
Recommendation CM/Rec(2019)10 of the Committee of Ministers to member States on developing and promoting digital citizenship education

*(Adopted by the Committee of Ministers on 21 November 2019
at the 1361st (Budget) meeting of the Ministers' Deputies)*

The Committee of Ministers, under the terms of Article 15.b of the Statute of the Council of Europe,

Considering that the aim of the Council of Europe is to achieve a greater unity between its member States for the purpose of safeguarding and promoting the ideals and principles which are their common heritage, *inter alia* by promoting common policies and standards;

Reaffirming the commitment of member States to ensure that every citizen has access to equitable and inclusive education and enjoys the right to education as enshrined in the Convention for the Protection of Human Rights and Fundamental Freedoms (ETS No. 5) and its Protocols, and that this right shall be fully respected, protected and fulfilled, as technology continues to develop;

Having regard to the obligations and commitments undertaken in conformity with other relevant international and European conventions, such as the European Cultural Convention (ETS No. 18), the European Social Charter (Revised) (ETS No. 163), the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108), and the Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (CETS No. 201);

Having regard to the Council of Europe's Reference Framework of Competences for Democratic Culture;

Having regard to Recommendation CM/Rec(2012)13 of the Committee of Ministers to member States on ensuring quality education, Recommendation CM/Rec(2010)7 of the Committee of Ministers to member States on the Council of Europe Charter on Education for Democratic Citizenship and Human Rights Education; and Recommendation CM/Rec(2007)6 of the Committee of Ministers to member States on the public responsibility for higher education and research;

Having regard also to Recommendation CM/Rec(2018)7 of the Committee of Ministers to member States on Guidelines to respect, protect and fulfil the rights of the child in the digital environment, Recommendation CM/Rec(2017)8 of the Committee of Ministers to member States on big data for culture, literacy and democracy, Recommendation CM/Rec(2016)2 of the Committee of Ministers to member States on the internet of citizens and the Council of Europe Strategy for the Rights of the Child (2016-2021);

Considering the priorities of the European Commission's Digital Education Action Plan, in particular the actions to support technology use and the development of digital competences in education;

Considering the United Nations' Sustainable Development Goals (SDGs) 2030, and in particular SDG 4 which aims at ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all;

Considering the UNESCO's Declaration on Open Educational Resources (2012) and the UNESCO draft Recommendation on Open Educational Resources submitted for adoption at the 40th General Conference in November 2019; The European Framework for the Digital Competence of Educators (2017), and The Digital Competence Framework for Citizens (2017); the European Commission's report on The Impact of Artificial Intelligence on Learning, Teaching, and Education (2018), and the report AI The Future of Work? Work of the Future! On how Artificial Intelligence, Robotics, and Automation are Transforming Jobs and the Economy in Europe (2019); and the OECD Council Recommendation on Artificial Intelligence (AI) (2019), which builds on the principles of human-centred values and fairness and stipulates that stakeholders in artificial intelligence should respect the rule of law, human rights and democratic values throughout the lifecycle of the AI system;

Aware of the complexity and rapid development of the digital environment and emerging technologies and their profound impact on our lives, societies and economies, as well as on education, freedom of expression and citizen participation;

Considering that the digital environment provides an unprecedented means for people to express themselves, to assemble and participate, and opens new opportunities to improve access and inclusion, all of which underpin the culture of democracy that enables democratic institutions to function properly;

Emphasising that empowering citizens by giving them the means to acquire the technical and functional skills and competences for democratic culture is no less important than their protection and safety, and enables them to tackle the challenges and risks arising from the digital environment and emerging technologies, but also to benefit from the opportunities they provide;

Considering that digital citizenship education can contribute to raising awareness of discrimination and bias based on gender stereotypes and their effects on the online and offline world, and may thus contribute, *inter alia* to creating greater educational opportunities in the science, technology, engineering and mathematics (STEM) fields for girls and women and ensure that all citizens benefit fully from the digital revolution;

Mindful that the education sector requires a multi-stakeholder and integrated policy approach which should also apply to digital citizenship education to reflect the diversity of society;

Convinced of the importance of setting digital citizenship education as a priority for policy makers,

