

DIGITAL CITIZENSHIP EDUCATION HANDBOOK



Being online
Well-being online
Rights online

EDITION 2022

COUNCIL OF EUROPE



CONSEIL DE L'EUROPE

DIGITAL CITIZENSHIP EDUCATION HANDBOOK

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Well-being online
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French edition:
*Manuel d'éducation
à la citoyenneté numérique*
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Foreword

Children today live in a rapidly changing world with expanding horizons. Technology has brought not only new experiences for them to enjoy, but a whole new dimension to their daily life in an ethereal world that we know as “being online”. Of course, adults are free to participate in online life and a great many do, but not many of them are ready to integrate technology into their lives in the same way as children. They were not born “digital natives” and do not have the same automatic acceptance of the digital environment as a natural, fundamental and unquestioned dimension of their existence.

■ Adults, however, are aware of many of the dangers that children will face as they grow up and make their way through life. It is their responsibility to prepare young people for the trials that inevitably lie ahead. They now have the added task of making sure they prepare children for not only the physical world, but the digital world as well: education for life online as well as offline.

■ From the adult perspective, a lot of work has already been done to set up policies to protect children online. Such work is valid and indeed absolutely necessary but the time has now come to move from measures to protect children to those that actively empower them. So far, many efforts to do this have been of an informal nature. What is needed now is a structural approach to provide children and young people with the competences they need to become healthy and responsible citizens in the online environment.

■ Where should children obtain these competences? The Council of Europe believes that it is part of the role of formal education to consider children’s online and offline lives as parts of a whole. The digital revolution has not so much broken down as erased physical barriers. The online world takes no account of classroom boundaries or school walls, just as it ignores local, regional or national frontiers. Children bring their digital lives and experiences into school with them and it is our duty to assimilate this new reality into our education systems.

■ This consideration was the starting point for the Education Department’s Digital Citizenship Education project. In order to guide its action, it identified three aspects of online life – being on line, well-being online and rights online – in which it can promote the Council of Europe’s fundamental principles of democracy, human rights and the rule of law. These principles apply just as much to human relations and behaviour in the digital environment as they do in the physical world. Each person’s responsibility as a citizen is the same.

■ However, the online world does present challenges to democratic citizenship in a new context and this *Digital citizenship education handbook* is designed to help educators and other interested adults understand and deal with them. It builds on the Council of Europe's *Reference Framework of Competences for Democratic Culture*¹ and the achievements of our longstanding Education for Democratic Citizenship programme, and complements the Internet literacy handbook² as part of a coherent approach to educating citizens for the society of the future.

■ In a time of rapid change, this future is largely unknown to us, but the challenges we are facing today with emerging technology are not. Providing the next generations with the competences they need to live together as equals in culturally diverse democratic societies is still our goal, whatever dimension they will live in.

Snežana Samardžić-Marković

Council of Europe

Director General for Democracy

-
1. Council of Europe (2018), *Reference framework of competences for democratic culture*, Council of Europe Publishing, Strasbourg, available at www.coe.int/competences.
 2. Richardson J., Milovidov E., Schmalzried M. (2017), *Internet Literacy Handbook*, Council of Europe Publishing, Strasbourg, available at <https://go.coe.int/RV690>.

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Introduction

The Council of Europe has, over the past quarter of a century, striven to protect children's rights and foster educational and cultural opportunities for them in the digital environment. More recently it has complemented this work with actions designed to empower children as active digital citizens within a framework closely linked to the competences for democratic culture, which aims to prepare citizens for "Living together as equals in culturally diverse democratic societies".

■ To that end, the Steering Committee for Education Policy and Practice set up a Digital Citizenship Education Expert Group in 2016, comprising eight members from half a dozen different countries and wide-ranging backgrounds, to undertake several tasks over the coming years. The work of this group has been underpinned by a literature review on digital citizenship,³ and a multistakeholder consultation⁴ investigating good practice in digital citizenship education as well as the gaps and challenges in formal and informal learning contexts.

■ One major challenge highlighted in the consultation report is the lack of awareness among educators of the importance of digital citizenship competence development for the well-being of young people growing up in today's highly digitised world, and the limited number of suitably targeted pedagogical resources available. A closer look at competence development projects and resources reveals that there seems to exist considerable confusion among experts and educators between what is generally referred to as "internet safety" and the multidimensional, more proactive development of citizenship "Values, Attitudes, Skills and Knowledge and critical understanding". These are the four areas of the Council of Europe's competences for democratic culture and a highly relevant framework for fostering digital citizenship.

■ Although this competence framework decrypts the end goals of digital citizenship into a language that easily resonates with educators, families and education policy makers, several essential ingredients are missing to facilitate adoption into education practice. This is the aim of the *Digital citizenship education handbook*. It strives to build on the digital citizenship education framework concept, glossary of terms and policy guidelines that have been developed by the Digital Citizenship

3. Frau-Meigs D., O'Neill B., Soriani A., Tome V. (2017), *Digital citizenship education - Overview and new perspectives*, Council of Europe Publishing, Strasbourg, available at <https://go.coe.int/Cwa9Y>.

4. Richardson J., Milovidov E. (2017), *Digital citizenship education - Multi-stakeholder consultation report*, Council of Europe Publishing, Strasbourg, available at <https://go.coe.int/EIQA4>.

Education Expert Group since 2016 and draws on the resources and good practices highlighted in its activities. The handbook is intended to be a practical publication that will deepen understanding of the importance of digital citizenship for our future society, and spark ideas for classroom practice.

■ To facilitate discussion on the issues and challenges digital citizens encounter in the online world, the Digital Citizenship Education Expert Group divided online activity into 10 digital domains. Each domain is analysed in the “dimensions” areas of the handbook from a multifaceted perspective, underlining aspects related to education and citizenship. The dimensions are completed by 10 fact sheets that look at ethical issues and guide users through creative, collaborative citizenship-oriented ideas and activities aimed at supporting educators and empowering young citizens, and encouraging learners to explore the on- and offline communities around them.

- ▶ “It takes a village to raise a child” is a proverb much quoted in the world of education. However, it is important to reflect that the reverse is true too. The prosperity and well-being of a village, or community, can be measured by the level of active contribution of each of its citizens towards shared goals within a democratic culture.

■ The *Digital citizenship education handbook* endeavours to enhance this process.

HOW TO USE THIS GUIDE?

— This guide is divided into three sections:

Section 1: Being online – Information related to how we engage and exist online, it comprises three digital domains: access and inclusion, learning and creativity and media and information literacy.

Section 2: Well-being online – Information related to how we feel online, comprising another three digital domains: ethics and empathy, health and well-being, and e-presence and communications.

Section 3: Rights online – Information related to being accountable online, comprising the final four digital domains: active participation, rights and responsibilities, privacy and security and consumer awareness.

— In each section, domains are further divided into dimensions and fact sheets. The two are meant to be complementary, as the dimensions provide the theoretical and historical background to the issues, whereas the fact sheets provide scenarios and situations that can be used in classrooms or within families. Dimensions and fact sheets are cross-referenced to ensure that the information provided is done so in the most effective manner.

— Dimensions provide the fundamentals to help you understand the “why” before you use the fact sheets to help you “do”. Dimensions explain the domains and provide other definitions to further help your understanding of the digital domain. Dimensions may cover one or more of the following key points:

- ▶ definition of the theme
- ▶ how it works
- ▶ personal development
- ▶ educational and citizenship value.

— Fact sheets provide activities for school classes, families and other scenarios where children can participate outside of classrooms. They present information and resources and may cover one or more of the following key points:

- ▶ ethical considerations and risks
- ▶ ideas for classroom work
- ▶ good practice/living digital citizenship
- ▶ further information and resources.

— A glossary is provided at the end of the guide with references to dimensions and fact sheets.

A CONCEPTUAL MODEL FOR DIGITAL CITIZENSHIP

Digital citizenship defined

— A digital citizen is someone who, through the development of a broad range of competences, is able to actively, positively and responsibly engage in both on- and offline communities, whether local, national or global. As digital technologies are disruptive in nature and constantly evolving, competence building is a lifelong

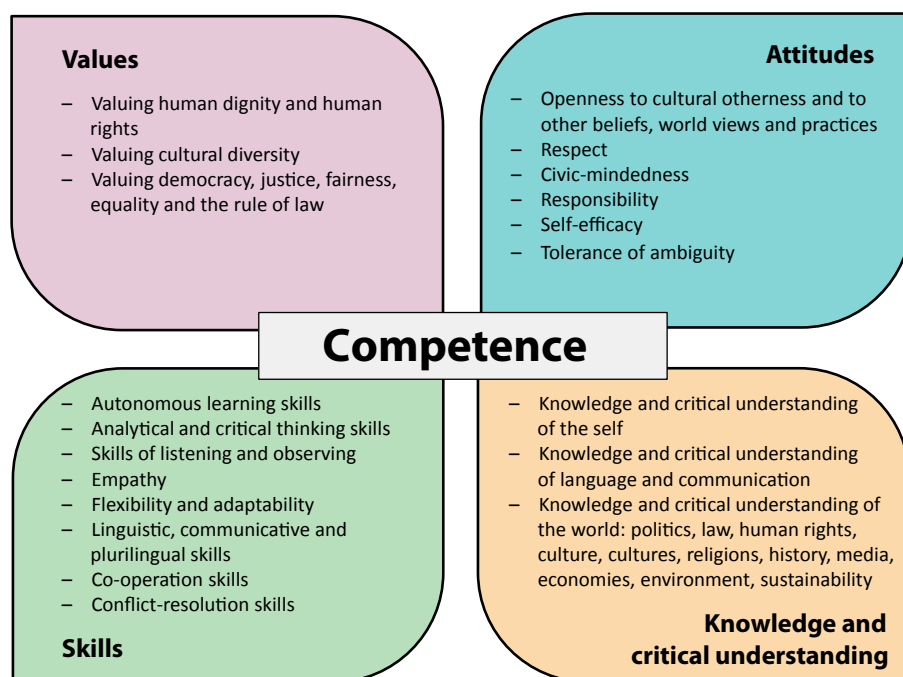
process that should begin from earliest childhood at home and at school, in formal, informal and non-formal educational settings.

