EUROPEAN
COMMISSION

Brussels, 24.4.2023
COM(2023) 205 final/2

2023/0099 (NLE)

CORRIGENDUM
This document corrects document COM(2023)205 final
Concerns the EN version only
Minor editing corrections which do not affect the substance
The text shall read as follows:

Proposal for a

COUNCIL RECOMMENDATION

on the key enabling factors for successful digital education and training

{SWD(2023) 205 final}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

Education and training are key for personal development, social cohesion, competitiveness and innovation. They are also a critical building block for a fairer, more resilient and more sustainable Europe. This is reflected in the **Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)**[1], which includes the **green and digital transitions** among its strategic priorities.

Today, digital education is at the heart of these efforts. The COVID-19 pandemic highlighted the need to improve **the digital readiness of education and training systems** in terms of resilience, high-quality, inclusiveness, accessibility and security. The European Commission's **Digital Education Action Plan 2021-2027**[2] sets two strategic priorities to achieve this: *fostering the development of a high-performing digital education ecosystem* and *enhancing digital skills and competences for the digital transformation*.

Member States welcomed the action plan in the **Council Conclusions on digital education in Europe's knowledge societies**[3]. They acknowledged the need for closer cooperation and invited the Commission to launch a strategic reflection process on the enabling factors of successful digital education. Following the call of President von der Leyen in 2021 for 'leaders' attention and a structured dialogue at top level' on digital education and skills, the Commission carried out a **structured dialogue on digital education and skills** with all Member States in 2022.

In their Recovery and Resilience Plans, Member States have allocated EUR 130 billion to measures supporting the digital transformation – 26% of the total allocation of plans. Of this, EUR 16.5 billion is dedicated to improving connectivity and almost EUR 23 billion to digital education and digital skills development.[4] Implementation is now of utmost importance.

Reflecting the need for a high-performing digital education ecosystem (including infrastructure, connectivity, organisation, capacity), the current proposal builds **on the key enabling factors for successful digital education** identified in the action plan and the Council Conclusions, as well as the findings of the structured dialogue. It presents recommendations to Member States on how to achieve **accessible, high-quality and inclusive digital education for all**. The proposal focuses on **formal education and training** and the investments, capacity building and cooperation needed to benefit from the potential of digital technologies to strengthen teaching, learning and assessment, and improve learning outcomes of all learners. In this respect, it stresses the importance of a meaningful integration of digital technologies in schools and universities related to pedagogical and organisational methods in the teaching of all subjects.

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1 2021/C 66/01
2 COM(2020) 624 final
3 2020/C 415/10
4 The figures in this paragraph are calculated using Annex VII of the RRF Regulation.

Successful digital education is about **creating more and better opportunities for learning and teaching for everyone in the digital age**. Digital solutions have made EU education and training systems more accessible over the last few years. However, in a fast-developing and more uncertain world it is necessary to continue to improve the effectiveness and efficiency of education and support the diversification of teaching and learning, including through existing and emerging digital solutions. While our societies change, education remains a basic human right, and universal access to it must be guaranteed and extended to the digital world.

User-centred digital tools can bring innovative solutions to education and support teachers by reducing their administrative burden. In addition, they help teachers in adapting their work and the education systems to disruptive technologies such as generative artificial intelligence and other emerging technologies that quickly enter learners' environments with the potential opportunities and risks this entails. Generative AI tools are creating new opportunities for learning and can support students in improving their learning pace and self-efficacy while raising new questions including for example on assessment or authorship. Successful digital education is therefore a precondition for learners to acquire the skills they need to thrive in today's world.

This proposal is **part of the initiatives taken by the Commission and Member States to ensure human-centred digital transformation**. It is in line with the objectives set in the Digital Education Action Plan, the Digital Decade Policy Programme[5], the European Declaration on Digital Rights and Principles for the Digital Decade[6] and the European strategy for a better internet for kids[7]. The Digital Education Action Plan, the Digital Decade Policy Programme, the European Skills Agenda[8], the European Pillar of Social Rights Action Plan[9], and the Union of Equality strategies set ambitious EU-level targets to encourage action on digital transformation and ensure sustainable growth and innovation in the EU. The proposal also takes account of the ongoing work on digital transition under the Recovery and Resilience Facility and is aligned with the outcomes of the Report of the Conference on the Future of Europe.

The proposal is based on the first strategic priority (promoting a high-performing digital education ecosystem) of the Digital Education Action Plan and complements the **Proposal for a Council Recommendation on improving the provision of digital skills in education and training.**

- **Key challenges to be addressed by the proposed Council Recommendation**

Experiences since the COVID-19 crisis and the structured dialogue have revealed the richness of investments and policies undertaken by Member States to support digital education and skills. However, while most Member States have strategies related to the digital transformation of education and training and the provision of digital skills, these are not

5 Decision (EU) 2022/2481
6 COM(2022) 28 final
7 COM(2022) 212 final
8 COM/2020/274 final
9 COM(2021) 102 final

always specific, detailed or comprehensive enough. An analysis of policies across the Union reveals a lack of strategic overview connecting different sectoral and territorial levels of the policy approach. There are several common challenges that Member States face in developing high-performing digital education and training ecosystems:

– lack of systemic whole-of-government approach to digital education policies and challenges with coordinating effectively across and between government levels;

– lack of strategic focus of investment in digital education and training infrastructure, equipment and content, including on socio-economic and territorial disparities;

– insufficient digital training of teachers and staff in adopting and making best use of technology for teaching and learning;

– insufficient monitoring and evaluation of digital education and training policies and their impact.

Governance of digital education and training policies

– Despite progress and excellent examples of innovation, endeavours have not yet resulted in systemic digital transformation in education and training. In particular, there are two key challenges.