1. recommends that the governments of member States:
 - a. review their legislation, policies and practices, including learning frameworks, to ensure that they are aligned with the recommendations, principles and further guidance set out in the appendix to this recommendation; promote their implementation in formal, non-formal and informal education settings; and assess the impact of the legislation, policies and practices at regular intervals;
 - b. involve all relevant stakeholders in the design, implementation and evaluation of digital citizenship education legislation, policies and practices, including through the provision of appropriate resources and training;
 - c. provide or facilitate the provision of appropriate initial and in-service education and training on digital citizenship education to teachers and other professionals in education;
 - d. support the creation of frameworks for co-operation between public, private and civil sectors and education institutions, and ensure that they align with relevant national, European and international standards and uphold the right of citizens to equitable quality education;
 - e. pursue and encourage co-operation between the Council of Europe and other international organisations in designing and implementing strategies, policies, programmes, research and other projects on digital citizenship education and on the use of digital technologies in education, and share on an ongoing basis good practices, pedagogical innovations and educational resources;

- f. ensure that this recommendation, including the guidelines contained in the appendix, is translated and disseminated as widely as possible among competent authorities and stakeholders through accessible means, modes and formats of communication;
 - g. examine the implementation of this recommendation, including the guidelines contained in its appendix, within the Committee of Ministers at least every five years and, if appropriate, at shorter intervals, and explore within the Steering Committee for Education Policy and Practice the implications of artificial intelligence and other emerging technologies for education generally and more specifically for their use in education;
2. instructs the Secretary General to transmit this recommendation to the governments of States Parties to the European Cultural Convention which are not member States of the Council of Europe;
 3. invites civil society and business enterprises to contribute to the implementation of this recommendation.

*Appendix to Recommendation CM/Rec(2019)10***Guidelines for developing and promoting digital citizenship education****1. Purpose and scope**

In today's technologically-mediated and information-rich environment, citizens are faced with new opportunities and challenges as they exercise their rights and responsibilities and participate in the affairs of their community as digital citizens. The digital world provides an environment that is fundamental to democratic processes and practice, including the dissemination and mediation of information online. It constitutes an important platform for intercultural dialogue through social media and is the context in which citizens increasingly exercise their rights to participate socially, economically and politically.

The competences which citizens need to acquire and develop if they are to participate effectively and ethically in a culture of democracy have to be learned and practised. Education thus has a vital role to play in preparing individuals to live as active, responsible citizens, and in helping them to acquire and develop these necessary competences. The Council of Europe's Reference Framework of Competences for Democratic Culture provides the conceptual starting point for digital citizenship, as it is relevant not only to education for democratic citizenship, human rights education and intercultural education, but also to digital citizenship education.

These guidelines aim at defining the elements required to support the development of digital citizenship competences through education, on the basis of a multi-stakeholder approach.

2. Definitions

For the purpose of this text:

- “Competences” refer to a set of 20 competences defined by the Council of Europe as competences for democratic culture. The 20 competences are subdivided into four clusters: 1. values, 2. attitudes, 3. skills, and 4. knowledge and critical understanding. These are competences that individuals should acquire in order to function as democratically and interculturally competent citizens.
- “Digital citizen” is a person who masters the competences for democratic culture in order to be able to competently and positively engage with evolving digital technologies; participate actively, continuously and responsibly in social and civic activities; be involved in a process of lifelong learning (in formal, informal and non-formal settings) and be committed to defending continuously human rights and dignity.
- “Digital citizenship” is the capacity to participate actively, continuously and responsibly in communities (local, national, global, online and offline) at all levels (political, economic, social, cultural and intercultural).
- “Digital citizenship education” is the empowerment of learners of all ages through education or the acquisition of competences for learning and active participation in digital society to exercise and defend their democratic rights and responsibilities online, and to promote and protect human rights, democracy and the rule of law in cyberspace.
- “Artificial Intelligence (AI)” for education can be considered as the sum of machine learning (the ability of an algorithm to improve itself automatically at each iteration) and deep learning (the ability to correlate variables through probabilistic cause-effect relationships). AI in education uses big data for learning analytics to provide predictions of teaching patterns and learning outcomes.
- “Formal education” refers to the chronologically graded education and training provided as part of national education systems, normally within the framework of education institutions and study programmes that run from pre-primary and primary through to secondary school and then on to higher education and often comprises lifelong learning provision. It takes place, as a rule, at general or vocational educational institutions where instruction is provided by education professionals and leads to certification.