■ Digital citizenship and engagement involves a wide range of activities, from creating, consuming, sharing, playing and socialising, to investigating, communicating, learning and working. Competent digital citizens are able to respond to new and everyday challenges related to learning, work, employability, leisure, inclusion and participation in society;⁵ respecting human rights and intercultural differences.

Competences for democratic culture

■ The Council of Europe’s competences for democratic culture (CDCs),⁶ illustrated in Figure 1 below, provides a simplified overview of the competences which citizens need to acquire if they are to participate effectively in a culture of democracy. These are not acquired automatically but instead need to be learned and practised. In this, the role of education is key. The 20 competences for democratic culture, frequently referred to as the CDC “butterfly”, cover four key areas: values, attitudes, skills and knowledge and critical understanding.

Figure 1: The 20 competences for democratic culture



5. Ferrari A., Punie Y. and Brečko B.N. (eds) (2013), *DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe*, Publications Office of the European Union, Luxembourg, available at <https://bit.ly/3Dh3GVN>.

6. Barrett M. et al. (2016), *Competences for democratic culture: living together as equals in culturally diverse democratic societies*, Council of Europe Publishing, Strasbourg, available at <https://rm.coe.int/16806ccc07>.

From 20 CDC competences to 10 digital domains

■ To place these competences into the digital environment in which young people grow up today, and drawing on research from frequently cited experts and organisations in the field,⁷ a set of 10 digital domains have been defined as underpinning the overall concept of digital citizenship. These are divided into three areas, which correspond to the three sections of this publication: Being online, Well-being online and Rights online. The domains are described as follows.

Being online

- ▶ **Access and inclusion** concerns access to the digital environment and includes a range of competences that relate not only to overcoming different forms of digital exclusion but also to the skills needed by future citizens to participate in digital spaces that are open to every kind of minority and diversity of opinion.
- ▶ **Learning and creativity** refers to the willingness and the attitude of citizens towards learning in digital environments over their life course, both to develop and express different forms of creativity, with different tools, in different contexts. It covers the development of personal and professional competences as citizens prepare for the challenges of technology-rich societies with confidence and in innovative ways.
- ▶ **Media and information literacy** concerns the ability to interpret, understand and express creativity through digital media, as critical thinkers. Being media and information literate is something that needs to be developed through education and through a constant exchange with the environment around us. It is essential to go beyond simply “being able to” use one or another media, for example, or simply to “be informed” about something. A digital citizen has to maintain an attitude relying on critical thinking as a basis for meaningful and effective participation in his/her community.

Well-being online

- ▶ **Ethics and empathy** concerns online ethical behaviour and interaction with others based on skills such as the ability to recognise and understand the feelings and perspectives of others. Empathy constitutes an essential requirement for positive online interaction and for realising the possibilities that the digital world affords.
- ▶ **Health and well-being** relates to the fact that digital citizens inhabit both virtual and real spaces. For this reason, the basic skills of digital competence alone are not sufficient. Individuals also require a set of attitudes, skills, values and knowledge that render them more aware of issues related to health and well-being. In a digitally rich world, health and well-being imply being aware

7. An initial listing of sources examined include Mike Ribble (www.digitalcitizenship.net), Edutopia (www.edutopia.org/article/digital-citizenship-resources), Common Sense Media (<https://www.common Sense.org/education/digital-citizenship/curriculum>), Australia NSW government (www.digitalcitizenship.nsw.edu.au), Global Citizen (<https://globaldigitalcitizen.org>), Media Smarts (<http://mediasmarts.ca/digital-media-literacy>) and references from the French Data Regulatory Authority, CNIL (<https://www.cnil.fr/en/home>).

of challenges and opportunities that can affect wellness, including but not limited to online addiction, ergonomics and posture, and excessive use of digital and mobile devices.

- ▶ **e-Presence and communications** refers to the development of the personal and interpersonal qualities that support digital citizens in building and maintaining an online presence and identity as well as online interactions that are positive, coherent and consistent. It covers competences such as online communication and interaction with others in virtual social spaces, as well as the management of one's data and traces.

Rights online

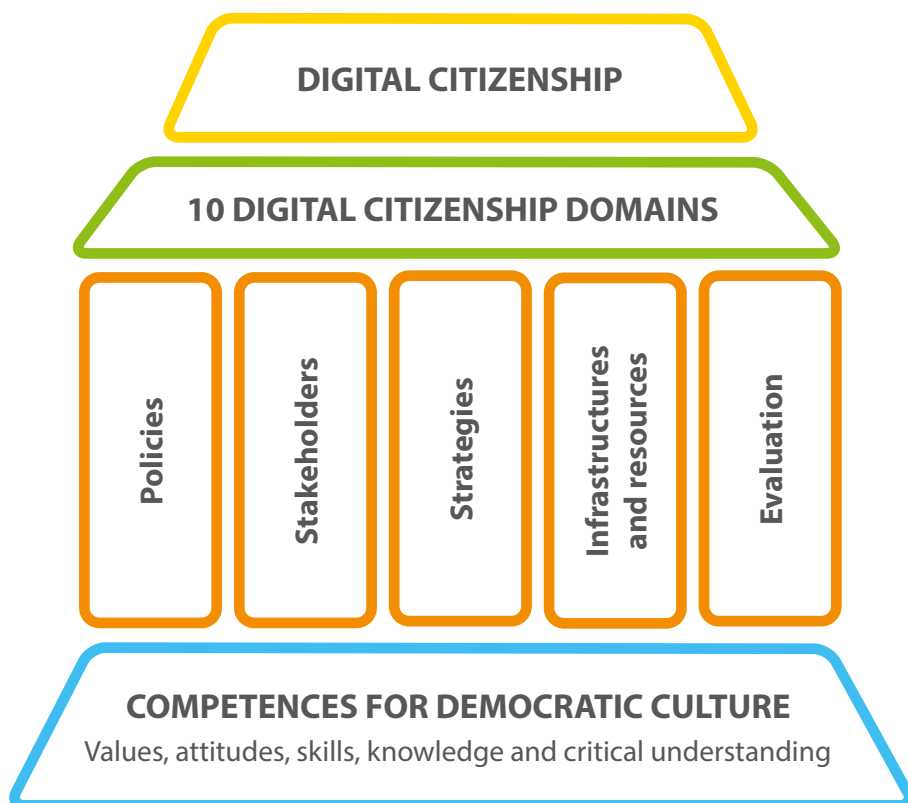
- ▶ **Active participation** relates to the competences that citizens need to be fully aware of when they interact within the digital environments they inhabit in order to make responsible decisions, while participating actively and positively in the democratic cultures in which they live.
- ▶ **Rights and responsibilities** are something citizens enjoy in the physical world, and digital citizens in the online world also have certain rights and responsibilities. Digital citizens can enjoy rights of privacy, security, access and inclusion, freedom of expression and more. However, with those rights come certain responsibilities, such as ethics and empathy and other responsibilities to ensure a safe and responsible digital environment for all.
- ▶ **Privacy and security** includes two different concepts: privacy concerns mainly the personal protection of one's own and others' online information, while security is related more to one's own awareness of online actions and behaviour. It covers competences such as information management and online safety issues (including the use of navigation filters, passwords, anti-virus and firewall software) to deal with and avoid dangerous or unpleasant situations.
- ▶ **Consumer awareness** relates to the fact that the World Wide Web, with its broad dimensions, such as social media and other virtual social spaces, is an environment where often the fact of being a digital citizen also means being a consumer. Understanding the implications of the commercial reality of online spaces is one of the competences that individuals will have to deal with in order to maintain their autonomy as digital citizens.

Developing digital citizenship competences across the 10 digital domains

Five constructs emerge as being essential in developing effective digital citizenship practices. These are depicted as pillars in the temple-like structure in Figure 2 below. While the competences for democratic culture lay the foundation for digital citizenship, the five pillars uphold the whole structure of digital citizenship development. Policy and evaluation constitute the two framing pillars of the model. Indeed, progress in education-related fields is, to a large extent, shaped by policy and good practice and this can only really be analysed and eventually replicated through the use of effective monitoring and evaluation methodology.

Between these “framing” pillars, the stakeholders – from teachers and learners to content and policy makers – and the resources and infrastructure available, will play a major role in the level of success achieved. At the core of the model lie the strategies that will guide implementation practices aimed at enabling learners of all ages to develop their full potential as active citizens in the democracies of today and tomorrow.