– First, the introduction of digital technologies in education and training systems requires a whole-of-government approach that ensures **collaboration and coordination of different departments of government**. For example, the effective digitalisation of a school requires close alignment among authorities responsible for **infrastructure** to ensure connectivity, **finance** to provide funding for investments, and **education** to align curricula and support teachers. Moreover, in Member States with high levels of regional or local autonomy, coordination across different government levels is crucial. The structured dialogue showed that these coordination efforts are complex and challenging, resulting in many Member States having **multiple sectoral strategies that are implemented independently of each other**. This risks either silo structures or overlaps thus missing opportunities for synergies and greater impact. The **absence of** such a **whole-of-government approach** has been identified **as the main challenge** to developing and implementing digital education and skills policy.

– Second, the development of meaningful digital solutions and their widespread adoption heavily depends on the **involvement of and ownership by many relevant stakeholders**. This implies the need for close dialogue among policymakers, practitioners, digital solution providers, social partners, businesses, parents and learners. The structured dialogue showed that while many countries have formal platforms for stakeholder consultation in place, **closer collaboration is still in the early stages**, especially when it comes to interaction among education institutions, teachers and industry, including technology providers and employers. Member States have shown a growing interest in engaging in public-private partnerships, including with the education technology (EdTech) sector, to further expand and strengthen the digital education ecosystem while taking important issues such as safeguarding data privacy into account.

Investment in digital infrastructure for education and training

School connectivity remains uneven between and within EU countries, and high-speed internet connections in schools are still rare[10], in particular in rural and remote areas where connectivity is lagging behind[11]. According to the most recent data, only 11% of EU students in primary, 17% in lower secondary and 18% in upper secondary education were in schools that had an internet speed above 100 Mbps, far from the 2025 EU-level target of high-speed broadband connectivity (at least 1 Gbps or more) for all schools[12]. When it comes to **school equipment**, the share of students attending schools where more than 90% of digital equipment was operational ranged from 61% at primary school level to 73% at upper secondary level[13]. Insufficient provision of digital devices (particularly tablets and laptops) was considered by teachers to be the biggest obstacle to the use of digital technologies for teaching and learning[14]. **Higher education institutions tend to be better connected and equipped**, but the integration and take-up of effective digital education practices remains slow.

While the COVID-19 pandemic significantly accelerated the use of technology in teaching and learning, it also highlighted and aggravated **inequalities in education and training**. Learners' socio-economic background continues to be the strongest determinant of educational outcomes. This is also reflected in the provision of digital education: disadvantaged learners such as those from **low-education, low-income, Roma or migrant backgrounds** have less access to computers at home[15] and start using digital devices later in life compared to their more advantaged peers[16]. The lack of accessible and assistive digital technologies creates major barriers for **persons with disabilities**, impeding their ability to study in formal education settings autonomously and independently.

The structured dialogue on digital education and skills and national recovery and resilience plans confirm the **importance that Member States attach to making effective and equitable digital infrastructure available to education institutions**. Connectivity, digital equipment, platforms and content are being prioritised in the reforms and investments in this area by Member States.

An upcoming special report of the **European Court of Auditors** will provide further evidence on the effectiveness of EU support for the digitalisation of schools.[17]

Other **concerns relate to the maintenance of equipment and devices** and the challenge to match the rapid pace of technological change when it comes to teaching and learning content, approaches and tools. Countries with a range of digital tools and platforms express growing

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10 European Commission (2019). 2nd Survey of Schools: ICT in Education. Luxembourg: EU Publications Office

11 SWD(2021)167 final

12 COM(2016)587

13 European Commission (2019). 2nd Survey of Schools: ICT in Education. Luxembourg: EU Publications Office

14 Ibid.

15 OECD (2018). Getting ready for the digital world, PISA 2018: Insights and Interpretations. Paris: OECD Publishing.

16 Biagi F., Rodrigues M. (2017). Digital technologies and learning outcomes of students from low socio-economic background: An analysis of PISA 2015. JRC Science for Policy Report.

17 European Court of Auditors, Indicative timetable of publication of reports from January to December 2023, https://www.eca.europa.eu/sites/ep/en/Documents/Timetable_of_upcoming_publications_EN.pdf

concerns about **interoperability** across systems and services. Member States are also seeking ways to increase the **availability of and access to high-quality digital education content** in their own languages. In addition, education institutions at all levels are concerned about meeting data protection obligations, **safeguarding learners' privacy** and preventing **cybersecurity** threats.

Digital training of teachers and staff

Teachers are **key partners** upon whom the successful adoption of digital technologies in education and training depends, and they need to be closely involved and consulted in its mainstreaming. Numerous studies suggest that teachers are more likely to use digital technologies in their teaching if their schools **encourage relevant planning and collaboration when using technology in education**[18]. Teachers are uniquely placed in educating future generations to the highest standards. They need targeted support to integrate digitalisation into their pedagogy with confidence and in the best way possible so it can serve their students and facilitate inclusive and accessible learning. Some schools have ICT coordinators that support teachers in all ICT administrative tasks and allow them to focus on their core tasks. However, a systemic and long-term approach to integrating technology into school activities is currently the exception rather than the norm. For instance, before the COVID-19 pandemic, **only around one-third of students attended schools that had written statements on the use of digital technologies for pedagogical purposes**[19]. For many education and training institutions, insufficient capacities mean that developing and implementing an institutional digital education strategy that considers the needs of educators and learners remains a challenge. Initiatives to raise the **capacities of education institution leaders** to lead the digital transformation exist in some Member States, but are not widespread.

One of the key factors that influenced the quality of the learning experience during the COVID-19 lockdowns was the digital competence of educators[20]. However, on average in the EU, fewer than half of teachers (49.1%) reported that ICT was included in their formal education or training[21], and only 39% of teachers felt well prepared to use digital technologies for teaching[22]. While teachers and educators need to be equipped with the necessary digital pedagogy skills[23], it is essential that there is a trust-based approach by the authorities and stakeholders alike, empowering teachers and supporting them to make best use of technology for teaching and learning.

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18 Fraillon, J. Ainley, J., Schulz, W., Friedman, T., Duckworth, D. (2019). Preparing for Life in a Digital World: International Computer and Information Literacy Study 2018 International Report. Amsterdam: IEA.