- “Informal education” happens outside the classroom and designates the process whereby every individual acquires competences from daily experience and the educative influences and resources in his or her environment – from family, peer groups and neighbours, from daily experience at work and play, from the market place; in extracurricular programmes, community-based organisations, museums, the library and the mass media.
- “Non-formal education” is any planned activity or programme of education outside the formal educational setting, whether operating separately or as a feature of some broader activity, designed to improve a range of skills and competences.
- “Lifelong learning” refers to the ongoing, self-motivated acquisition of competences by citizens to enhance personal development, social inclusion and self-sustainability, and enable active participation in society. Lifelong learning is supported by the provision of formal, informal and non-formal learning opportunities throughout people’s lives, in particular as a means of being able to participate meaningfully in areas of life that are increasingly permeated by digital technology and artificial intelligence.
- “Learners” refers not only to children and young people in formal education but includes people of all ages engaged in formal, informal and non-formal education in accordance with the principle of lifelong learning.
- “Professionals in education” refers to teachers and professionals in formal education and early childhood care, as well as those who in their professional capacity support learners, such as school psychologists, pedagogues, librarians, teaching assistants and tutors.
- “Curriculum” in digital citizenship education refers to the means of achieving the acquisition and development of competences for democratic culture within the framework of the 10 digital citizenship education domains. The integration of digital citizenship education into curricula will be supported by giving professionals in education and relevant stakeholders access to quality training and resources, and through the implementation of a cross-curricular, whole school approach.
- “Sense-making practice” refers to the good practices that have a positive impact on individuals and/or communities; have been proven through implementation to be effective in realising a specific objective; can be reproduced and are adaptable to different contexts; respond to current and future needs of the target population; are technically, economically and socially feasible and sustainable; contribute to an inclusive society and are adaptable for individuals with special educational needs; and are a participatory process that can generate a sense of ownership in those involved.
- The “10 digital domains” underpin the overall concept of digital citizenship and can be used as a framework for placing the competences for democratic culture into the digital environment. These are conceptually divided into three clusters: “Being online”, “Well-being online” and “Rights online”.

“Being online” comprises three domains that relate to the competences required to access the digital society and to express oneself safely and freely within the meaning of Article 10 of the European Convention on Human Rights. The three domains are:

- access and inclusion
- learning and creativity
- media and information literacy

“Well-being” online comprises three domains that can help users to engage positively in digital society:

- ethics and empathy
- health and well-being
- e-presence and communication

“Rights online” refers to four competences related to the rights and responsibilities of citizens in complex and diverse societies within the digital context:

- active participation
 - rights and responsibilities
 - privacy and security
 - consumer awareness
- “Stakeholders” include all those with a legitimate interest in digital citizenship education, such as learners, professionals in education and early childhood care, parents, school management, academia, business enterprises, civil society, media, and national or international regulatory and other authorities.

3. Guiding principles

Digital citizenship development initiatives are defined and shaped by the nine guiding principles specified below, which can also serve as reference points for the assessment and evaluation of progress. The principles are of three types: contextual, informational and organisational.

Contextual principles, considered as “preconditions” for digital citizenship

- 1) *Access to digital technology* is an integral part of everyday life in contemporary society. Therefore, equality of access for all citizens, including access in schools, libraries and public institutions, and the balanced use of age-appropriate technology are important policy objectives.
- 2) *Basic functional and digital literacy skills* enable citizens to access, read, write, download and post information, participate in polls and express themselves as a means of engaging in their community.
- 3) *A secure technical infrastructure* fosters the confidence and trust to digitally engage in online community activities. This requires digital platform providers and mobile operators to provide safer digital environments and simplify security measures.