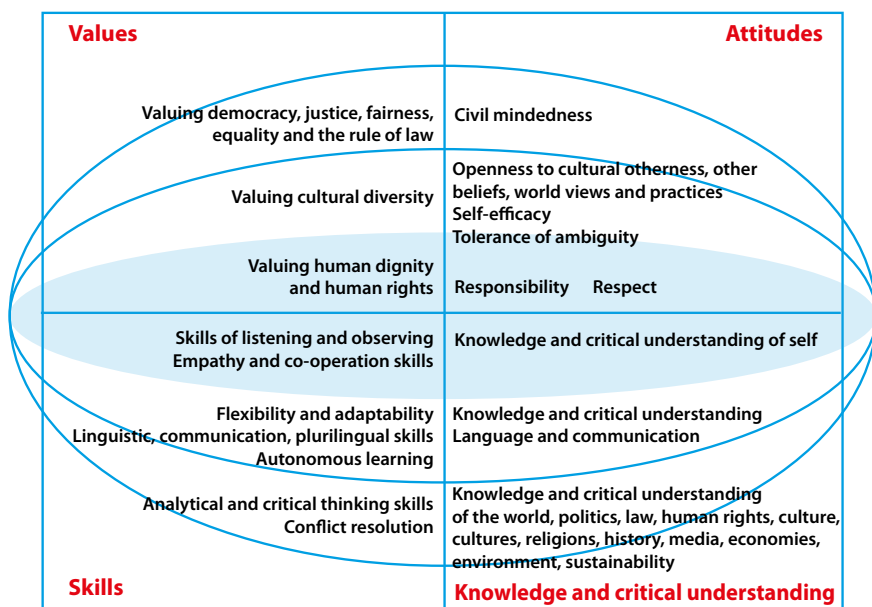
Figure 2: The Council of Europe model for digital competence development



A lifelong path towards digital citizenship

Building on core competences such as listening, observing and valuing human dignity and human rights, we learn to value cultural diversity and develop a critical understanding of language and communication, for example, illustrated in Figure 3 below as an intermediary layer. Digital citizenship education aims to provide opportunities to every individual to master the full range of citizenship competences.

Figure 3: The spiral progression of competence building from earliest childhood



LIVING DIGITAL CITIZENSHIP

A digital citizen, as defined above, is a person able to actively, responsibly and continuously engage in community life. Such engagement is dependent on contextual, informational and organisational criteria that constitute the guiding principles underpinning the societal and educational progression towards digital citizenship. This progression will be facilitated or impeded by the level of implication of a range of stakeholders, from family and local and on- and offline communities to teachers, schools, decision makers and the very industry that provides online tools and platforms.

Table 1: Stakeholders and implication for policy and practice

Stakeholders	Implication for policy or practice
Students	<ul style="list-style-type: none"> ▶ educate and protect themselves ▶ organise genuine participation ▶ develop empowerment in terms of competences
Parents	<ul style="list-style-type: none"> ▶ get involved in internet and citizenship debate ▶ help children balance the social and interpersonal implication of using online technology ▶ regularly communicate with their children and schools in order to help develop the skills of involved and informed digital citizens

Teachers	<ul style="list-style-type: none"> ▶ increase their knowledge and teaching practices in parallel to the interactive tools used by their students ▶ equip teachers with the competences required for implementing and assessing CDC ▶ rethink the role of teachers in the digital era
School management	<ul style="list-style-type: none"> ▶ considers all options of best practices with regards to internet policy ▶ includes parents, teachers, students, administrators and school board members as part of the decision-making process for safe, legal and ethical use of digital information and technology within the class environment
Academia	<ul style="list-style-type: none"> ▶ produces resources and research in pedagogy and didactics in the field of digital citizenship ▶ locally develops resources, where possible, in order to ensure the most engagement and implication
Private sector actors	<ul style="list-style-type: none"> ▶ participate in new areas of co-operation through a multistakeholder and cross-media approach relating to the empowerment of users and the protection of minors ▶ support a multistakeholder approach with shared responsibility to create appropriate conditions for effective digital citizenship ▶ need to substantially revise terms and conditions in a more child-friendly manner and push resources to parents and schools
Civil sector actors	<ul style="list-style-type: none"> ▶ develop the ability to provide new directions for future orientations in digital citizenship education
Local educating communities	<ul style="list-style-type: none"> ▶ develop formal, non-formal and informal education systems to shape children's digital literacy practices ▶ consider the emergence of so called "civic tech", which uses technology to address various aspects of digital citizenship
Regulatory authorities	<ul style="list-style-type: none"> ▶ determine that children's rights are respected within their competences ▶ actively encourage education authorities to educate citizens in the digital area
National/ international authorities	<ul style="list-style-type: none"> ▶ promote fundamental rights and democratic values through multistakeholder governance structures

■ All digital citizenship development initiatives are defined and shaped by the nine guiding principles defined below, which can also serve as reference points or benchmarks for the assessment of progress. They can be described as three types: contextual, informational and organisational.

Contextual principles considered as “preconditions” for digital citizenship

1. Access to digital technology is important. Without it, even non-digital democratic citizenship has become difficult as information and communication technology (ICT) is an integral part of everyday life in today’s society. Although most families aim to provide digital tools in the home, balanced use of age-appropriate technology is important, and equality of access for all children depends largely on provision of access in schools.

2. Basic functional and digital literacy skills are a second precondition, without which citizens are unable to access, read, write, input and upload information, participate in polls or express themselves in a manner permitting them to digitally engage in their community. School is generally accepted as the key stakeholder in this area; however, policy makers play a large role in ensuring that teachers benefit from the required tools and training, that the curriculum encourages the use of digital technology in learning and that sufficient high-quality resources are available to support classroom practice.

3. A secure technical infrastructure that enables citizens of all ages to have sufficient confidence and trust to digitally engage in online community activities is another precondition. This third precondition completes the first level of core guiding principles for digital citizenship. Although the onus was traditionally on device owners or users and ICT co-ordinators to safeguard data through protective software and personal good practice, platform providers and mobile operators are ultimately responsible for providing safer digital environments and simplifying security measures.

Informational – Three further principles

4. Knowledge of rights and responsibilities is key to actively engaging as a digital citizen. This knowledge, which shapes and is shaped by values and attitudes, is implicitly and explicitly developed at home, at school and in all on- and offline environments in which we learn, live and interact. Both capacity-building efficacy and outcomes are difficult to measure with this principle, given the huge variety of contexts in which they will be applied.

5. Reliable information sources are essential for positive active participation in community life. Without reliable information sources, digital citizenship can morph into extremism, discourage participation and even prevent certain sectors of the population from practising their digital citizenship rights. While schools and families play an important role in fostering discernment through critical thinking and educational practices, digital platforms and mobile providers have a large part to play too, in ensuring the reliability of information sources.

6. Participation skills depend on a range of cognitive and practical skills, the development of which begins at home, then continues at home and school from a very early age. These skills combine knowing when and how to speak out, empathy and cultural understanding to fully grasp meaning, critical thinking and oral and written expression skills.

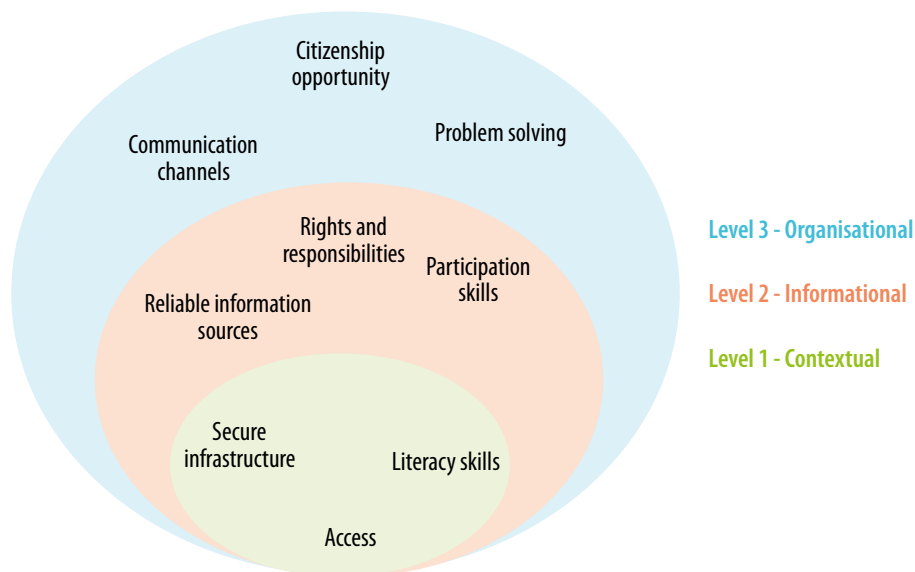
Organisational principles relating to “living digital citizenship” at a personal and societal level

7. Flexible thinking and problem solving are higher cognitive skills that call on a broader combination of all four areas of the CDC “butterfly” than any of the previous principles. Problem solving requires understanding of the issues at hand, analysis, synthesis, induction and deduction, but above all it depends on learning activities from early childhood onwards that foster cognitive development through exploration-driven activities. Besides learning contexts at home and school, digital platform and mobile providers play a growing role, since the way we learn is also shaped by the tools used to learn.

8. Communication, the second organisational principle, refers to both the skills and tools used to interact, disseminate and receive information. Schools and families play a critical role in supporting and enabling children to practise their communication skills from an early age in face-to-face situations, to help them understand and apply rights and responsibilities, empathy, privacy and security before they begin using digital tools. This has considerable implications for curriculum development and requires a greater effort on the part of industry in terms of collaboration with the education sector and greater discernment in the tools they provide for young users.