19 European Commission (2019). 2nd Survey of Schools: ICT in Education. Luxembourg: Publications Office of the European Union.

20 Digital Education Action Plan Staff Working Document, SWD(2020) 209 final

21 Education and Training Monitor 2020

22 OECD (2019), TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners, TALIS. Paris: OECD Publishing

23 OECD (2019), TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners, TALIS. Paris: OECD Publishing

The high level of autonomy of higher education institutions that typically provide **initial teacher education programmes** has led to delays in introducing digital pedagogy skills into teacher training curricula in several countries. Moreover, the fact that the teacher population is ageing in most EU countries means that digital pedagogy challenges cannot be addressed through initial training alone. The structured dialogue showed that many Member States have recently **expanded their offer of continuous professional development opportunities for teachers and educators in relation to digital pedagogies**. However, several Member States point to difficulties in getting teachers to participate, and social partners highlight that teachers often lack designated time for continuous professional development. While participation in continuous professional development is monitored in most Member States, there is less focus on assessing its impact on teachers' skills. This can lead to a possible mismatch between the training offer and the needs of educators.

Monitoring and evaluation of policies and impact

While **most Member States have strategies** in place to help education and training institutions use digital technologies, these are not always specific, detailed or comprehensive enough. Moreover, only few regularly monitor or evaluate their implementation or implement revisions to reflect new developments in technology and related learning needs[24]. Furthermore, frameworks that monitor the state of play of enabling factors for digital education are well developed only in a small number of Member States. In many cases, a **fragmented or ad hoc approach to monitoring** is applied. A particular concern, which affects the overall impact assessment of investments, is the lack of information on device usage as well as the lack of systems to monitor and keep track of the digital infrastructure of educational institutions.

At EU level, the **availability of data and evidence remains a major challenge**. Large-scale international studies are published only at very long intervals, which makes it difficult to keep pace with the rapidly evolving digital education domain and they do not include all data that is needed to design policy and support instruments.

- **Objectives of the proposed Council Recommendation**

This proposal aims to promote the necessary structural reforms and investments in the Member States to deliver a step change in the digital transformation of education and training and enable the provision of skills, based on:

– a coherent strategy specifically addressing digital education and skills; and improving policy feedback through better monitoring and evaluation of digital education and training policies and faster integration of these results for responsive policy adjustments;

– a whole-of-government approach to digital education and training and strengthened cooperation and coordination with and between stakeholders, including with the private sector;

[24] European Commission / EACEA / Eurydice (2019). Digital Education at School in Europe. Eurydice Report. Luxembourg: Publications Office of the European Union.

– building and strengthening partnerships with teachers, while ensuring access to digital training for all teachers, educators and staff and support for digital capacity building for all education and training institutions;

– equitable and impact-focused investment in high-quality, accessible, inclusive and secure digital education and training.

• **International dimension**

The proposal is based on and complements work at international level. It contributes to the **UN 2030 Sustainable Development Goals** (SDGs)[25], in particular SDG 4 on quality education.

The initiative is consistent with ongoing work of the **United Nations** Secretary-General's roadmap for digital cooperation and aligned with the Call for Action on Digital Learning of the Global Transform Education Summit.

The proposal also contributes to the objectives of the EU's **Global Gateway** strategy to build sustainable and trusted connections that work for the people and the planet.

The initiative recognises the importance of working across borders, especially with EU enlargement and neighbourhood partner countries, including the Western Balkan partners, to ensure that no one is left behind and that everyone has the right to high-quality and inclusive education.

• **Tools for supporting the implementation**

The Commission's intention is to set up a High-Level Group on Digital Education and Skills to take forward in a formal setting the informal coordination between National Coordinators under the Structured Dialogue. This would bring together expertise from the worlds of education and digital and could be used to develop guidelines or other tools to facilitate the further evolution of digital education.

The proposal will also be supported by:

– the Working Group on Digital Education: Learning, Teaching and Assessment;

– EU instruments, such as the Technical Support Instrument, and EU funding, such as Erasmus+, European Social Fund Plus, Just Transition Fund, European Regional Development Fund, Cohesion Fund, Digital Europe Programme, Horizon Europe, and NDICI-Global Europe;

– existing EU tools, platforms and communities (European Digital Education Hub, European SALTO Digital Resource Centre, European School Education Platform, including eTwinning, SELFIE, SELFIEforTEACHERS, Electronic Platform for Adult Learning in Europe (EPALE), Better Internet for Kids (BIK) platform, Learning Corner);

– the collection of comparative evidence on key enabling factors across the EU;

[25] https://sdgs.un.org/

– improved evidence and analysis through the Learning Lab on Investing in Quality Education and Training;

– reporting and monitoring under the European Education Area strategic framework.

• **Complementarity with other initiatives**

The proposal complements and contributes to the implementation of other Commission initiatives presented under:

– The European Education Area Communication[26];

– The Digital Education Action Plan 2021-2027[27];

– The European Skills Agenda for Sustainable Competitiveness, Social Fairness and Resilience[28];

– The Digital Decade Policy Programme[29];

– The Cybersecurity Skills Academy.

2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

• **Legal basis**

The proposal is in conformity with Articles 165 and 166 of the Treaty on the Functioning of the European Union (TFEU).

• **Subsidiarity (for non-exclusive competence)**

The proposal is in conformity with the principle of subsidiarity as provided for in Article 5(3) of the Treaty on European Union (TEU).

It fully respects the responsibility of the Member States for the content of teaching and the organisation of education systems and their cultural and linguistic diversity, while reflecting the supplementing and supporting role of the EU and the voluntary nature of European cooperation in education and training. In the context of the European Education Area, the initiative will support Member States' efforts in developing and implementing policies and mechanisms, as appropriate to their national systems and structures.

