



Council of the  
European Union

Brussels, 23 November 2023  
(OR. en)

15741/23

---

---

**Interinstitutional File:  
2023/0099(NLE)**

---

---

**EDUC 459  
DIGIT 273  
JEUN 272  
EMPL 584  
SOC 813**

### **OUTCOME OF PROCEEDINGS**

---

From: General Secretariat of the Council  
To: Delegations  
Subject: Council Recommendation on the key enabling factors for successful digital education and training

---

Delegations will find attached the abovementioned Recommendation, adopted by the Council (Education, Youth, Culture and Sport) at its meeting on 23 November 2023.

**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 Articles 165 and 166 thereof,

Having regard to the proposal from the European Commission,

WHEREAS:

1. The European Council conclusions of 9 February 2023<sup>1</sup> emphasised 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 to meet the challenges of labour shortages and the transformation of jobs, including in the context of demographic challenges.

---

<sup>1</sup> EUCO 1/23.

2. Education and training are key for a more cohesive, equal, inclusive, digital, sustainable, competitive, innovative, green and resilient Europe, and for citizens' personal development, well-being, and ability to adapt to and perform in a changing labour market and to engage in active and responsible citizenship. 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)<sup>2</sup> promotes European cooperation to further support the development of education and training systems in Member States. The purpose of these systems is to ensure 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 economic prosperity, the green and digital transitions, and employability.
3. The COVID-19 pandemic highlighted the need to improve the digital readiness of education and training systems in terms of resilience, justice, equality, quality, inclusiveness, accessibility, and security. 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<sup>3</sup>. 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, safe, flexible, personalised and learner-centred teaching and learning.

---

<sup>2</sup> OJ C 66, 26.2.2021, p. 1.

<sup>3</sup> COM(2020) 624 final.

4. The first strategic priority of the action plan – fostering the development of a high-performing digital education ecosystem – stresses the need to strengthen digital capacity and resilience in education and training systems in a coherent and sustainable way. For this purpose, enabling factors such as relevant infrastructure, connectivity and digital capacity have been identified in the action plan and expanded upon in the Council conclusions on digital education in Europe’s knowledge societies<sup>4</sup>.
5. The effective implementation of these enabling factors requires action that goes beyond education and training ministries alone. In this respect, in 2022 the Commission conducted a structured dialogue with Member States on digital education and skills. After the ministerial debate which took place during the November 2021 Education, Youth, Culture and Sport (EYCS) Council, and reflecting the need for a whole-of-government approach, Member States nominated their representatives for the high level group of national coordinators with the mandate to represent the relevant departments in their countries responsible for different aspects of digital education, training and skills (including education, labour, digital, culture, industry and finance). The outcomes of the structured dialogue<sup>5</sup> 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.

---

<sup>4</sup> OJ C 415, 1.12.2020, p. 22.

<sup>5</sup> Annex 3 to staff working document SWD(2023) 205 final.

6. The first principle of the European Pillar of Social Rights<sup>6</sup> 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’. The right to education, as set out in and protected by the Charter of Fundamental Rights of the European Union, should be guaranteed at all times. Likewise, the Council Recommendation establishing a European Child Guarantee<sup>7</sup> 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 and social exclusion.
7. The European Skills Agenda<sup>8</sup> 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. The Council Resolution on a new European agenda for adult learning 2021-2030<sup>9</sup> includes a focus on formal, non-formal and informal learning opportunities for adults, in a lifelong learning perspective.

---

<sup>6</sup> OJ C 428, 13.12.2017, p. 10.

<sup>7</sup> Council Recommendation (EU) 2021/1004 of 14 June 2021 establishing a European Child Guarantee (OJ L 223, 22.6.2021, p. 14).

<sup>8</sup> COM(2020) 274 final.

<sup>9</sup> OJ C 504, 14.12.2021, p. 9.

8. Every European citizen should have 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 Digital Decade Policy Programme 2030<sup>10</sup> puts forward a plan to achieve an inclusive, human-centred digital transformation of the EU's society and economy by 2030. This includes setting up a governance and reporting framework with the Member States in order to reach the relevant Union-level targets for the Digital Decade, such as achieving universal connectivity (gigabit broadband for everyone and 5G everywhere, even in rural and remote 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. In this respect, the 2022 European Declaration on Digital Rights and Principles for the Digital Decade<sup>11</sup> emphasises the need to promote and support efforts to equip all education and training institutions with digital connectivity, infrastructure and tools.