9. Citizenship opportunity is the ultimate guiding principle without which digital citizens are unable to hone their citizenship skills or exercise their rights and responsibilities. Citizenship opportunity calls for a flexible, open, neutral and secure framework where algorithms are open-source, freely chosen/customised by users, and where citizens can have their say without fear of retribution.

Figure 4: Nine guiding principles for digital citizenship



SECTION 1 BEING ONLINE



Being online

Being online illustrates the contextual preconditions for digital citizenship: access to digital technology, basic functional and digital literacy skills and a secure technical infrastructure.

■ In Europe today, 79.6% of citizens were reported to be internet users in 2017,⁸ indicating that more than one in five Europeans are not yet online. This figure rises to more than half of citizens worldwide, since just 48.0% of people in the world were internet users at the end of the first quarter of 2017. Out of all member countries of the Council of Europe, almost 20 fall below the European benchmark. In 2014, only nine Council of Europe member countries in the OECD (2016)⁹ were considered to provide an equitable level of access through their education systems.

■ Although seemingly no more recent data is available on the level of access to internet in schools, which, for certain sectors of the population, is the main source of equal opportunities, anecdotal evidence through youth participation suggests that this is low. A March 2015 Eurostat report states: “The vast majority of young people used the internet at home, while about half made use of the internet at other people’s houses and about 40% at a place of education”.¹⁰

■ With respect to basic digital literacy, too many children, even in Europe, are unable to benefit, or at least fully benefit, from basic education because of poverty, their gender, their ethnicity or where they live. The OECD (2016) estimates, for example, that 168 000 15-year-olds in France do not yet have the basic knowledge and skills needed to thrive in modern societies, and adults in only seven European OECD countries perform at the benchmark level on the literacy scale.¹¹

■ Cultural and social obstacles to equitable access and inclusion and to the development of basic digital literacy skills are equally difficult to overcome, and are not always directly related to the socio-economic status of families. Today we are seeing quite another form of digital divide, with technology-rich children at risk through poorly supervised and/or excessive access to technology, often in very early childhood, to the detriment of age-appropriate social and physical pursuits. This can result in young children skipping developmental stages in early childhood, thereby incurring a long-lasting impact on their educational potential.

■ A balance between on- and offline activities is important for children and people of all ages, for the development of empathy, observation and listening skills, and co-operation strategies, which are all key competences in digital citizenship. Knowledge and critical understanding of self, too, is a stepping stone to becoming an active citizen, and today includes knowing when and how to use or not use technology, as well as understanding the impact and reach of our actions and words in the digital space.

8. www.statista.com/statistics/333879/individuals-using-the-internet-worldwide-region/.

9. OECD (2016), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/eag-2016-en>.

10. Eurostat, “Being young in Europe today - digital world”, <http://bit.ly/2Pw2eGr>.

11. OECD (2016), op. cit.



” Children and young people need to be empowered and educated to ask for help and develop the support needed to become resilient.

Olivia, 15, Denmark



” Teachers must be present and active in children’s lives from the earliest ages – babies, toddlers and young children – because creating a strong foundation will greatly support their online and offline behaviours in later years.

Early childhood development teacher, Riga



” There is a big overlap between being a citizen in the “real world” and being a digital citizen. Some people who protest online get a false sense of doing something, and often don’t even go to vote in elections.

European Parents Association

” I believe that intensive studies should be done so that parents can make educated decisions on how much time their child is on digital media. The importance is to have an urgency here, not to find out 10 or 20 years from now how and to what degree digital media has debilitated our children.

Parent, France

CHECKLIST FACT SHEET 1: ACCESS AND INCLUSION



- ▶ What impact does technology have on social access and inclusion?
- ▶ How can you contribute in the areas where you think inclusion is currently not where it should be?
- ▶ How equipped are our schools, teachers and learning materials for the technological age?

CHECKLIST FACT SHEET 2: LEARNING AND CREATIVITY



- ▶ How can creativity be meaningfully fostered when self-directed exploration and learning goals have little or no place in school curricula?
- ▶ What is the impact of heavy technology use at an early age on brain development and creativity?

CHECKLIST FACT SHEET 3: MEDIA AND INFORMATION LITERACY



- ▶ How can children learn to process, analyse and make good decisions on their own with respect to the media and information available?
- ▶ How does media and information literacy contribute to all necessary skills for citizens in a democratic society?

DIMENSION 1 ACCESS AND INCLUSION

” Help me
to do it myself

Maria Montessori



WHAT SHOULD ACCESS AND INCLUSION MEAN FOR A DIGITAL CITIZEN?

■ To become a digital citizen, access to digital technology is essential, but it is far from sufficient. The online world is a vast, unbounded space, ripe with opportunity. It is also more demanding than the “offline” world in many ways, not least because of its exponential dissemination power and the apparent anonymity it can afford us. For this reason, access calls not only for technical skills to effectively navigate the endless labyrinths of the online world, but also an accrued sense of responsibility and respect towards others, based on the fundamental values of human dignity and human rights.

■ Technology access offers new learning, communication and creative tools and platforms in all shapes and forms. These include, but are not limited to, the traditional personal or laptop computer and keyboard, mobile phones, tablets and game consoles, apps and, nowadays, robots, the internet of toys and internet of things. One of the first responsibilities of digital citizens, as in any community in which we are active, is to ensure openness in these digital spaces for minority groups, less able people and the opinions of people from every walk of life. However, this is but one aspect of the term “inclusion”.

REACHING BEYOND TODAY'S LIMITS

■ Even today, a quarter of a century after the advent of the internet, it is estimated that a quarter of European citizens simply do not have access to it; the figure rises to almost one in two people when we look at the global population. In many countries, it is considered the vocation of schools to provide equal opportunities that will ensure that all children can realise their full potential and assume their role as active citizens in our highly digitised world. Yet in 2014, the OECD reported that just one in four of its member countries were providing an equitable level of access through their education system.

■ To the largest extent, technology remains an add-on to the core curricular subjects, and citizenship education in schools apparently scores even worse. Some countries are experimenting with a Bring Your Own Device (BYOD) mechanism; however, this also raises equality and security issues of its own. While inclusion is important, we are rapidly realising that excluding malware and prying eyes is also a challenge that grows by the day (see Fact sheet 9 on “Privacy and security”).

■ Limited educational opportunities and low income are proving to be major obstacles to access and inclusion in countries worldwide. Nevertheless, affordability and availability of technology are steadily improving, and the year 2016 showed a 21% increase over 2015 in terms of active internet users,¹² compared to a surprisingly low rise of just 5% in mobile users.

■ Progress is much slower when it comes to ensuring inclusion for the world's largest minority group: people with disabilities. According to the United Nations, 80% of people in this group live in developing countries. Technology has undeniably come a long way in adapting input and output devices to give the largest possible number of people access to the online world, but inclusion does not just require

12. <http://bit.ly/2w3wyCS>.

the physical barriers to be dismantled. The internet will not be fully inclusive until technology and our perception of diversity evolve to ensure that every citizen has equally effective access to every dimension of both on- and offline worlds. Inclusion depends on the full participation of every citizen and upon respect for their social, civil and educational rights. It is not limited to overcoming physical and cognitive disabilities but needs to span the full range of human diversity in terms of ability, language, culture, gender, age and other forms of human differences.

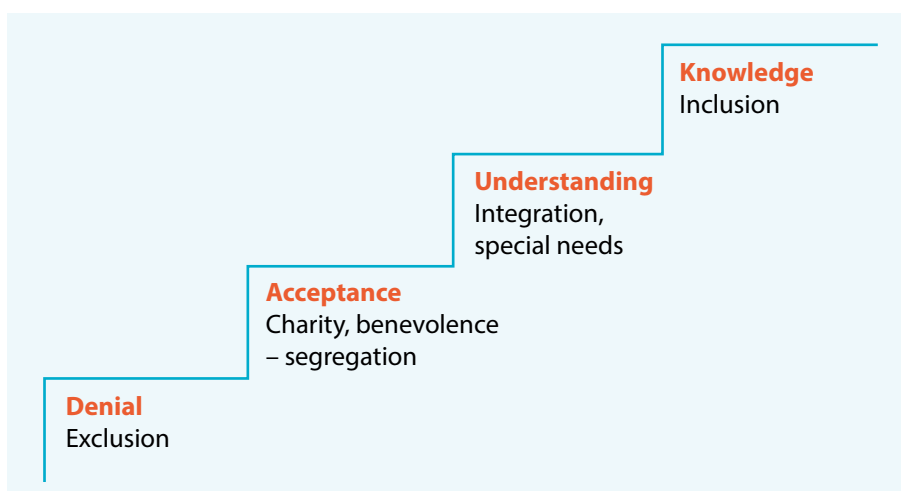


HOW DOES IT WORK?

Access and inclusion relate to the presence and participation of citizens in community life, be it on- or offline, and in activities that will permit them to realise their full potential in every sphere of their own life. Access and inclusion are part of a never-ending process within the social frameworks that regulate the way in which people live and evolve. This process requires them to continuously collate and analyse perceptions and evidence in order to identify obstacles to their inclusion or that of others, and to use their creativity and problem-solving skills to overcome these barriers. Access and inclusion are therefore ongoing evaluative processes that we all need to integrate into our way of being from the cradle onwards.