The initiative does not propose any extension of EU regulatory power or binding commitments on Member States. Its European added value lies in the EU's ability to mobilise political engagement and support education and training systems through policy guidelines, common tools and instruments.

• **Proportionality**

The proposal complies with the principle of proportionality as provided for in Article 5(4) TEU.

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26 COM(2020) 625 final

27 COM(2020) 624 final

28 COM(2020) 274 final.

29 Decision (EU) 2022/2481

Neither the content nor the form of the proposal goes beyond what is necessary to achieve its objectives. The commitments that Member States will make are of a voluntary nature and each Member State remains free to decide on how to implement the proposal.

- **Choice of the instrument**

To contribute to the achievement of the objectives referred to in Articles 165 and 166 of the TFEU, that Treaty provides for the adoption by the Council of recommendations based on a proposal from the Commission.

A Council Recommendation is an appropriate instrument within the field of education and training, where the EU has a supporting responsibility, and is an instrument that has been used frequently for European action in these areas.

3. RESULTS OF EX-POST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENTS

- **Ex-post evaluations/fitness checks of existing legislation**

An assessment of the opportunities and challenges that the digital transformation brings to education and training was made in the Staff Working Document accompanying the Communication on the Digital Education Action Plan 2021-2027.[30]

The Commission will undertake a comprehensive review of the action plan in 2024 to assess its outreach and impact.

This proposal combines those findings with the outcomes of the structured dialogue with Member States, which discussed the readiness of existing national frameworks and legislation to respond to the needs related to digital education and skills.

- **Stakeholder consultations**

The proposal is based on the outcomes of the public consultation on the Digital Education Action Plan 2021-2027[31] and inputs gathered during an extensive consultation process[32].

- **Collection and use of expertise**

The proposal is based on:

– outcomes of the structured dialogue with Member States on digital education and skills;

– lessons learnt from the implementation of the European Education Area strategic framework, the Education and Training Monitor, and inputs from the Working Group on Digital Education: Learning, Teaching and Assessment (DELTA);

– a wide range of reports and studies on the impact of the COVID-19 crisis, equity in education, inclusive systems, etc;

30 SWD/2020/209 final

31 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12453-Digital-education-action-plan-update-/public-consultation_en

32 A synopsis report is attached to the Staff Working Document;

– Digital Economy and Society Index (DESI) reports;

– OECD report 'Enabling factors for effective and equitable digital education: state of play and promising policies';

- **Impact assessment**

Given the activities' complementary approach to Member State initiatives, the voluntary nature of the proposed activities and scope of the expected impacts, an impact assessment was not carried out. The development of the proposal was informed by previous studies, consultation of Member States and the public consultation[33].

- **Regulatory fitness and simplification**

Not applicable.

- **Fundamental rights**

The proposal is in line with the fundamental rights and principles recognised by the Charter of Fundamental Rights of the European Union, notably the right to the protection of personal data laid down in Article 8, academic freedom enshrined in Article 13, the right to education laid down in Article 14, and the right to non-discrimination provided for in Article 21 and the right to integration of persons with disabilities in article 26.

The measures will be carried out in accordance with EU law on the protection of personal data, in particular Regulation (EU) 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation).

4. BUDGETARY IMPLICATIONS

This initiative will not require additional resources from the EU budget and its implementation will be supported by existing EU funding instruments.

5. OTHER ELEMENTS

- **Implementation plans and monitoring, evaluation and reporting arrangements**

To support implementation, the Commission proposes to develop, in cooperation with Member States, peer learning activities and identify good practices, as well as to provide research, guidance material and other evidence-based deliverables.

The Commission will also help build comparative evidence on the key enabling factors for digital education across the EU by conducting a Digital Education in Europe survey in the Member States.

The Commission intends to report on the use of the Council Recommendation within the European Education Area strategic framework.

[33] Full references are available in the Staff Working Document.

- **Explanatory documents (for Directives)**

Not applicable.

- **Outline of the proposal for a Council Recommendation and staff working document**

The proposed Council Recommendation recognises the role of digital education and training in supporting the resilience, accessibility, quality and inclusiveness of education and training systems, and in enabling learners to thrive in today's digital world.

Drawing on the results of the structured dialogue with Member States the proposal outlines the key enabling factors for universal access to high-quality, inclusive and accessible digital education and training. This includes addressing the digital divide between groups and territories, which has become even more apparent in the light of the COVID-19 crisis.

It proposes guidance and action that can be pursued by Member States to implement a whole-of-government and multi-stakeholder approach to developing, implementing and monitoring digital education and training policies, accompanied by targeted and impactful investment. Moreover, it promotes a culture of bottom-up innovation and digitalisation led by education and training staff.

The accompanying staff working document sets out stakeholder views and provides examples of evidence, policies and practices that underpin the proposal.

2023/0099 (NLE)

Proposal for a

COUNCIL RECOMMENDATION

on the key enabling factors for successful digital education and training

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 165(4) and Article 166(4) thereof,

Having regard to the proposal from the European Commission,

WHEREAS:

(1) The **European Council Conclusions** of 9 February 2023 stressed the need for bolder, more ambitious action to further develop the skills that are required for the green and digital transitions through education, training, upskilling and reskilling in order to meet the challenges of labour shortages and the transformation of jobs, including in the context of demographic challenges.

(2) Education and training are key for personal development, social cohesion, competitiveness and innovation, and a critical building block for a fairer, more resilient and more sustainable Europe. In that context, the Communication on the **European Education Area**[34] called for education and training policies and investments to be geared towards inclusive green and digital transitions for a sustainable and resource-efficient society and economy.

(3) The COVID-19 pandemic highlighted the need to improve the digital readiness of education and training systems in terms of resilience, high-quality, inclusiveness, accessibility, and security. The rapidly advancing technological change calls for a people-centred digital transformation and education and training systems which are fit for the digital age. To tackle these challenges, the Commission adopted the **Digital Education Action Plan 2021-2027**[35]. The action plan seeks to address the digital divide and inequities in education and training, and highlights the potential of technology to facilitate more accessible, flexible, personalised and learner-centred teaching and learning.