---

<sup>10</sup> 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).

<sup>11</sup> OJ C 23, 23.1.2023, p. 1.

9. 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 more accessible over the last few years. Digital resources have the potential to bridge geographical divisions. Digital commons<sup>12</sup>, in particular, can bring substantial benefits such as strategic autonomy, reduced costs and increased transparency. However, in a fast-developing world, it is vital to continuously improve the effectiveness and efficiency of education and training and support new teaching and learning approaches, including through existing and emerging digital solutions. Moreover, it is vital that learners understand the functioning of underlying technologies, and develop skills and competences for a creative, safe, ethical and responsible use of digital technologies.
10. The Council conclusions on digital education in Europe's knowledge societies<sup>13</sup> 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 the accessibility of educational content and pedagogies, social inclusion and the effective acquisition of competences, promoting educational success for all.

---

<sup>12</sup> 'Digital commons' is an evolving concept, which can broadly be defined as non-rivalrous and non-exclusive digital resources characterised by shared production, maintenance and governance. These include, among other things, open-source software, open data, open standards, open AI libraries and open content.

<sup>13</sup> OJ C 415, 1.12.2020, p. 22.

11. At the same time, new and emerging technologies such as artificial intelligence (AI) quickly enter learner environments, which brings potential opportunities as well as risks, such as cybersecurity threats. It is therefore crucial to support education and training institutions and non-formal learning institutions, as well as teachers, trainers and other education staff, in developing a better understanding of such tools and how to use them in a confident and safe manner to the benefit of teaching and learning. This includes an awareness of the implications that relevant Union legislation in the digital domain, such as the upcoming Artificial Intelligence Act<sup>14</sup> and the Digital Services Act<sup>15</sup>, and initiatives such as the European strategy for data<sup>16</sup>, may have on teaching and learning practices. Concurrently, the Commission's Digital Education Action Plan is raising cybersecurity awareness among individuals, especially children and young people, and organisations, especially SMEs. Education and training, as well as 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 initiative.
12. In a lifelong perspective, using digital technologies to improve the accessibility and quality of teaching and learning is essential for all levels and types of education and training, from early childhood education and care, throughout primary and secondary education, to vocational education and training, higher education and adult learning.

---

<sup>14</sup> COM(2021) 206 final.

<sup>15</sup> 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).

<sup>16</sup> COM(2020) 66 final.



13. A range of Council Recommendations have highlighted the importance of all levels and types of education and training for recovery and a fair transition to digital and green economies. Thus, the Council Recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience<sup>17</sup> proposes a modernised Union policy vision of VET, including its digitalisation and the use of blended learning, and the Council Recommendation on building bridges for effective European higher education cooperation<sup>18</sup> recognises that strong, inter-connected higher education institutions are an important instrument for tackling the challenges related to the green and digital transitions.
14. Furthermore, the Council Recommendation on Upskilling Pathways: New Opportunities for Adults<sup>19</sup> 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 education and training in appropriate learning settings in which qualified teachers and trainers apply adult-specific teaching methods and exploit the potential of digital learning.

---

<sup>17</sup> 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).

<sup>18</sup> Council Recommendation of 5 April 2022 on building bridges for effective European higher education cooperation (OJ C 160, 13.4.2022, p. 1).

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

15. Teachers and trainers are also especially relevant actors in the process, and should be treated as key and trusted partners in the successful digital transformation since they are the driving force behind education and training<sup>20</sup>. As such, they need to be closely involved and consulted in the adoption of digital technologies, as well as equipped and empowered with the necessary skills and competences for their effective use. They need the support of a comprehensive approach to initial education, induction and continuous professional development. Embedding blended learning approaches is also recommended, including how to operate safely and ethically in digital environments<sup>21</sup>. Furthermore, educators' digital competence and digital infrastructure, tools and resources are key to strengthening teaching and learning for sustainability<sup>22</sup>.
16. Responding to the need for accessible, high-quality and inclusive digital education and training, this Recommendation should address the following key enabling factors: (i) a strategic approach to digital education and skills; (ii) whole-of-government coordination and multi-stakeholder engagement; (iii) capacity building for education and training institutions, leaders and teaching and support staff; and (iv) impact-focused investment.
17. This Recommendation fully respects the principles of subsidiarity and proportionality. Member States will decide, according to national circumstances, how to implement the Recommendation,

---

<sup>20</sup> Council conclusions on European teachers and trainers for the future (OJ C 193, 9.6.2020, p. 11).