Informational principles, intrinsically linked to the competences necessary for a democratic culture model

- 4) *Knowledge of rights and responsibilities* underpins the active engagement of digital citizens, and shapes and is shaped by their values and attitudes. The critical understanding of rights and responsibilities is developed progressively in the on- and offline environments in which people learn, live and interact.
- 5) *Reliable information sources* are essential for positive active participation in community life. Without reliable information sources, certain sectors of the population may be discouraged or prevented from practising digital citizenship, resulting in negativism or even extremism. While schools and families play an important role in fostering discernment through critical thinking and educational practices, digital platforms and mobile providers also have a large part to play in ensuring the reliability of information sources.
- 6) *Participation skills* depend on a range of cognitive and practical skills that combine knowing when and how to speak out, critical thinking, empathy, the cultural understanding necessary to fully grasp meaning with the proficiency to use digital tools meaningfully to express ideas and opinions.

Organisational principles, to foster “living digital citizenship” at a personal and societal level

- 7) *Critical thinking and problem-solving* require a combination of all four areas of the set of 20 competences for democratic culture and can be developed through exploration-driven activities in a range of learning contexts. Digital platforms and mobile providers play a growing role, since learning is to a large extent shaped by the tools provided.
- 8) *Communication* implies the capacity to create, receive and disseminate information, using appropriate tools meaningfully, cognisant of values and attitudes, rights and responsibilities, privacy and security.

9) *Participatory opportunity* enables citizens to practise exercising their rights and responsibilities in a flexible, open, neutral and secure framework without fear of retribution, empowering them to actively promote and defend democracy, human rights and the rule of law.

4. Institutional processes

Public authorities should strive for overarching policy goals in the development of digital citizenship education policies, and *inter alia*:

- provide to all individuals within their territory a framework in which they may develop the competences for democratic culture and participatory opportunities to exercise their rights and responsibilities, ensuring an appropriate balance between protection and empowerment;
- ensure that the best interests of the individual are at the forefront of all activities, whether related to learning about or through digital technologies, and that learning focuses on technical, creative and ethical uses of digital technologies;
- reinforce digital citizenship education as a lifelong process and part of a continuum that reflects democratic values such as equality, diversity and inclusion, and foster the empowerment and active participation not only of learners but also of a broad range of stakeholders;
- include digital citizenship in formal education curricula at all school levels and ensure its relevance and sustainability by affording professionals in education a considerable level of autonomy;
- provide quality tools such as the Digital Citizenship Education Handbook (<https://rm.coe.int/168093586f>) and Internet Literacy Handbook (<https://rm.coe.int/internet-literacy-handbook/1680766c85>) to support formal, informal and non-formal learning;
- implement effective strategies to define and measure learning outcomes for each of the 10 digital domains as well as for the evaluation of educational programmes designed to develop the competences for democratic culture at all levels of learning;
- design and implement training programmes that will provide professionals in education and other relevant groups with initial training and ongoing personal development in the objectives, principles, and teaching, learning and evaluation approaches, as well as providing support and resources that will enable them to pass on their training within and beyond their own working environment;
- ensure that policies are evidence-based and informed by fundamental and comparative research as a means of defining processes and practices that could increase democratic participation, improve educational approaches, enrich curricula and resources and provide effective indicators to monitor progress;
- facilitate co-operation and exchange of experience with other member States, the Council of Europe and other institutions by creating sustainable collaboration platforms and processes, identifying common concerns, interests and priorities, developing bilateral and multilateral activities to foster the exchange and dissemination of ideas, good practices and research methodologies and results, and supporting and promoting the work of networks and public, private and civil sector partnerships involved in the development of digital citizenship education.

5. Learning, teaching and assessment

An important emphasis within digital citizenship education is the need to rethink the role of learning, teaching and assessment in the digital era. Digital citizenship may be learned from models encountered at school, at home and in the community. As such, proposed activities should be implemented in all learner-centred contexts, involving where possible families, local communities, etc. Such developments require a process of ongoing training and lifelong learning, including the introduction of interdisciplinary programmes in higher education in computer science and related subjects.

Implications for practice may be summarised as follows:

Learning

Digital citizenship education should be included in curricula from the earliest age onwards and should be taught or delivered using a flexible and dynamic approach.

Learners should be provided with tools, resources and guidance to co-design their own learning environments as they become more curious and more engaged in becoming responsible citizens, especially through peer and learner-led/learner-centred learning within the digital environment.