(4) The first strategic priority of the action plan – fostering the development of a high performing digital education ecosystem – stresses the need for strengthening digital capacity and resilience in education and training systems in a coherent and sustainable way. To this purpose, enablers such as relevant infrastructure, connectivity and digital

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34 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on achieving the European Education Area by 2025, COM(2020) 625 final of 30.9.2020.

35 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Digital Education Action Plan 2021-2027. Resetting education and training for the digital age', COM(2020) 624 final of 30.9.2020.

capacity have been identified in the action plan and further complemented in the **Council Conclusions on digital education in Europe's knowledge societies**[36].

(5) Responding to the need to achieve accessible, high-quality and inclusive digital education and training, this Recommendation should address the following **key enabling factors**: (i) a strategic approach on digital education and skills; (ii) a whole-of-government coordination and multi-stakeholder engagement; (iii) capacity-building for education and training institutions and teachers; and (iv) impact-focused investment.

(6) The effective implementation of these enabling factors requires action at top level, going beyond education and training ministries alone. In her 2021 speech on the State of the European Union, the President of the Commission called for leaders to focus on digital education and skills. This led to the launch of a **structured dialogue with Member States on digital education and skills**[37]. The outcomes of the structured dialogue highlighted a number of common challenges faced by Member States in the digital transformation of their education and training systems, demonstrating the need to share best practices at Union level.

(7) In this context, the Council Resolution on a **strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)** promotes European cooperation in education and training to support further the development of education and training systems in Member States. These are aimed at ensuring the personal, social and professional fulfilment of all citizens, while promoting democratic values, equality, social cohesion, active citizenship and intercultural dialogue, as well as sustainable social and economic development, the green and digital transitions, and employability.

(8) Reflecting the need for a whole-of-government approach to the digital transformation of education and training, in 2022, Member States nominated their representatives for the **high-level group of National Coordinators to the structured dialogue on digital education and skills**. Their mandate is to represent the relevant departments in their countries responsible for different aspects of digital education, training and skills (including education, labour, digital, industry and finance). This approach proved useful and necessary in bringing effectively together expertise from the different sectors and should be continued.

(9) In her 2022 speech on the State of the European Union[38], the President of the Commission declared 2023 the **European Year of Skills**[39]**.** This also entails increasing ongoing efforts to improve the skills needed for the digital transition, which now depend more than ever on the involvement of and coordinated contribution from stakeholders from all sectors of society, the economy and education and training.

(10) The first principle of **the European Pillar of Social Rights**[40] states that 'everyone has the right to quality and inclusive education, training and lifelong learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market.' Every European citizen should have

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36 OJ C 415, 1.12.2020, p. 22.

37 Digital Education Action Plan – Action 1 | European Education Area (europa.eu)

38 State of the Union Address by President von der Leyen (europa.eu)

39 COM(2022) 526 final.

40 OJ C 428, 13.12.2017, p. 10.

access to digital education, which enables them to develop the knowledge, skills and competences needed for active participation in today's increasingly digital societies. The human right to high-quality and inclusive education, training and lifelong learning, as set out and protected by the **Charter of Fundamental Rights of the European Union**, should be guaranteed at all times. Every European citizen is to benefit from suitable, accessible and safe learning environments, including digital ones.

(11) The **Union of Equality strategies**[41] adopted by the Commission emphasises the important role of quality and inclusive education as an enabler for making progress towards a Union of Equality for all, regardless of gender, racial or ethnic origin, religion or belief, disability, age or sexual orientation.

(12) The COVID-19 crisis has further exacerbated socio-economic inequalities in education and training, deepening the digital divide. The **Council Recommendation establishing a European Child Guarantee**[42] invites Member States to guarantee effective and free access to education and school-based activities for children in need, namely those at risk of poverty or social exclusion. Furthermore, the EU Strategy on the Rights of the Child[43] and the **Strategy for the Rights of Persons with Disabilities 2021-2030** call for building inclusive and accessible, quality education.

(13) The **European Skills Agenda**[44] sets out actions to help individuals and businesses develop more and better skills and put them to use by strengthening sustainable competitiveness and by building resilience to react to crises, based on the lessons learnt during the COVID-19 pandemic.

(14) **Digital Decade Policy Programme 2030**[45] and the **European Declaration on Digital Rights and Principles for the Digital Decade**[46] put forward a plan to achieve inclusive human-centred digital transformation of the EU's society and economy by 2030. This includes a governance and reporting framework with Member States as part of the Digital Decade Policy Programme to reach the relevant Union-level targets for the **Digital Decade**, including achieving universal connectivity (gigabit broadband for everyone and 5G everywhere, including in rural areas).These initiatives seek to address existing digital divides in terms of connectivity and skills by promoting action and putting in place necessary mitigating measures.

(15) Those initiatives highlight that successful digital education and training is about creating more and better opportunities for learning and teaching for everyone in the digital age. Digital solutions have made education and training systems in the Union

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41 Five equality strategies were adopted in 2020 and 2021 to make progress towards a Union of Equality: Gender Equality Strategy 2020-2025; LGBTIQ Equality Strategy 2020-2025; EU anti-racism action plan 2020-2025; Roma strategic framework for equality, inclusion and participation 2020-2030; Strategy for the Rights of Persons with Disabilities 2021-2030.

42 Council Recommendation (EU) 2021/1004 of 14 June 2021 establishing a European Child Guarantee (OJ L 223, 22.6.2021, p. 14).

43 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'EU strategy on the rights of the child', COM(2021) 142 final of 24.3.2021.

44 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'European Skills Agenda for sustainable competitiveness, social fairness and resilience' COM(2020) 274 final of 1.7.2020.

45 Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 (OJ L 323, 19.12.2022, p. 4).

46 OJ C 23, 23.1.2023, p. 1.

more accessible over the last few years. However, in a fast-developing world, it is vital to improve continuously the effectiveness and efficiency of education and support new teaching and learning approaches, including through existing and emerging digital solutions.

