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Role of education in the digital era: from "digital natives" to "digital citizens"

Parliamentary Assembly

1.   The 21st century needs education systems that promote skills and competences for the future, not least creativity, critical thinking, collaboration and communication, and reflect Europe's demands for economic innovation and growth, the adaptability of labour markets and the necessities of the society at large.

2.   Digital technology offers unprecedented opportunities to complement, enrich and transform education to meet these new challenges. In addition, Information and Communication Technologies (ICT) are a key tool to facilitate equitable and inclusive access to education, bridge the learning divides, open new perspectives for teachers and for their profession, enhance the quality and meaning of learning, and improve education administration and governance.

3.   Education systems all over Europe have however been slow to adapt to the new circumstances. Currently, some 44% of adults in the European Union member States are estimated not to have sufficient digital skills and nearly 20% have no digital skills at all. Less than half of the children are in digitally equipped schools today and only 20-25% of students are taught by teachers who are confident using technology in the classroom. The divide is even wider in the greater Council of Europe area.

4.   Digital natives, albeit proficient in the informal use of hi-tech tools and social media, do not necessarily learn to make systematic use of ICT in academic settings. To date, as many as 50% to 80% of schoolchildren have never used digital textbooks, exercised software or learning games.

5.   Education of digital skills starts at school, yet a large proportion of schools are not connected. One of the goals of the EU European Education Area project is to ensure that by 2025 all schools in the European Union should have access to high-capacity broadband networks, and this with adequate financial backing; other Council of Europe member States do not benefit from similar aid resources and support structures. The Parliamentary Assembly is concerned that such substantial disparities risk creating new social divides both within and between European countries.

6.   Many countries outside the European Union have made heavy investments into ICT to equip schools. The Assembly recalls however that technological investments without blending ICT meaningfully into teaching and learning processes will not bring about the desired transformations in education. A major paradigm shift is paramount to refocus education from knowledge transmission to knowledge creation and from the teacher's teaching process to the student's learning process. This paradigm shift should be accompanied by properly defined strategic goals, enhanced autonomy of schools and of teachers, introduction of new hybrid forms of learning where mobile, digital, virtual, social and physical learning spaces merge, and substantial reforms in student assessment.

7.   In this process, young people need to be equipped with appropriate skills and competences to become efficient and responsible actors in the ever-digitalised world. The Assembly commends the European Union institutions for their work in this domain, and in particular for the adoption of the European Commission's

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1.   *Text adopted by the Standing Committee*, acting on behalf of the Assembly, on 29 November 2019 (see Doc. 15000, report of the Committee on Culture, Science, Education and Media, rapporteur: Mr Constantinos Efstathiou).
        See also Recommendation 2167 (2019).

Digital Education Action Plan in 2018 and for having worked out the comprehensive Digital Competence Frameworks for Citizens and for Educators, which together offer an in-depth reference model to systematically promote digital competence.

8.   Acquiring digital skills needs to start from the earliest age and carry on throughout life. Learning about robotics, coding, cybersecurity, blockchain and artificial intelligence will form the backbone of future education and training schemes. Active, problem-based learning that covers various subject areas will benefit creativity and innovation. The Assembly stresses the urgency to draw up a minimum level of digital competences that students should acquire during their studies and the criteria to assess them. In this regard, the Assembly commends the Council of Europe guidelines to respect, protect and fulfil the rights of the child in the digital environment, which provide comprehensive guidance in this area, notably concerning to the promotion and development of digital literacy, including media and information literacies and digital citizenship education.

9.   The Assembly regrets that, whereas a similar share of young women and young men feel sufficiently skilled to use digital technologies in their daily lives, there is still a considerable gender gap when it comes to young women's representation in ICT and science, technology, engineering and mathematics (STEM) studies and careers. The Assembly recalls its Resolution 2235 (2018) "Empowering women in the economy", which emphasised that greater efforts should be made to enhance the use of information and communication technology by girls, and motivate young women to pursue technical professions, the latter being necessary to unleash Europe's digital potential and ensure that women take an equal share in shaping the digital world.

10.   Digital transformation creates numerous challenges for online safety and cyber hygiene. The digital natives are particularly vulnerable to a wide range of dangers; they are exposed particularly but not exclusively, to risks of harm from sexual exploitation and abuse, cyber bullying and harassment, indoctrination, cybersecurity threats and fraud. They need to be trained in critical thinking and media literacy. It is the role of education systems, the media and other stakeholders to help them become competent and responsible digital citizens and actors both in digital economy and digital society. In this context, the Assembly pays tribute to the Council of Europe's Digital Citizenship Education project, which provides competences that help them engage positively and critically in the digital environment.