At the societal level, promoting inclusion is about reshaping social and educational frameworks so that they encourage and leave space for citizens to evolve. UNESCO's Education for All programme provides some interesting insight into the four steps to societal change in this domain (see Figure 5). Digital citizenship is about contributing to speeding up this process in society. Can you think of ways that you can contribute in the areas where you think inclusion is currently not where it should be?

Figure 5: Four steps underpinning the process of inclusion¹³



13. UNESCO (2005), *Guidelines for Inclusion: Ensuring Access to Education for All*, UNESCO, Paris, available at <http://unesdoc.unesco.org/images/0014/001402/140224e.pdf>.

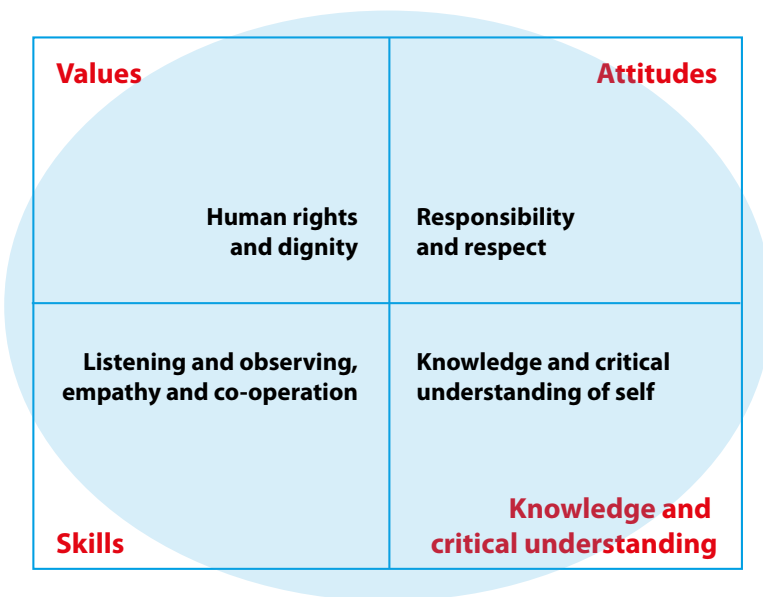


EDUCATIONAL AND CITIZENSHIP VALUE

— The internet offers access to a wealth of ideas, resources, learning opportunities and services for the digital citizen. The educational value is demonstrated when those users without access to traditional libraries can perform online research, or when those users with disabilities are able to fully engage in the benefits of the online environment thanks to additional devices and software that make accessibility a reality.

— Inclusion calls on the values, attitudes, skills, and critical knowledge and understanding at the very heart of the developmental spiral of digital citizenship competences. By talking about inclusion issues in class or in relaxed family situations – especially around a board game or in a play context – we provide children of all ages with unique opportunities to express and test certain preconceived ideas in a safe space where they can be easily readjusted as their knowledge and understanding grows. This will help them progressively prepare to defend inclusion in more confrontational contexts such as the school playground, sports clubs and society in general.

Figure 6: Raising awareness of inclusive practices – Core digital citizenship competences



— Inclusion is now high on the European agenda, given ongoing discussions about refugee minors in Europe and the growing awareness that children/people with disabilities are often deprived of educational opportunities. Inclusion highlights the need to place importance on empathy, social-emotional learning, anti-bullying, and such like in the school curriculum in a more a sustainable approach to learning.

— In Fact sheet 4 on “Ethics and empathy”, you will find some examples of activities that can support children to progressively develop certain digital citizenship competences in this way.

FACT SHEET 1

ACCESS AND INCLUSION





ETHICAL CONSIDERATIONS AND RISKS

■ We need to contend with five key obstacles¹⁴ to ensure equitable access and inclusion for all, at home, at school and in the broader society.

1. Existing attitudes and values are the foremost obstacles – Figure 5 (Dimension 1) looks at four steps to reaching inclusion.
2. Lack of understanding – Schools tend to be microcosms, closed to the outside community. To fulfil their vocation to educate young citizens and foster a deeper understanding of the world, schools need to open up to, and become a reflection of, the broader world. Digital technology can prove to be an invaluable means for triggering this process.
3. Lack of necessary skills – The digital revolution has given rise to a whole range of ways that people can become ostracised by their group or society, from cyberbullying and addictions to radicalisation. Teachers and parents, along with their children, need to be provided with innovative opportunities and pedagogical resources to meet these new challenges, through schools, the workplace and the community at large.
4. Limited resources – New challenges require new, and often expensive, solutions, though sometimes rationalised thinking can actually save costs, as indicated in step 4 of Figure 5 (Dimension 1). Yet a quarter of a century after the society-wide introduction of the internet, no country seems to have overcome its patchwork of home-grown remedies to introduce the evidence-based systemic change that will give every citizen the opportunity to develop the full range of digital citizenship competences.
5. Inappropriate organisation – This is a process of chicken and egg. Until equitable access and inclusion are mainstreamed as a fundamental right for all citizens rather than an ideal enshrined in treaties and conventions, our engineers, urbanists and others will be deprived of the tools and the public will to shape our social and cultural frameworks on an “inclusion by design” concept.



IDEAS FOR CLASSROOM WORK

■ **Create an inclusion matrix:** With your class, look at the Sustainable Development Goals (SDGs) at www.un.org/sustainabledevelopment/sustainable-development-goals/.

1. Decide which SDGs relate to access and inclusion.
2. Working in small groups, invite your students to create an online checklist/matrix and gather information from across the school to analyse to what extent each of these goals are being realised.
3. Share their findings with other classes in the school and be sure to highlight any impact the activity may achieve. This will underline to students the value of citizenship.

14. UNESCO, *Guidelines for Inclusion: Ensuring Access to Education for All* (2005), UNESCO, Paris, available at: <http://unesdoc.unesco.org/images/0014/001402/140224e.pdf>.

■ **Research on social media platforms:** With your class, look at a social media platform and find a topic that is trending. Invite students to discuss who has access to this information and who does not. Could this have a negative or positive effect?

■ **Conduct interviews with local services to create an Inclusion video:** You can extend Activity 1 in ideas for classroom work above to the local community, too. After a class discussion:

1. decide which person, service or organisation at the community level should be responsible for the SDG areas your students have investigated;
2. have them prepare and send a letter or e-mail to some of these people to seek an interview that could take place in your school, via VoIP (Voice over Internet Protocol), or in the office of these local representatives;
3. help students define the interview questions in advance, based on their checklist/matrix;
4. before recording the interviews (via mobile or tablet), be sure to prepare with them permission request forms that should be signed beforehand by each interviewee.

■ The resulting video collation can be put online to raise awareness of the school and the community about the improvements that could be made to promote inclusion.

■ **Research on news platforms:** Invite students to compare the top headlines in several newspapers. Ask them to identify who the target reader is and who the publisher is. Then ask them to identify what groups, if any, are not included. Do these groups have access to the content? Are they included in the discussion? How could this oversight be remedied?

■ **Analogue versus digital:** Divide the class into two groups and ask both groups to research the same topic. One group will use as their information sources only books in the school library, the other group will use only the internet and digital sources. Compare the results and the lessons learned from the exercise. How much of a disadvantage is it for students who do not have access to the internet to access resources? What types of skills are necessary for finding information both online and offline? Is there a difference in the quality of information found in books compared with the internet?



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

■ **Evaluating inclusion initiatives locally:** With your students:

1. make a list of the local organisations that strive to ensure digital access and inclusion in your community;
2. now choose an online tool that will help your students prepare and conduct two or three SWOT (Strengths, Weaknesses, Opportunities, Threats) studies to see how the impact of these organisations could be improved. Many useful online tools are available for this, for example at www.mind-tools.com/pages/article/newTMC_05.htm;
3. share your results with the organisations concerned and get their permission to use the findings. You can also anonymise the findings if you cannot get their permission;

4. share your findings with any other schools, experts or communities you are in contact with. Your findings may inspire other similar projects.

■ In this way, you are playing an important role as a digital citizen in an ongoing evaluation process that can help lead to a better community for all.



FURTHER INFORMATION

■ The Council of Europe has materials relevant to this factsheet in the [Internet literacy handbook](#). Please see [ILH Fact sheet 1](#), “Getting connected”; [Fact sheet 10](#), “Searching for information”; and [Fact sheet 11](#), “Finding quality information on the Web”.

■ The Council of Europe has materials on youth perspectives of social inclusion at <http://pjp-eu.coe.int/en/web/youth-partnership/social-inclusion>.

■ UNESCO provides some interesting insights into access and inclusion in its “Guidelines for Inclusion: Ensuring Access to Education for All” (2005), UNESCO, Paris. Available at: <https://bit.ly/2SCrQ7e>.

■ The Web Content Accessibility Guidelines (WCAG) are part of a series of web accessibility guidelines published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C), the main international standards organisation for the internet. They are a set of guidelines that specify how to make content accessible, primarily for people with disabilities – but also for all user agents, including highly limited devices, such as mobile phones. Web content accessibility guidelines are available at www.w3.org/TR/WCAG21/.

■ The Convention on the Rights of Persons with Disabilities sets out what human rights mean in the context of disability. The convention protects the rights and dignity of persons with disabilities. It is available in several languages, sign language and easy-to-read versions at <http://bit.ly/37jO0zU>.

■ The Council of Europe has several publications and resources dedicated to increasing awareness for people with disabilities, at www.coe.int/en/web/disability.