(16) **Council Conclusions on digital education in Europe's knowledge societies**[47] highlight that the widespread distribution of digital technologies and access to the internet create new possibilities for high-quality and inclusive education and training in Europe. Digital education, as an integral part of high-quality and inclusive education and training, can complement face-to-face teaching and contribute to enhancing accessibility of educational content and pedagogies, greater social inclusion as well as to more effective acquisition of competences, promoting educational success for all.

(17) At the same time, new and emerging technologies such as artificial intelligence quickly enter learner environments which brings potential opportunities as well as risks, such as cybersecurity. It is therefore crucial to support education and training institutions and teachers in developing better understanding about such tools and how they could use them in a confident and safe manner to the benefit of teaching and learning. The **Artificial Intelligence Strategy**[48], the **European data strategy**[49], the **Proposal for an Artificial Intelligence Act**[50]**,** the **Digital Services Act**[51] and the **Ethical guidelines on the use of artificial intelligence and data in teaching and learning for educators**[52], as well as the proposed European Digital Identity Framework[53], are relevant to the education and training sector and its use of digital technologies in practice. Concurrently, the Digital Education Action Plan is raising cybersecurity awareness among individuals, especially children and young people, and organisations, especially SMEs. Education and awareness raising will not only protect against cyber threats but will also contribute to developing and diversifying the cybersecurity workforce, complementing the efforts of the Cybersecurity Skills Academy.

(18) In a lifelong perspective, using digital technologies to improve the accessibility and quality of teaching and learning is of essence for all sectors and levels of education and training, starting from an early age to adult learning, including elderly citizens.

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47 OJ C 415, 1.12.2020, p.22

48 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Artificial Intelligence for Europe', COM(2018) 237 final of 25.4.2018.

49 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'A European strategy for data', COM(2020) 66 final of 19.2.2020.

50 COM(2021)206 final.

51 Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) (OJ L 277, 27.10.2022, p. 1).

52 European Commission, Directorate-General for Education, Youth, Sport and Culture, Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators, Publications Office of the European Union, 2022, https://data.europa.eu/doi/10.2766/153756.

53 https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-digital-identity_en

(19) Council Recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience[54] proposes a modernised Union policy vision of VET, including its digitalisation and the use of blended learning. The Osnabrück Declaration on vocational education and training as an enabler of recovery and just transitions to digital and green economies[55] states that digital learning can play an important and complementary role.

(20) The **European Universities initiative**[56], which supports transnational alliances of higher education institutions, promotes the creation and sharing of digital content for students, staff, researchers and citizens. Online and blended learning support the goal of the European universities to increase the mobility of their students and staff, offer more flexible learning pathways and increase transdisciplinary approaches to link students and staff with the public and private sector.

(21) **Council Recommendation on Upskilling Pathways: New Opportunities for Adults**[57] aims to provide low-qualified adults with flexible opportunities to improve their basic and further skills, including digital competences relevant for the labour market and active participation in society. This is being put into practice by delivering training in appropriate learning settings in which qualified teachers and trainers apply adult-specific teaching methods and exploit the potential of digital learning.

(22) **Council Conclusions on European teachers and trainers for the future**[58] recognise that teachers, trainers and school leaders are an indispensable driving force behind education and training. They are to be involved in creating education and training policies, with autonomy in applying these policies in practice. However, they also need the support of a comprehensive approach to initial education, induction and continuous professional development.

(23) **Council Recommendation on blended learning approaches for high-quality and inclusive primary and secondary education**[59] recommends embedding blended learning approaches in initial teacher education and continuous professional development programmes. It also recommends supporting educational staff in using digital tools and materials, including knowledge on how to operate safely and ethically in digital environments.

(24) **Council Recommendation on learning for the green transition and sustainable development**[60] highlights the importance of educators' digital competences and digital infrastructure, tools and resources to strengthen teaching and learning for sustainability.

(25) It is therefore essential that teachers are treated as key partners in the successful digital transformation in education and training. As key partners in this process they need to

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54 Council Recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience (OJ C 417, 2.12.2020, p. 1).

55 Endorsed on 30 November 2020

56 European Universities initiative | European Education Area (europa.eu)

57 Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults (OJ C 484, 24.12.2016, p. 1).

58 OJ C 193, 9.6.2020, p. 11.

59 Council Recommendation of 29 November 2021 on blended learning approaches for high-quality and inclusive primary and secondary education (OJ C 504, 14.12.2021, p. 21).

60 Council Recommendation of 16 June 2022 on learning for the green transition and sustainable development (OJ C 243, 27.6.2022, p. 1).

be closely involved and consulted in the adoption of digital technologies, as well as equipped with the necessary skills and competences for their effective use.

(26) This Recommendation fully respects the principles of subsidiarity and proportionality. Member States will decide, according to national circumstances, how to implement the Recommendation,

RECOMMENDS THAT MEMBER STATES:

1. Agree, through a whole-of-government approach, and together with key stakeholders, on a national strategy for digital education and skills, developed or updated along the principles of this Recommendation, and monitor its effectiveness and impact. In pursuit of their national strategy, Member States should in particular:

1.1. Set in an integrated manner national objectives for the digital transformation of education and training systems and digital skills development, and ensure they are reviewed and updated regularly.

1.2. Align the national objectives referred to in point 1.1 with the strategic priorities of the Digital Education Action Plan 2021–2027 and the Union-level targets of the Digital Decade Policy Programme.

1.3. Set ambitious national targets for the key enablers in line with this Recommendation and the national objectives for the digital transformation of education and training systems.

1.4. Monitor progress in reaching the national targets referred to in point 1.3 and publish reports on a regular basis, including lessons learnt and recommendations for improvement.

1.5. Conduct regular evaluations of the impact of digital education policies and practices, including on learning outcomes, accessibility and inclusion, equality and well-being, with a life-long learning approach, and develop research on those subjects.