11.   The Assembly is conscious that the excessive use of ICT equipment may cause problems related to health and well-being, including sleep deprivation, sedentary lifestyle and addiction. It is therefore particularly important in curriculum design to balance the daily classroom use of technological and ICT equipment with adequate physical exercise and training. It is also vital in the learner-focused approach to education to encourage teamwork, personal contact between students and teachers and to prioritise the well-being and healthy development of children and adolescents.

12.   For the educational transformation to be successful, teachers, educators and school leaders need to be properly assisted and trained. Their training should take place at two levels: training in ICT, so that digital skills can be transmitted to students effectively, and training in the integration of ICT into teaching methods so that digital technology becomes not just an objective but also a vector of teaching across all subjects. Governments must find ways to make appropriate and sustainable investment in both initial teacher training and in-service development. Competent, digitally confident and motivated teachers in a reform-supportive environment are the best guarantors for creating innovative and engaging learning environments. For this, teachers must be effectively involved in curriculum design and development, they should be empowered to enjoy the autonomy to choose and to vary methods of instruction, pedagogical approaches, selection of teaching materials and evaluation methods.

13.   In the light of the above, the Assembly calls upon the governments of Council of Europe member States:

13.1.   when devising digital education and skills development policies, to take into consideration the above-mentioned concerns and principles, alongside those stipulated in the Recommendation CM/Rec(2019)10 of the Committee of Ministers to member States on developing and promoting digital citizenship education and in:

13.1.1.   the UNESCO 2015 Qingdao Declaration "Seize digital opportunities, lead education transformation", signed by all member States;

13.1.2.   the recent European Union policy documents, in particular in the Council recommendation of 22 May 2018 on key competences for lifelong learning and the Council conclusions of the same date on moving towards a vision of a European Education Area, the European Commission communications on the Digital Education Action Plan (COM/2018/0022), improving and modernising education (COM(2016)0941) and new Skills Agenda for Europe

(COM(2016)0381), its report "DigComp 2.1: The digital competence framework for citizens", the recent European Parliament resolution on modernisation of education in the European Union and the Committee on Culture and Education report on education in the digital era: challenges, opportunities and lessons for European Union policy design;

13.1.3.   the Council of Europe reports on "Digital Citizenship Education" (Volume 1 "Overview and new perspectives" and Volume 2"Multi-stakeholder consultation report;

13.1.4.   the Council of Europe "Reference Framework of Competences for Democratic Culture";

13.1.5.   the Council of Europe Guidelines to respect, protect and fulfil the rights of the child in the digital environment;

13.2.   to develop and implement complementary policies to combat digital exclusion, and to ensure that these policies reach all population groups, especially the most vulnerable ones;

13.3.   to review the role of teachers and educators in the society, offering them both initial and in-service training and development opportunities, to improve their digital skills and competences so that digital technology could be integrated in learning processes in pedagogically meaningful ways, enriching the processes and enabling new pedagogical solutions that are motivating for teachers as well;

13.4.   to empower schools with more autonomy to develop new learning methods that can be tested and adapted to various new settings, because future Europe needs creativity, not uniformisation;

13.5.   to invest in ICT facilities and digital resources to support learning, including hardware, software, connectivity and adequate bandwidth;

13.6.   to further integrate digital citizenship education in formal and non-formal education as defined in the digital citizenship education project of the Council of Europe;

13.7.   to increase dialogue and joint action between government, educational, training and research institutions, local communities and businesses, notably in content development, keeping in mind the risks of over-commercialisation of education content;

13.8.   to share their experiences and best practices through the various international forums.

14.   The Assembly acknowledges the lead role that the European Union has assumed in pushing the digital education agenda as an investment strategy for Europe's future, promoting economic growth, employability, competitiveness, innovation and social cohesion. This is an ambitious plan to provide modern quality education for all. In order to ensure that nobody is left behind in this process and to avoid creating new dividing lines within and between European nations, the Assembly urges the European Union institutions to:

14.1.   consider including the development of digital skills and competences and technical support to schools as a priority area of project funding in non-European Union countries;

14.2.   develop a comprehensive digital education strategy that defines the steps toward enhanced formal and informal education and training, maps the full range of digital skills and competences required, provides clear guidance for teacher training and develops a harmonised method for the assessment and certification of digital skills and competences.

15.   The Assembly welcomes the project of the OECD to develop a digital module for PISA 2024 in order to test the ability of students to learn in a digital world. It hopes that this new module will incorporate novel formats for benchmarking and assessing interdisciplinary, complex skills such as problem solving, collaboration, critical thinking and creativity. It urges the OECD to further develop peer learning online platforms that can facilitate direct sharing of educational methods and best practices between practitioners around the world.