■ The Broadband Commission is a multi-sector group set up with UNESCO to achieve the UN’s SDGs and to eliminate the current double standards that are leading to digital poverty. The commission is promoting an age-appropriate design code for privacy protection in UK. This data code will become an online service to facilitate the online presence of children in a way that embodies children’s rights as proclaimed in the United Nations Convention on the Rights of the Child (UNCRC): www.broadbandcommission.org.

■ Google For Education is a suite of Google cloud-based tools designed for teachers to help learning and innovation: https://edu.google.com/?modal_active=none.

■ Accessibility tools – Google tools so that everyone can access and enjoy the Web: <https://www.google.com/accessibility/>.

DIMENSION 2

LEARNING AND CREATIVITY

” The true sign
of intelligence
is not knowledge
but imagination

Albert Einstein



WHAT IS LEARNING IN THE 21ST CENTURY?

While the internet has opened exciting new opportunities for citizens to learn at every stage of their life, it has also vastly increased the knowledge turnover rate. In 1900, it was estimated that human knowledge doubled approximately every century (this is known as the Knowledge Doubling Curve), whereas today on average human knowledge is doubling every 13 months. IBM predicts that the internet of things will lead to the doubling of knowledge every 12 hours.¹⁵

If it is no longer possible to learn at school all the knowledge you will need for the rest of your life, then how you learn becomes more important than what you learn, even more so when you consider the rapid evolutions that digital technology is bringing to the way we live. It has modified both the tools and platforms that support learning and knowledge access, replacing the traditional chalk and talk mode of knowledge transmission with interactive information and communication tools including and combining websites, e-mail exchanges, chat rooms, video conferencing, webinars, apps, robots, drones, virtual reality and more. Printed books are being replaced by ebooks, and the encyclopaedia by Wikipedia and the like.

Mobile learning, social media and online gaming are taking the development of knowledge and certain skills out of the hands of teachers and placing them into the hands of learners. Distance learning opportunities (for example, massive online open courses or MOOCs) are enabling citizens to overcome former social and physical barriers to obtain new professional qualifications. Thanks in part to improved access to learning tools (see Fact sheet 1 on “Access and inclusion”), today just 10% of the world’s population is unable to read or write a single sentence, compared to 25% half a century ago.¹⁶

RESHAPING THE CURRICULUM, UPDATING LEARNING APPROACHES

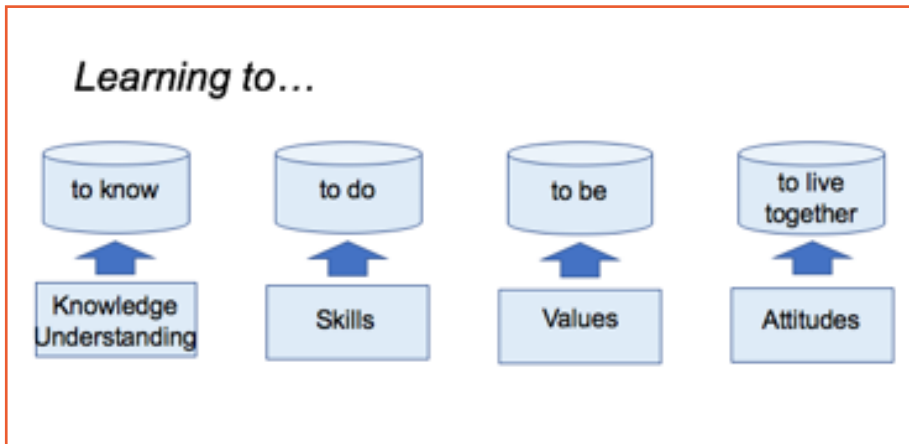
Besides raising the ever-increasing challenge for learners to sift through a constant information overload and sort the true from the false (see Fact sheet 3 on “Media and information literacy”), these new means of learning and the rapid turnover of knowledge have had to be accompanied by big changes in what and when we learn. Back in the 1990s, former European Commission President Jacques Delors proposed restructuring education around four essential pillars as a means of preparing young people to meet the challenges of our increasingly digital world. These four pillars are: learning to learn, to do, to be and to live together.¹⁷ This idea has been echoed by other educators before and since Delors, and the internet offers an abundance of tools and platforms that are making anywhere-anytime learning a powerful reality, though usually alongside the traditional education systems rather than being integrated into them. The four areas of competence of the Council of Europe’s “butterfly” framework underpin the four pillars (Figure 7).

15. Schilling D. R. (2013), “Knowledge Doubling Every 12 Months, Soon to be Every 12 Hours”, Industry tap, available at: <https://bit.ly/3iHsevR>.

16. www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/images/ild-2016-infographic.jpg.

17. Delors J. et al. (1996), “Learning: the treasure within”, UNESCO, Paris.

Figure 7: Four pillars of education underpinned by digital citizenship competence model



Most recently, the European Commission’s IPTS (Institute for Prospective Technological Studies) has suggested that the curriculum should be built on five key concepts if schools are to cater to the real needs of future citizens: information, communication, creativity, problem solving and responsibility. While the debate around school curricula rages, one further disruptive stakeholder has crept in seemingly unnoticed and is transforming the face of learning: technology. Technology has found its way into the hands of our infants who, already adept internet users by the time they enter kindergarten, are skipping important developmental phases that could have a big impact on their future life.

As children and young people grapple their way through a blurred online-offline reality, bringing their friendships and disputes via their tablet or mobile phone into the classroom, and their schoolyard fears and fantasies into their bed at night, “learning to be” and to “live together” (i.e. values and attitudes) are becoming ever more necessary. And we are gradually beginning to see “emotional intelligence” competences such as “self-awareness”, “social awareness” and “relationship management” rear their heads in formal education. At the opposite end of the scale, the realisation is dawning that children who learn to code have a better understanding of the place of technology in their life, and its limits. This has pushed coding to the forefront as a must-have for the 21st century digital citizen.

WHERE DOES CREATIVITY FIT IN?

Being an active citizen, whether in school, among friends or in on- or offline communities, means being a participative citizen able to put forward ideas, formulate opinions and bring original perspectives to any debate. This requires mastery of a range of higher cognitive skills, from analysing data sources to sorting, reflecting on and interpreting information. These are all higher cognitive skills developed through exploration-driven learning and experience rather than through transmission of knowledge. They rely on a certain level of creativity, which is a key ingredient in problem solving. They also rely on the capacity of young people to express themselves coherently and listen to the opinion of others.

But how do we foster creativity, self-expression and learning through experience in schools that define learning through a standard mainstream curriculum and covert evaluation models requiring students to fulfil external objectives rather than their self-set goals? Creativity and meaningful artistic expression have always been important drivers of social progress, but how do we encourage children to exercise their imagination when an endless palette of entertainment is at their fingertips 24/7, at the simple click of a mouse or swipe of a screen?



HOW DOES IT WORK?

Learning and creativity are intrinsically linked. All learning, like creativity, begins with the learner receiving information, ideas, feelings and/or sensations that he or she processes through an activity that can range from thought to individual or collaborative action. For the most effective outcomes, as with creativity, the learner needs to be motivated, and not restricted by time, space, pressure or fear. Learning through play and self-directed technology-based learning generally meets these requirements, and therefore can result in creative outcomes. When learners are able to satisfy their immediate goals, they are encouraged to set more ambitious goals and thereby map their own path of further learning.

“Learning to learn” is described by the European Commission’s Joint Research Centre (JRC) as “the ability to pursue and persist in learning, to organise one’s own learning, including through effective management of time and information, both individually and in groups”.¹⁸ Nowadays both educators and policy makers consider it to be a basic skill for success in the information society. Learning to learn is an essential building block to lifelong learning and is determined by a learner’s own behaviour, i.e. his or her attitude and engagement towards learning. This is why learning must become a positive experience for all children. Assessment of learning-to-learn capabilities is challenging because it needs to take into account both cognitive, psychological and socio-cultural perspectives.



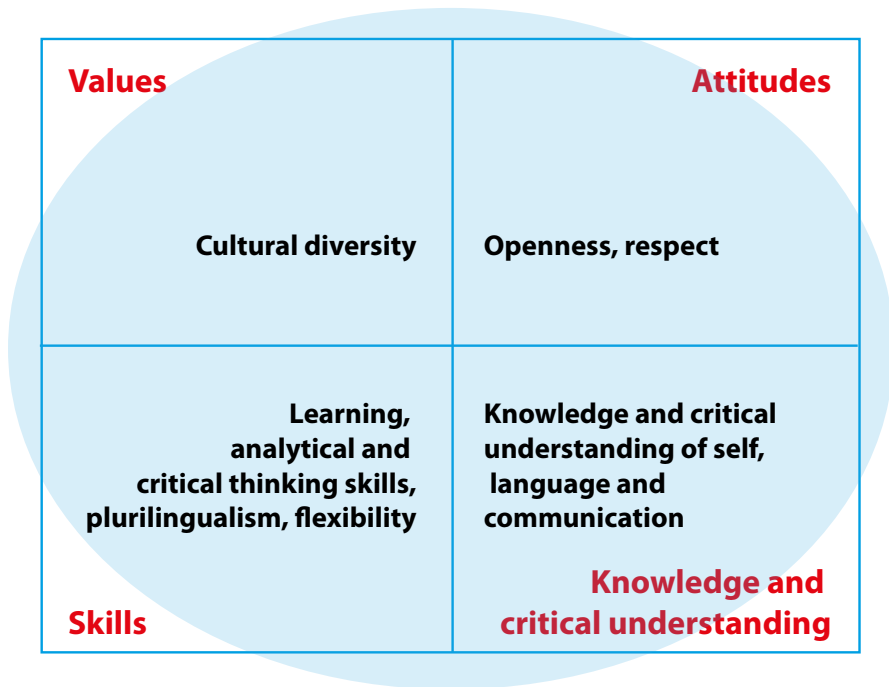
EDUCATIONAL AND CITIZENSHIP VALUE

Besides the important contribution that learning makes to knowledge and critical understanding of the world, when children encounter success and/or failure in learning activities adequately framed in a supportive environment, they are able to build a better understanding of themselves, their qualities and their limits. Co-operative learning, for example planning and building projects and models through construction activities, are especially valuable to very young learners. By sharing materials, negotiating ideas and taking turns with equipment, they are practising democratic values such as justice and fairness, and attitudes such as respect for others and their ideas.