<sup>21</sup> 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).

<sup>22</sup> Council Recommendation of 16 June 2022 on learning for the green transition and sustainable development (OJ C 243, 27.6.2022, p. 1).

## RECOMMENDS THAT MEMBER STATES:

1. Agree, preferably through a whole-of-government approach, and involving key stakeholders, on coherent and consistent national, and where appropriate regional, strategies or strategic approaches for digital education and skills and competences, developed, further strengthened or updated taking inspiration from the principles of this Recommendation, and monitor their effectiveness and impact. In pursuit of their strategies or strategic approaches, Member States are recommended to:
  - a) set or review, in an integrated manner, national objectives for the key enabling factors to contribute to the digital transformation of education and training systems and the development of digital skills and competences, and ensure their regular review and update;
  - b) where relevant, take into consideration within the national objectives the strategic priorities of the Commission's Digital Education Action Plan 2021–2027; where possible, build on this process to inform the national roadmaps to be submitted by Member States under the Digital Decade Policy Programme 2030;
  - c) conduct regular evaluations of the impact of digital education policies and practices, including on school participation, learning outcomes, accessibility and inclusion, equality and well-being, taking a lifelong learning approach, and develop research on those subjects, avoiding additional administrative burdens.

2. Increase the efficiency, effectiveness and resilience of digital education and training policy by promoting synergies and coordination at all levels of public administration and aspiring to a whole-of-government and multi-stakeholder approach. In particular, Member States are recommended to:
- a) promote 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;
  - b) facilitate the structural involvement of stakeholders and social partners in digital education and training policy design, in producing effective solutions to digital education and standards, and in development, implementation and evaluation processes. Due attention should be paid to the active participation of those without formal representative bodies, such as parents and learners, and the inclusion of different socio-economic, age, sectoral and territorial contexts;
  - c) promote 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, digital commons, interoperability, standardisation, security, data privacy, transparency and intellectual property rights, as well as the sustainable use of rare resources and energy for digital purposes, for example by:
    - i) supporting the development and testing of digital educational tools and technologies, as well as research on the quality, inclusiveness, accessibility and impact of digital education solutions, including those based on emerging technologies such as artificial intelligence, immersive technologies such as virtual reality, augmented reality, eXtended Reality, robotics, the metaverse and open source alternatives for digital educational tools;

- ii) promoting public-private partnerships for the development and deployment of digital education solutions, where appropriate.
  - d) engage in peer learning, the exchange of practices and coordination, including across different policy sectors, at European and international level, on both the opportunities and the risks presented by the use of digital devices in education, in order to find common solutions to cross-national challenges<sup>23</sup>.
3. Encourage digital training for leaders and teaching and support staff of education and training institutions, and promote their capacity building. In particular, Member States are recommended to:
- a) take adequate measures to support all teachers and teaching staff in integrating digital technologies into their pedagogy, namely using digital technologies for teaching, learning and assessment, when this could be of added value, in an age-appropriate way. That support could include, for instance:
    - i) empowering teachers by involving them in the decision-making process on the integration of digital equipment into teaching and learning and on the selection, development and assessment of digital education content;
    - ii) encouraging the introduction of digital pedagogy into all initial teacher education programmes for pre-service teachers, supporting providers of those programmes with the necessary resources and facilities for that purpose, and cooperating at EU level by exchanging good practices on curriculum development, delivery and assessment of digital pedagogy for teachers;

---

<sup>23</sup> Council conclusions on supporting well-being in digital education (OJ C 469, 9.12.2022, p. 19).