2. Increase the efficiency, effectiveness and resilience of digital education and training policy by promoting synergies and coordination at all levels of administration and ensuring a whole-of-government and multi-stakeholder approach. In particular, Member States should:

2.1. Organise regular dialogues between the different parts of government involved in delivering digital education and training at appropriate levels in accordance with the structure of national education and training systems to ensure alignment, draw benefits from synergies, and prevent double-spending.

2.2. Ensure the structural involvement of stakeholders and social partners in digital education and training policy design, development, implementation and evaluation processes, including active participation of those without formal representative bodies, such as parents and learners, including those from different socio-economic, age, sectoral and territorial contexts.

2.3. Establish sustainable cooperation and exchange with the private sector and technology providers, including education technology providers, small and medium-sized enterprises and start-ups in developing solutions that reflect Union values and principles, including digital sovereignty, interoperability, security, data privacy and transparency, as well as sustainable use of rare resources and energy for digital purposes, by:

2.3.1. supporting research, development and testing of digital educational tools and technologies, including those based on emerging technologies including eXtended Reality, virtual reality, augmented reality, artificial intelligence, robotics and metaverse;

2.3.2. promoting public-private partnerships for the development and deployment of digital education solutions, where appropriate;

2.3.3. providing incentives for research on the quality, inclusion, accessibility and impact of digital education solutions, including those based on emerging technologies.

2.4. Engage in peer-learning, the exchange of practices and coordination, including across different policy sectors, at European and international level, to find common solutions to cross-national challenges.

3. Ensure digital training for all teaching and support staff and promote capacity building of education and training institutions. In particular, Member States should:

3.1. Ensure that all teachers and teaching staff are supported in integrating digital technologies into their pedagogy, namely to use digital technologies for teaching, learning and assessment. That support should in particular take the following forms:

3.1.1. involving teachers in institutional decisions on how to integrate digital equipment into teaching and learning and on selecting and developing digital education content;

3.1.2. introducing mandatory digital pedagogy in all initial teacher education programmes for pre-service teachers, and supporting providers of those programmes with necessary resources and facilities for that purpose; cooperate at EU level on curriculum development, delivery and assessment on digital pedagogy for teachers ;

3.1.3. ensuring that all in-service teachers and teaching staff are provided with regular opportunities and time to develop and upgrade their digital skills in continuous professional development,;

3.1.4. recognising and incentivising flexible, accessible and innovative formats of digital upskilling such as online training, short courses leading to micro-credentials, national and international staff exchanges, peer learning, and digital upskilling through collaborative projects, networks, and communities of practice and research;

3.1.5. making use of opportunities to develop digital pedagogy through the Erasmus+ Teacher Academies;

3.1.6. reflecting the need for digital well-being in the teaching and learning process and the design of supportive digital teaching and learning approaches and environments.

3.2. Encourage education and training institutions to foster the digital transformation of education and training by:

3.2.1. promoting capacity building and the use of frameworks and self-assessment tools such as SELFIE (self-reflection tool designed to help schools embed digital technologies into teaching, learning and assessment, based on the DigCompOrg framework for school leaders), SELFIEforTEACHERS (based on the DigCompEdu framework), and HEInnovate (self-assessment tool for higher education institutions), to identify institutional needs and objectives for digital transformation and upskilling;

3.2.2. including criteria on the enabling factors for digital education and training in internal and external quality assurance processes for education and training institutions;

3.2.3. helping education and training institution leaders implement the digital transformation, including by offering continuous professional development;

3.2.4. promoting evidence-based scaling up of good practice by giving recognition to early adopter institutions that have improved teaching and learning through innovation and digital technologies, and supporting peer-to-peer exchanges;

3.2.5. encouraging a continuous dialogue between education and training institutions and industry on development and training needs and opportunities, exchanging experience and providing feedback on products and technologies used in teaching and learning;

3.2.6. ensuring that every school has access to ICT and digital pedagogy administrators to help teachers and learners select, effectively deploy, manage and maintain digital devices and tools for teaching, learning and assessment;

3.2.7. taking comprehensive measures to address cybersecurity in all education and training institutions, encouraging all staff to take cybersecurity training, raising cybersecurity awareness among students and ensuring robust security policies and access control while making full use of modern technology solutions such as cryptography and authentication.

4. Promote equitable and impact-focused investment in high-quality, resilient and inclusive digital education and training. In particular, Member States should:

4.1. Increase the efficiency and impact of spending on connectivity, equipment, infrastructure, digital tools and content by:

4.1.1. coordinating procurement processes to benefit from economies of scale where possible, while allowing for flexibility to the specific needs of education and training institutions, taking into account also the need for sustainability and accessibility for persons with disabilities; cooperate at EU level on standards and specifications that can be used for issues such as procurement organised in the field of digital education;

4.1.2. considering alternative approaches to investment, including public-private partnerships, donation schemes, the refurbishment of second-hand equipment, as well as translating and reusing, where relevant, digital education content from other Member States;

4.1.3. offering tailored support, expertise and know-how, for example in the form of public-private partnerships, advisory bodies or steering/clearing houses, to allow education and training institutions to choose appropriate digital education solutions that are tailored to their teaching and learning needs and address digital security, accessibility, data privacy and digital well-being in a strategic manner;

4.1.4. ensuring that investments in new digital equipment, infrastructure, tools and content are accompanied by corresponding training.

