enabled EDEN to discuss, reflect, propose, shape, and advocate for initiatives, policies, and projects related to education today and for the future. Reflecting on the Union of Skills document and supporting its possibilities is one of the roles of EDEN in building flexible, open, inclusive, and high-quality education. EDEN DLE stands ready to contribute to this process, drawing on its extensive sector expertise, research base, and convening power to support the European Commission in building a resilient, equitable, and future-oriented digital education ecosystem.

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Annex 1: Mapping EDEN DLE value statements to the UoS

EDEN DLE value statement	Key UoS Deliverables				EDEN DLE contribution
	Strand A	Strand B	Strand C	Strand D	
Digital education should be accessible and inclusive.	2030 Roadmap on the future of digital education and skills Increasing accessibility of higher education	Expand the use of micro-credentials	Skills Portability Initiative	Virtual study fairs	Micro-credentials and digital credentials projects Open, distance and online education / virtual and hybrid mobility EDEN Open Education Week
Digital education should be fair and ethical.	2030 Roadmap on the future of digital education and skills AI in education and training initiative				AI Pioneers project EDEN Annual Conference and research workshop outcomes EDEN Online and Digital Education Week
Digital education should be future-oriented, helping learners and citizens to face the challenges of a Volatile, Uncertain, Complex and Ambiguous (VUCA) world.	2030 Roadmap on the future of digital education and skills	Expand the use of micro-credentials EU Skills Academies	Innovative joint European study programmes with a European degree/label		Previsions survey trends PhD Symposium EDEN NAP webinars
Digital education should be flexible and empowering, enabling all citizens to develop the knowledge, skills and mindsets they need to thrive in and contribute to society.	2030 Roadmap on the future of digital education and skills European competence framework for academic staff	Expand the use of micro-credentials EU Skills Academies	Common European framework for the automatic recognition of study qualifications and learning periods abroad Skills Portability Initiative	MCSA Choose Europe pilot Virtual study fairs	EDEN work on interoperability through EDEH Micro-credentials and digital credentials projects Teacher training and competency framework projects and related work
Digital education should be grounded in sound scientific principles and in turn, contribute to advancing knowledge in the field.	Transversal to all policy initiatives, frameworks and actions				Research workshops outcomes EURODL EDEN Fellows Council PhD Symposium

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