- iii) actively encouraging in-service teachers and teaching staff to develop and upgrade their digital skills and competences in continuous professional development;
  - iv) providing and recognising flexible, accessible and innovative formats of digital upskilling such as online training, short courses that may lead to micro-credentials, national and international staff exchanges and peer learning, and promoting collaborative projects, networks, and communities of practice and research;
  - v) sharing good practices and experiences in digital pedagogy through programmes and initiatives at national and EU level, such as the Erasmus+ Teacher Academies;
  - vi) 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 for all levels and types of education and training, taking into account the risk of overuse and misuse of digital technologies.
- b) encourage education and training institutions to foster the digital transformation of education and training, for example by:
- i) promoting capacity building and the use of national as well as European frameworks and self-assessment tools such as SELFIE (a 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), SELFIE for work-based learning, and HEInnovate (a self-assessment tool for higher education institutions), to identify institutional needs and objectives for digital transformation and upskilling;

- ii) taking into account criteria relating to the key enabling factors for digital education and training in internal and external quality assurance processes for education and training institutions;
- iii) helping leaders of education and training institutions implement the digital transformation, including by offering continuous guidance, support and professional development;
- iv) promoting evidence-based scaling up of good practice by recognising early-adopter institutions that have improved teaching and learning through innovation and digital technologies, and supporting peer-to-peer exchanges;
- v) 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;
- vi) ensuring that every school has access to technical and pedagogical digital support services and training to help teachers and learners select, effectively deploy, manage and maintain digital devices and tools for teaching, learning and assessment with an emphasis on their pedagogical use;
- vii) taking comprehensive measures to address cybersecurity in all education and training institutions, encouraging all staff to undertake cybersecurity training, raising cybersecurity awareness among students and their families, and maintaining 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 are recommended to:
- a) increase the efficiency and impact of spending on connectivity, equipment, infrastructure, digital tools and content, for example by:
    - i) coordinating procurement processes, in line with national circumstances, to benefit from economies of scale where possible, while allowing for flexibility with regard to the specific needs of education and training institutions, and taking into account the need for sustainability and accessibility for persons with disabilities; cooperating at EU level, on a voluntary basis, on standards and specifications that can be used in matters such as procurement in the field of digital education;
    - ii) supporting responsible and sustainable provisioning of digital products and services, as well as their maintenance, renewal and updating, in compliance with the ‘do no significant harm’ principle (DNSH);
    - iii) considering alternative approaches to investment, including public-private partnerships, donation schemes, and the refurbishment of second-hand equipment, taking into account the software and hardware compatibility requirements, as well as translating and reusing, where relevant, digital education content from other Member States;
    - iv) facilitating tailored support, expertise and know-how, for example in the form of public-private partnerships, advisory bodies or steering/clearing houses, to enable 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;



- v) ensuring that investments in new digital equipment, infrastructure, tools and content are accompanied by corresponding training;
  - vi) promoting the use of open source, open content or open data solutions and digital commons in general, thus contributing to their development in digital practice and better safeguarding public values, sovereignty and the sustainability of digital resources in education.
- b) provide equal access to all learners by ensuring adequate investment in:
- i) high-speed internet connectivity to achieve 100% gigabit or higher internet connectivity in all education and training institutions and close territorial and socio-economic gaps by using a variety of different technologies, including broadband, fibre, 5G or satellite, in line with the Union-level targets for the Digital Decade Policy Programme 2030;
  - ii) upgrading digital classroom equipment so that all teachers and teaching staff have access to a personalised device (desktop, laptop or tablet) to enrich their pedagogical practice, and that all devices are serviced and maintained regularly, in line with data protection;
  - iii) building science, technology, engineering, arts and mathematics (STEAM) learning environments that can foster digital pedagogy through an interdisciplinary approach;
  - iv) ensuring that all primary and secondary level learners, particularly the most vulnerable and disadvantaged<sup>24</sup>, have access, whenever it is appropriate to their age, to a personalised device that meets their specific needs, and that all devices are serviced and maintained regularly, in line with data protection;

---

<sup>24</sup> For instance, those living in rural and remote areas or the outermost regions, those from socio-economically disadvantaged or marginalised groups, and persons with disabilities.

- v) developing accessible, scalable, adaptable, and high-quality digital education content which is in line with the curricula and good pedagogical practices and digitising teaching and learning materials, when of added value;
- vi) deploying and integrating 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 standardisation and interoperability, privacy and data security;
- vii) promoting 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 existing Union accessibility legislation, in particular Directives (EU) 2016/2102<sup>25</sup> and (EU) 2019/882 of the European Parliament and of the Council<sup>26</sup>.