18. Hoskins B. and Fredriksson U. (2008), *Learning to learn: What is it and can it be measured?* JRC, European Commission, available at <https://bit.ly/2i1Q0rC>.

■ In the growing complexity and unpredictability of our fast-moving world, creativity helps citizens adapt to new environments, respond to emerging societal needs and find solutions to the many challenges technology raises. Creativity therefore creates jobs, driving economic growth and pushing society to maximise its human potential. Research based on the Torrance Test of Creative Thinking, which has been the gold standard for measuring creativity since the 1960s, indicates that childhood creativity shows a three times stronger correlation to lifetime creative accomplishment than childhood IQ.¹⁹

Figure 8: Learning and creativity – Core digital citizenship competences



19. Runco M. A., Millar G., Acar S. and Cramond B. (2010), "Torrance Tests of Creative Thinking as Predictors of Personal and Public Achievement: A Fifty-Year Follow-Up", *Creativity Research Journal*, 22 (4). DOI: 10.1080/10400419.2010.523393.

FACT SHEET 2

LEARNING AND CREATIVITY





ETHICAL CONSIDERATIONS AND RISKS

■ The first five years of a child's life is a critical period in child development. This is when, through neuroplasticity, the "architecture" and functioning of the brain is defined. These early years will therefore have a direct impact not only on how a person learns, but also on his or her social and emotional well-being. In today's world where many parents need to go out to work, equitable child-care facilities for all is a major challenge for society if all children are to have equal opportunities to learn and to develop their creativity.

■ A second ethical concern is related to the intensive use of technology in early childhood. Reputable sources such as OFCOM in the UK show that a majority of European children are online before the age of 2, with 3 to 4-year-olds spending 71 minutes online daily in the UK. Watching YouTube videos has become the second favourite pastime of the under 5s, at an age when physical activity and exploration- and play-driven learning are meant to be shaping a child's body, mind and social-emotional abilities. What is the impact of heavy technology use at this age on brain development, and how do we build the awareness of well-meaning parents about the likely repercussions for their child's future and their capacity for creativity?

■ How equipped are our schools, teachers and learning materials for the technological age? Is the treasure chest of learning opportunities that digital technology has opened slowly transforming into a Pandora's box because our education systems are unable or too slow to adapt?

■ According to the UNCRC, children from their earliest age have a fundamental right to equitable education opportunities that cater to their individual needs, yet this remains a major ethical challenge. Affordable child-centred education plays a big role in shaping the future of every citizen, and ultimately of society.

■ Creativity crisis: standardised test results in the USA and elsewhere are causing researchers to fear that society is becoming "less verbally or emotionally expressive or sensitive and less empathetic, less responsive in a kinaesthetic and auditory way, less humorous, less imaginative, less able to visualize ideas, less able to see things from different angles, less unconventional, less able to connect seemingly irrelevant things together, less able to synthesize information, and less able to fantasize or be future-oriented".²⁰ Are we doing enough as a society to foster creativity, and what can be done to counter the impact of growing cultural consumerism when so much entertainment is laid before us at the click of a mouse?

■ The cut-paste-copy-download nature of the online world can easily erode the livelihood of creators, and it is therefore important to discuss copyright issues with children at every age. New business models building on open source/licensing and supported by direct and voluntary contributions via crowdfunding, online charity platforms or blockchain-powered art and digital content, should be explored as well to provide innovative ways for users to support their favourite artists, rather than rely solely on existing copyright models.

20. Powers J. (2015), "The Creativity Crisis and what you can do about it", *Psychology Today*, available at <https://bit.ly/2wmuClT>.



IDEAS FOR CLASSROOM WORK

■ **Imagination.org** is a recent initiative inspired by a 9-year-old American boy's creation of a "cardboard arcade". His story and those of Inventor's Challenge winners feature in an annual report (<http://imagination.org/inventors-challenge/>). They offer plenty of ideas that can get children started creating their own cardboard or other constructions. Schools from across the world can create their own volunteer-led "Imagination Chapter", or students can test their creative skills by independently entering their own inventions.

■ The Web We Want (available in a dozen languages at www.webwewant.eu) is a series of activities designed by teens and supported by a teacher's handbook that facilitates integration across the curriculum:

- ▶ Chapter 2.2 describes class, small group and individual activities in creative online journalism
- ▶ Chapter 6, "The artist in you", takes a closer look at copyright, with a checklist for teens to evaluate their online practices.

■ Teaching 2 and 3-year-olds (<https://teaching2and3yearolds.com/activities/>) presents ideas and creative activities for children through to the end of primary or elementary school, across a range of subject areas from maths to art, from cooking to music. It also provides some interesting tips on classroom and playroom set-up and management to promote exploration-driven, self-managed learning.

■ Invite students to do a short research project on "creativity today and yesterday". Have them compare and contrast journal entries from children in the 1950s or 60s with online blogs or vlogs from children of today. Does the same sense of creativity exist? Does creativity change because of the media we use, or because of the period in which we live?



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

■ Linking learning to citizenship – Give your students a list of thought leaders who combined education and citizenship: some examples include Aristotle, Socrates, Rousseau, Leonardo da Vinci, Einstein, Gandhi and Sugata Mitra, although teens will rapidly come up with a list of their own. Invite them to research these thought leaders until they can find the links between education and citizenship. Encourage them to create a quiz about their findings that they can share online with other students in their school or further afield.

■ Share the Council of Europe butterfly of competences (Introduction in this publication) with your students. Have them use the four-area model to create and present their own project on digital citizenship competences of a famous thought leader in a specific period in history.

■ Periodically, open a discussion with your students on issues that they have completely taken for granted, for example: "If all schools were abolished, where would you be educated?" This will not only spark their imagination, but also lead them to actually think about the purpose and value of customs and national institutions.

■ Ask the students if they have played an online game such as Minecraft where the players create and live in another world. Have them identify all the different rules that players must adhere to in order to live in that online world. Consider what types of tools the players use and whether they learn about different items in their gaming world. Then consider to what extent players must be creative to continue to exist, and how creativity furthers the online world and gameplay.



FURTHER INFORMATION

■ The Council of Europe has materials relevant to this fact sheet in the *Internet literacy handbook*; please see ILH [Fact sheet 12](#), “Distance learning and MOOCs”; [Fact sheet 14](#), “Videos, music and images on the internet”; [Fact sheet 15](#), “Creativity”; [Fact sheet 16](#), “Games”; [Fact sheet 24](#), “Artificial intelligence, automation and disruptive technologies”; and [Fact sheet 25](#), “Virtual and augmented reality”.

■ Take a look at the comprehensive checklist on child development stages and the elements that will impact learning and creativity on the Facts for Life global website, supported by major worldwide institutions including UNICEF, UNDP, WHO and the World Bank: www.factsforlifeglobal.org/03/development.html.

■ Hodder Education at www.hoddereducation.co.uk explores interesting perspectives on different types of learning (flipped learning, for example) as well as learning tools and platforms for all subjects at different school levels.

■ The Khan Academy (www.khanacademy.org) offers free online modules on a wide range of subjects for registered users. Learners can map their progress on each module and put together their modules any way they wish to create their own customised course.

■ The European Commission’s publication *The European Digital Competence Framework for Citizens* (<http://ec.europa.eu/social/BlobServlet?docId=15688&langId=en>) provides further explanation of the five curricular areas put forward by the IPTS as well as an overview of implementation across the EU.

■ *Global Citizenship Education – Preparing learners for the challenges of the 21st century* outlines UNESCO’s approach to digital citizenship (<http://unesdoc.unesco.org/images/0022/002277/227729e.pdf>) and *Global Citizenship Education – Topics and learning objectives* (<http://unesdoc.unesco.org/images/0023/002329/232993e.pdf>) proposes a detailed breakdown of K1-12 achievement levels.

■ Tinkering Labs (<http://aim.gov.in/atal-tinkering-labs.php>) have been implemented in schools in India to give opportunities for children to play. This initiative has not only improved child creativity, but lab mentors play a vital role in children’s overall learning. “Innovation stations” are packaged into a bus and one lab can support 32 schools.

■ The Consortium for School Networking has created a Digital Accessibility Toolkit in partnership with the Center on Technology and Disability to support schools in harnessing technology and innovation: <https://cosn.org/digitalaccessibility>.

■ Google Arts & Culture provides online access to cultural heritage from across the world. Users can explore certain world famous museums and examine paintings from Vincent van Gogh and other great Masters right down to their tiniest brushstroke: <https://artsandculture.google.com/>.