4.2. To provide equal access for all learners, ensure adequate investment in:

4.2.1. high-speed internet connectivity to achieve 100% gigabit or higher internet connectivity in all education and training institutions and close territorial and socioeconomic gaps by using a variety of different technologies and alternatives, fibre, 5G and satellite, in line with the Union-level targets for the Digital Decade Policy Programme;

4.2.2. upgrading digital classroom equipment and ensuring that all teachers and teaching staff have access to a personalised device (desktop, laptop or tablet) to enrich their pedagogical practice;

4.2.3. ensuring that all learners have access to a personalised device at school that meets their specific needs and that all devices are serviced and maintained regularly;

4.2.4. digitising teaching and learning materials and developing modern, accessible and high-quality digital education content, aligned with curricula and good pedagogical practices;

4.2.5. the deployment and integration of relevant centralised services, including through cloud solutions, such as virtual learning and administration management systems (including secure communication and collaboration tools, education content repositories, classroom management and digital assessments) in all education and training institutions, while ensuring their interoperability, privacy and data security;

4.2.6. ensuring inclusive education by safeguarding the accessibility of digital education content and technologies for learners and teachers with disabilities and providing specialised equipment and solutions for learners with special educational needs, taking into account the existing Union accessibility legislation, in particular Directives (EU) 2016/2102[61] and (EU) 2019/882 of the European Parliament and of the Council[62].

WELCOMES THE COMMISSION'S INTENTION TO:

1. Support the implementation of this Recommendation through: the High Level Group on Digital Education and Skills to be set up by Commission Decision.

Support effective continuation and functioning of the High-level Group set up for the Structured Dialogue with Member States with a view to provide steering on key strategic topics addressed in this Recommendation. The group may establish technical subgroups, notably on assessment and certification of digital skills, curriculum development, and quality requirements for digital education tools and content. This work should ensure consistency and complementarity with the work carried out by the High Level Group on Education and Training[63] and the Digital Decade Board[64].

2. Promote the exchange of best practice, peer learning and cooperation with stakeholders on digital education and training. In particular, the Commission intends to:

2.1. Enable the exchange of best practice, networks and peer learning among Member States, policy-makers, practitioners and stakeholders from the private and public sector through existing tools, platforms and communities (Working Group on Digital Education: Learning, Teaching and Assessment (DELTA), European SALTO Digital Resource Centre, European School Education Platform, including eTwinning, Electronic Platform for Adult Learning in Europe (EPALE), Better Internet for Kids platform, Technical Support Instrument projects), including by promoting the Digital Education Hub as a main entry point for digital education and training in the Union.

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61 Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies (OJ L 327, 2.12.2016, p. 1).

62 Directive (EU) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the accessibility requirements for products and services (OJ L 151, 7.6.2019, p. 70).

63 Council Resolution on the governance structure of the strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030) (OJ C 497, 10.12.2021, p. 1).

64 Commission Decision of 11 October 2022 setting up the group of experts 'the Digital Decade Board' - C(2022) 7141.

2.2. Promote cooperation with stakeholders, including software and hardware providers, on digital infrastructure and tools and their sustainable use in education and training, while promoting Union values and principles on privacy, data protection and interoperability.

2.3. Strengthen international cooperation on the enabling factors for digital education and skills.

3. Support the digital training of teachers, teaching and support staff of education and training institutions. In particular, the Commission intends to:

3.1. Support, through Erasmus+, mobility with the aim of upskilling teachers, teaching and support staff of education and training institutions in the use of digital technologies in teaching, learning and administration, including with regard to the rapidly changing capabilities of emerging technologies.

3.2. Promote tools like DigCompEdu and SELFIEforTEACHERS, and support cooperation on the development and delivery of courses on digital pedagogy for initial teacher education and continuous professional development.

3.3. Promote the roll-out of the ethical guidelines on the use of artificial intelligence and data in teaching and learning to help primary and secondary teachers integrate artificial intelligence and data into school education effectively, and build on them to take into account the implications of misuse of emerging technologies such as generative artificial intelligence and counter the risks.

4. Support impact-focused investment in digital education and training infrastructure and services through national and Union funding and strengthen evidence on the effectiveness and efficiency of digital education policies and tools. In particular, the Commission intends to:

4.1. Support Member States' investment in essential digital education infrastructure (including connectivity, equipment, tools and digital content) through Union funding and strengthen the links between existing Union policies and funding instruments and programmes and national and regional strategies for digital education and the digitalisation of schools.

4.2. In light of the rapid technological developments, support the development, in cooperation with Member States and stakeholders, of guidelines and quality requirements for accessible, well-designed and high-quality digital education content and virtual learning environments and tools (such as stand-alone learning management systems and applications) to help education and training systems systematically evaluate their quality, safety, trustworthiness, reliability, utility and inclusiveness.

4.3. Support Member States and technology providers in addressing interoperability challenges linked to digital education platforms and services in different education and training sectors.

4.4. Increase research coordination, promote evidence-based scaling up of best practices and support, via Horizon Europe, Digital Europe and Erasmus+ programmes, the research, development and deployment of digital solutions for teaching, learning and assessment, and the testing of their impact on improving learning outcomes and equity.

4.5. Support Member States in developing effective and efficient digital education policies by improving evidence, evaluation and analysis of those policies through the

Learning Lab on Investing in Quality Education and Training, as well as provide targeted guidance and technical support through the Technical Support Instrument.

4.6. Facilitate exchanges on national approaches and best practice on the effective procurement of digital equipment and infrastructure for education and training institutions through, inter alia, the Network of National Advisory Services on digital education.

4.7. Support the digital transformation of Member State education and training credentials, in particular with the further roll-out of the European Digital Credentials for Learning infrastructure.

5. Improve transparency and evaluate progress in implementing digital education and training. In particular, the Commission intends to:

5.1. Contribute to building comparative data on the key enabling factors of digital education and training across the Union by conducting a *Digital Education in Europe* survey every 3 years in the Member States, building on and further developing the 'European Survey of Schools: ICT in Education', with the aim of collecting a first comprehensive set of data by 2025.

5.2. Monitor and report on progress on the enabling factors for digital education and training, taking into account Member States' national strategies, within the European Education Area framework, such as the Education and Training Monitor.

5.3. Support Member State participation in international surveys that provide comparative data on the state of play of teachers' readiness for digital education, most notably the OECD Teaching and Learning International Survey.

5.4. Review the progress made in implementing this Recommendation and report to the Council no later than 5 years after its adoption.

Done at Brussels,

For the Council
The President