---

<sup>25</sup> 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).

<sup>26</sup> 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).

5. Entrust the High Level Group on Education and Training with the task of providing steering on the key strategic topics addressed in this Recommendation. This will take place mainly through discussions, a regular exchange of information and the provision of guidance on strategic issues<sup>27</sup> related to the key enabling factors for successful digital education and training. The High Level Group should receive support and draw on expertise as it requires, including from the Working Group on Digital Education: Learning, Teaching and Assessment (DELTA) and other expert groups in other sectors, such as the Digital Decade Board, in order to build on a horizontal, cross-departmental approach. The topics to be covered could be announced in the successive 18-month policy agendas.

WELCOMES THE COMMISSION'S INTENTION TO:

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

---

<sup>27</sup> Such issues could include, among others, the assessment and certification of digital skills and competences, quality requirements for digital education tools and content or the integration of artificial intelligence into education and training, including through informatics and computational thinking.

- b) 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, interoperability and intellectual property rights, taking into account the need to safeguard the autonomy of education and training institutions;
  - c) strengthen international cooperation on the key enabling factors for digital education and skills and competences.
2. Support the digital training of the leaders and teaching and support staff of education and training institutions. In particular, the Commission intends to:
- a) support, through Erasmus+, mobility with the aim of upskilling the leaders and 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;
  - b) promote tools such as DigCompEdu and SELFIEforTEACHERS, update them when appropriate, and support cooperation on the development and delivery of courses on digital pedagogy for initial teacher education and continuous professional development;
  - c) promote the roll-out of the ‘Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators’ in order to help primary and secondary teachers effectively integrate artificial intelligence and data into school education, and build on those guidelines to take into account the implications of the misuse of emerging technologies such as generative artificial intelligence and counter the risks.

3. Support impact-focused investment in digital education and training infrastructure and services through national and Union funding and strengthen the evidence base on the effectiveness and efficiency of digital education policies and tools. In particular, the Commission intends to:
- a) 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 and strategic approaches for digital education and the digitalisation of schools;
  - b) in light of 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 standalone learning management systems and applications, including open source solutions) to help education and training systems systematically evaluate their quality, safety, trustworthiness, reliability, utility and inclusiveness. Such guidelines and quality requirements would be used by Member States on a voluntary basis;
  - c) encourage the involvement of Member States in creating digital commons in education and training through supporting and facilitating active cooperation between Member States in promoting open source, open content or open data solutions with shared and multi-stakeholder governance;
  - d) support Member States and technology providers in addressing standardisation and interoperability challenges linked to digital education platforms and services in different levels and types of education and training;

- e) increase research coordination, promote evidence-based scaling up of best practices and support, via Horizon Europe, Digital Europe and Erasmus+ programmes, research on and the development and deployment of digital solutions for teaching, learning and assessment, and the testing of their impact on improving learning outcomes and equity;
- f) support Member States in their efforts towards the effective, safe and inclusive use of artificial intelligence and generative AI in education and training, including by fostering intensified European cooperation and providing relevant guidelines, for example on AI literacy and critical and confident AI usage;
- g) support Member States in developing effective and efficient digital education policies by improving the evidence base, evaluation and analysis of those policies, for example 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;
- h) facilitate exchanges on national approaches and best practice in the effective procurement of digital equipment and infrastructure for education and training institutions through the Network of National Advisory Services for digital education and other relevant channels;
- i) support the digital transformation of Member States' education and training credentials, in particular with the further roll-out of the European Digital Credentials for Learning infrastructure.

4. Improve transparency and evaluate progress in implementing digital education and training. In particular, the Commission intends to:
- a) contribute to building comparative data on the key enabling factors for digital education and training across the Union by conducting a ‘Digital Education in Europe’ survey in the Member States every three years, 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;
  - b) monitor, preferably by using existing monitoring tools, and report on progress on the key enabling factors for digital education and training, taking into account Member States’ strategies and strategic approaches, within the strategic framework for European cooperation in education and training, such as the Education and Training Monitor, avoiding additional administrative burdens;
  - c) support Member States’ 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;
  - d) review the progress made in implementing this Recommendation and report to the Council no later than five years after its adoption.

Done at Brussels,

*For the Council*

*The President*

---