Teaching

Digital citizenship education lends itself to a variety of active pedagogies such as blended learning (in class and online), flipped learning (with learners orienting learning towards their own interests and concerns) and hybrid learning (face-to-face, blended and flipped) that will embrace diversity in learners' learning styles and needs and better prepare them for democratic participation in real life.

Approaches to teaching should therefore:

- educate learners to critically use technologies in order to participate actively in democratic processes in schools and in extracurricular activities;
- use real-life situations and the diversity of opportunities as a basis for learning and teaching approaches through activities such as participation in governance, problem-solving and intercultural dialogue, promoting democratic citizenship principles while enabling learners to exercise their values, attitudes, skills and knowledge and critical understanding in meaningful situations with tangible outcomes;
- broaden digital citizenship education to include educational actions implemented by relevant stakeholders in extra-curricular or curricular activities within the school (such as workshops or training during lunch breaks); practical involvement of learners in the organisation of school activities (such as a school fair or a class trip) that will encourage them to use their digital skills, and participation in local community services and online communities;
- help learners balance the social and interpersonal implications of using online technologies;
- promote individualised learning opportunities that are accessible and inclusive, fostering the development of co-designed learning environments and self-assessment tools that will enable learners to map their own progress and receive acknowledgement of their competences;
- exploit relevant materials of the Council of Europe to incorporate digital citizenship education into learning activities as a means of ensuring a shared vision across countries, while considering local needs and perceptions;
- produce resources and research in pedagogy and didactics in the field of digital citizenship education.

Assessment

Just as digital citizenship education lends itself to a variety of active pedagogies, approaches to assessment should reflect the ethos of democratic culture. Including outcomes within the standard parameters for school inspection would be an important recognition of the priority given to digital citizenship education.

Accordingly, it is necessary to:

- develop learner-oriented assessment methodologies, with high visibility of positive and negative outcomes and lessons learned;
- establish selection criteria drawn up by learning institutions and relevant stakeholders to pinpoint sense-making practices and role-models, incorporating various forms of assessment (formative, summative, self- and peer-assessment of digital citizenship);
- create a database of sense-making digital citizenship education practices to guide education professionals in their choice of pedagogy and resources;
- ensure the collection of different forms of evidence (level of empathy and peer co-operation, success in combating hate speech and preventing harassment), and avoid measuring solely the level and use of information and communication technology skills (technical skills, competence in the use of devices) to assess learning outcomes defined for each of the 10 digital citizenship education domains.

To avoid placing additional burdens on professionals in education and school staff, and to ensure that progress can be accurately measured using stable and well-established methodologies, assessment of digital citizenship education in schools should not require an additional, specific assessment methodology, but can be linked to other assessments inspired by the Reference Framework of Competences for Democratic Culture or by making use of existing international tools.

More generally, it is important to regularly evaluate the policies and strategies undertaken to promote and evaluate digital citizenship education, both at the school level and, where appropriate, at the regional or national level, to monitor their effectiveness and to adapt these strategies and policies as necessary.

AI, like any other tool, offers many opportunities but also carries with it many threats, which make it necessary to take human rights principles into account in the early design of its application. Educators must be aware of the strengths and weaknesses of AI in learning, so as to be empowered – not overpowered – by technology in their digital citizenship education practices. AI, via machine learning and deep learning, can enrich education, as it may empower professionals in education to adapt their learning strategies to the learners in order to improve their academic experience and results. By the same token, developments in the AI field can deeply impact interactions between educators and learners and among citizens at large, which may undermine the very core of education, that is, the fostering of free will and independent and critical thinking via learning opportunities.

Although it seems premature to make wider use of AI in learning environments, professionals in education and school staff should be made aware of AI and the ethical challenges it poses in the context of schools, and using the digital citizenship education framework and 10 digital domains to help make appropriate choices. The most obvious challenges include the risks of excessive profiling of learners, the overuse of big data and learning analytics that might over-standardise educational goals and learning outcomes, the potential harm caused by algorithm-driven discrimination and exclusion biases, as well as the infringement of learners' rights and privacy arising from the possible commercialisation of data.

Multi-stakeholder co-operation, with Council of Europe oversight, remains key to ensuring that ethical guidelines are applied to AI in education, especially as it affects the well-being of young people and other vulnerable groups.

6. Initial and in-service training for professionals in education

Professionals in education, trainers and other relevant stakeholders need to be provided with the necessary initial and ongoing training to avail themselves of the opportunities offered by digital citizenship education.

Therefore, provision of appropriate initial and in-service training for all educational professionals is required in order to:

- ensure that they have a thorough understanding of the principles, objectives, teaching and assessment methodologies, and that they participate actively in developing digital citizenship education;
- encourage the development of frameworks for partnerships between education institutions, business enterprises and civil society to foster mobility and internship opportunities, as a means of sharing knowledge and building trust;

- support the development of ready-to-implement, non-prescriptive lesson plans that meet curriculum requirements;
- introduce digital citizenship concepts and their use by professionals in education seeking to make their pedagogical practice more attractive and relevant to learners;
- motivate professionals in education to build continually on their knowledge, teaching practices, qualifications and digital and critical media skills through both initial and in-service training, to keep apace of and understand learners' use of interactive tools and the competences required to access, use and create diverse media content proficiently and responsibly;
- afford professionals in education an appropriate level of autonomy in implementing the curriculum and evaluating learners' progress;
- foster continuous professional development to ensure that education professionals have a solid knowledge and critical understanding of digital citizenship principles and objectives, the pedagogies and tools to implement them, and are able to align the pace of integration of the concept to the pace of change;
- develop communities of practice where professionals in education can share, exchange and disseminate ideas and sense-making practices;
- enrich existing in-service training programmes with specific training on digital citizenship education, to provide ongoing support and encouragement.

7. Co-operation, co-ordination and stakeholder involvement

Digital citizenship education is a dynamic, lifelong process, requiring citizens to continuously improve their skills, in keeping with the rapidly evolving contexts brought about by ongoing developments in digital technology, and more particularly by the pervasive influence of AI in all areas of everyday life. This process requires the active involvement of all stakeholders, who can bring different perspectives to bear on what digital citizenship means and contribute to shaping and regulating the digital environment, and to fostering citizenship education through ongoing research and opportunities for training and participation.

Business enterprises, while respecting the scope of public responsibility for education and relevant regulatory frameworks, can play a significant role by creating the appropriate conditions for digital citizenship through safe and secure access to information, digital platforms and services, by providing citizens with the tools and devices that enable them to communicate and share content within their communities; and by enriching that experience through setting standards that are respectful of the human rights of all participants and that protect minors and other groups who may be vulnerable.

Some of the main implications for stakeholder groups can be summarised as follows:

Intersectoral co-operation

Public authorities should lead by fostering effective intersectoral co-operation and enabling stakeholder involvement through measures that:

- promote and publicise the principles and objectives of digital citizenship as well as actions, research and developments in digital citizenship education to all stakeholders, especially the general public and the media, to encourage and optimise their contribution;
- encourage partnerships and collaboration among the broad range of stakeholders involved in digital citizenship education at local, regional and national levels and ensure that their role and contributions are acknowledged;
- provide real and equitable participatory opportunities for all citizens (appropriate to their age and maturity) at local, regional and national levels, in all decisions that affect them;
- promote the development of frameworks to support partnerships between business enterprises and educational institutions, respectful of the overall framework of public responsibility for education and excluding adverse effects of commercial interests on the neutrality and variety of education provision;
- promote the development of partnership and interaction models at the national level as a means of developing equitable and transparent partnerships that serve the best interests of learners;
- ensure compliance of business enterprises with national, European and international standards, and encourage enterprises to incorporate principles of digital citizenship into the design of products and services;

- enable setting-up a platform that will promote information sharing between sectors, and in particular enable each sector to report on action taken and exchange information with other sectors, for example in order to optimise resources or co-operate to improve efficiency;
- facilitate discussions on ways in which the different sectors may be able to adjust policies and programmes for example, to share resources or create or benefit from common funding mechanisms;
- devise policies and programmes that proactively bring together stakeholders from multiple sectors to pursue common digital citizenship objectives that require the expertise and/or resources of several different sectors.

Learners

In order to foster the engagement of learners in digital citizenship education, public authorities responsible for education should:

- ensure the equal participation of learners, according to their age and degree of maturity, in all decisions that affect them, both in the classroom and in the wider educational setting;
- provide meaningful participatory opportunities for learners to be consulted about policies that impact on the learning environment;
- provide individualised education opportunities to support learners of all abilities, provide them with self-assessment tools that allow them to map their own progress, and engage them in a process of co-designing their learning environment;
- raise awareness of and support the upholding of learners' rights, especially in relation to matters of privacy, data protection and freedom of expression;
- provide learners with sufficient resources and adequate access to technologies to ensure that learning is inclusive and accessible to all.

Families and child carers

In support of the important role that families and carers fulfil in learners' education – both formal and non-formal – and in order to ensure and foster the involvement of families and carers in digital citizenship education, public authorities responsible for education should:

- promote and raise awareness of the role which can be played by schools and early childhood care facilities in actively involving families and those who care for children;
- promote and raise awareness regarding families' and carers' own digital citizenship skills and recognise their role as lifelong learners;
- facilitate parents' and carers' ability to empower children in the digital environment and to find an appropriate balance between online safety and empowerment, protection and participation.

Professionals in education and early childhood care

In order to help professionals in education and early childhood care fulfil their role in digital citizenship education, public authorities responsible for education should:

- enable professionals in education to develop their skills and competences in digital citizenship as an integral part of their initial and continuous training;
- rethink the role of professionals in education in the digital era and in the classroom, recognising that they are not only educators but also learners within collaborative learning environments;
- support co-operation and the sharing of good practices, including pedagogical practices, learning resources and assessment methods;
- recognise and facilitate the extra efforts professionals in education and early childhood care may need to make in order to implement digital citizenship education;
- encourage school managers and administrators to include families and carers, professionals in education and early childhood care, learners, non-teaching school staff and school board members to be part of the decision-making process and embrace a whole-school approach and democratic school culture;

- support the development of a school policy and action plan on digital transformation of the school (digital citizenship education) through consultation with learners, professionals in education, parents and non-teaching staff.

Civil society organisations are a valued part of the digital citizenship education system and provide the platforms, tools and resources to empower citizens to contribute actively in all areas related to digital citizenship education. It is important that the role of the civil society sector, especially in the field of general education and early childcare, is acknowledged and supported. Co-operation with other sectors should also be supported, especially in monitoring, evaluation and promotion of digital citizenship skills and education in these and other fields, as well as promoting the dissemination of findings and results.

Universities, organisations carrying out research and education institutions also have a role to play in contributing to efforts that:

- encourage evidence-based resources and research in pedagogy and didactics in the field of digital citizenship education;
- support locally developed resources where possible, in order to encourage a high level of engagement and implication of academia in digital citizenship education;
- encourage partnerships between academia and schools in order to strengthen evidence-based research on pedagogical strategies, resources and outcomes in digital citizenship education;
- motivate academic engagement and public outreach in areas related to digital citizenship education.

8. International co-operation

Co-operation at the international level is a further important dimension in the development of digital citizenship education whereby knowledge, resources and diverse perspectives on its implementation can be shared and disseminated.

Member States are encouraged to share with other international organisations the results of their work on education for democratic citizenship and human rights education, and on the Reference Framework of Competences for Democratic Culture within the Council of Europe, as a valuable contribution to better understanding the role and impact of digital citizenship education.

Public authorities should therefore assist co-operation at the international level by supporting efforts to:

- foster collaboration between member States and co-operation with other international organisations on research and developments, sense-making practices and evaluation outcomes through relevant existing networks, mechanisms and processes;
- develop exchanges and collaboration between member States in the field of digital citizenship education to raise the visibility of sense-making practices, foster peer review and/or develop joint research projects, evaluation methodologies and resources; and consider the creation of a repository of knowledge and resources linked to digital citizenship education which could include examples of the cross-curricular integration of digital citizenship education in learning;
- use the information channels of the Council of Europe to support the sharing and compilation of data on a regular basis to assist in mapping the implementation of the digital citizenship education framework;
- integrate digital citizenship education with initiatives that are already well known and successful at the national or local level;
- support the establishment of a European Year of Digital Citizenship Education.