■ Expeditions is a virtual-reality teaching tool. Users can swim with sharks, visit outer space, walk through a museum and more without leaving the classroom. There are close to 500 expeditions available and more in development: <https://edu.google.com/expeditions/#about>.

DIMENSION 3

MEDIA AND INFORMATION LITERACY

” People sometimes announce that we have entered the information age as if information did not exist in other times. I think that every age was an age of information, each in its own way and according to the available media

Robert Darnton



HOW IS MEDIA AND INFORMATION LITERACY DEFINED TODAY?

Like digital citizenship, media and information literacy has been explained by a range of definitions and different terminologies. Whether we use digital media literacy, information literacy, internet literacy or any of the other different expressions, the main idea is that literacy encompasses the ability to engage meaningfully with media and information channels.

Media, information channels and the ubiquity of the internet may leave the impression that the digital age has turned everyone into media users and that the digital can be found everywhere, including in schools. This impression is false and, moreover, schools are the notable exception. School is the one place where it is absolutely crucial to train future citizens to understand, to criticise and to create information. It is in schools that the digital citizen must begin and maintain constant critical thinking in order to attain meaningful participation in his or her community.

Media and information literacy is an ambitious goal in the 21st century because of the challenge of teaching users to critically judge, reflect and use the extremely broad range of available media. Not only must users become media literate with respect to traditional media and the representation of image, users now must become media literate with respect to the wealth of new technology available and the development of applications allowing entirely new ways of transmitting information.

Without media and information literacy, across the varied types of media now available, our children cannot act as responsible citizens, digital or otherwise, and the question of who will teach this to our children has not yet been established.

Generally speaking, if schools are the training grounds for critical thinking, analysis and judgment making, is it not logical that media and information literacy become cornerstones of the educational curricula?

WHAT ARE SOME OF THE DIMENSIONS OF MEDIA AND INFORMATION LITERACY?

Media and information literacy (MIL) is an umbrella concept that covers three often clearly distinguished dimensions: information literacy, media literacy and ICT/digital literacy. As UNESCO highlights, MIL brings together stakeholders including individuals, communities and nations to contribute to the information society.

Not only does MIL act as an umbrella, it also encompasses a full range of competences that must be used effectively in order to critically evaluate the different facets of MIL.

WHAT WILL MEDIA AND INFORMATION LITERACY MEAN TO OUR CHILDREN?

Children and young people today are particularly savvy when it comes to finding and using media for entertainment and recreation. But how many of those children can use those same devices to find meaningful answers, conduct evidence-based research, spark a debate or follow the news?

Children and young people are confronted with all types of content and they should, indeed they must, be able to discern what is of value and what is not; what

is real and what is not. Discernment goes beyond fake news and relates to their ability to process and interpret information.

■ Research is under way to investigate the learning potential of existing and emerging communicative technologies for children aged 0-8 years old. The DigiLitEY project specifically rests on the premise that “the early years provide crucial foundations for lifelong literacy learning, therefore it is important to ensure early education policy and practice across (all) countries are developed in order to equip our youngest citizens with the skills and knowledge needed in a digitally-mediated era”. Initiatives such as DigiLitEY and the Joint Research Commission project on 0-8-year-old children and digital technology should provide interesting conclusions and guidelines on media and information literacy in the near future.

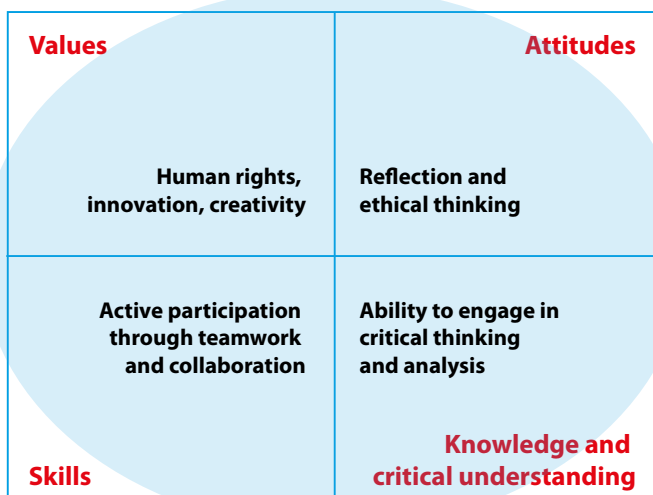
■ Whether children are playing online games or watching endless videos, the ability to understand the stakes within the medium and potential implications beyond would serve our children well. They need to be able to process, analyse and make good decisions on their own, and media and information literacy can help children develop those skills.

CONFUSION BETWEEN MEDIA AND INFORMATION LITERACY AND DIGITAL CITIZENSHIP

■ Often digital citizenship is confused with media and information literacy in that one of the nuances of digital citizenship is the ability to critically evaluate media and online technology, tools and information. While media and information literacy (MIL) is how we think (critical thinking) about all of the media around us, digital citizenship refers to how we live and how we engage with all of the technology around us. Media, like technology, can come in many different forms and can blend into a single form.

■ Rather than simply using cognitive, emotional and social competences as the basis of MIL, it is useful to apply some of the other media-related competences from the Council of Europe’s “butterfly” competence framework to the concept of media and information literacy (Figure 9).

Figure 9: Four steps underpinning the process of inclusion





HOW DOES IT WORK?

Media and information literacy provides the backbone to understanding media and the role of media in our society. MIL also provides some of the essential skills necessary for critical thinking, analysis, self-expression and creativity – all necessary skills for citizens in a democratic society.

Citizens are able to access, analyse, create and consume media and information in various formats from print to radio, from video to the internet. Learning how to use a search engine properly is an important skill for the digital citizen and once the information is acquired, it is then necessary to apply transversal skills such as critical thinking by searching for and comparing divergent sources online. The ability to critically analyse, then classify and retain the pertinent information can aid digital citizens in the acquisition of knowledge on a wide array of topics.



EDUCATIONAL AND CITIZENSHIP VALUE

Critical thinking is invaluable for citizens and especially for young learners, who also need to be able to solve problems, find information, form opinions, evaluate sources and more. Given the amount of data and truthful and erroneous information that is available online, MIL is a crucial skill.

A message can go viral in less than one hour and what is false can be repeated until people believe that it is true. With the speed of dissemination, those with adequate MIL skills will be better able to discern what is true and will be able to ask questions and search for answers amid the flotsam online.

Search engines have revolutionised the way people search for content online, and digital skills should also include the ability to understand that algorithms may not always be neutral. Search engines can and have been manipulated for political and other reasons and, as such, users should have a healthy appreciation for lower-ranked results as well as the highest-ranked result. With regard to information and especially world news, the key is diversity. Algorithms should be configured in such a manner as to always display different points of view about similar events.

Finally, children and, more broadly, all citizens may be misled into believing that if there is “fake” news there must be “real” news. Even news which is factually correct results from an editorial filter which selects one event among the otherwise infinite events happening all around the world. As media outlets struggle to attract viewers, the news has to be “catchy”, sensationalist and simple, gradually transforming into “infotainment”. Instead of covering a heart-warming story of solidarity and fraternity, news outlets will prefer devastating accidents, death and violence. The questions that must be asked, beyond the “factual accuracy”, is rather: why does the media focus on stories of catastrophes? Is there something to gain from keeping people in a state of perpetual fear for their life? How does this influence political opinions? What ideological message underpins the otherwise factually correct news article or story?

FACT SHEET 3

MEDIA AND INFORMATION LITERACY





ETHICAL CONSIDERATIONS AND RISKS

■ People depend on information and it has been stated that “our brains need information to work optimally”.²¹ If that information is false or distorted, it can greatly affect how we act and react. Honesty and integrity are inherent ethical considerations in a democratic society and critical thinking and evaluation in MIL can reduce the risk of the dissemination of dishonest and false information.

■ The risk of fake news and the dissemination of false information will increase greatly as access to information and communication continues to grow across the globe.

■ By focusing on the emergence of fake news, citizens may become less aware of propaganda, which is just as problematic.

■ More and more people are getting their information directly from the internet as a media source, and digital content sometimes spreads rapidly without thorough fact-checking.

■ Citizens may rely on information that is incorrect, which could have disastrous consequences for their communities and society in general.



IDEAS FOR CLASSROOM WORK

■ The Five Laws of Media and Information Literacy were inspired by the Five Laws of Library Science, proposed by S. R. Ranganathan in 1931. UNESCO considers media and information literacy to be a nexus of human rights and the five laws act as guides to the media, information and all “containers of knowledge”.

- ▶ Ask students to examine each of the five laws and write short essays related to their online lives and the laws: <http://bit.ly/2wnA5IV>.
- ▶ Students can also look at this visual identity of the five laws and discuss where there is crossover, interlinkage or differentiation in their lives and in their communities: <http://bit.ly/2wsVjoT>.

■ Online communities and campaigns – Involve your students in a research project by getting them to use digital media to engage with issues in the local community or state politics. The ultimate goal for students would be to create a campaign that influences online communities. The students should be encouraged to interpret the issue, their understanding and ability to express their own creative viewpoints through digital media.

■ Access, search and critical evaluation – Invite students to pick a topical concern and perform some initial research. Have them check different sources, use different search engines online and then check print resources. Compare and contrast the differences and nuances.

21. <https://en.unesco.org/themes/media-and-information-literacy>.

■ Social media and veracity – Invite students to examine the social media accounts of their favourite athletes, actors or musicians. Ask them to critically review the information provided to determine whether the information is true, false or perhaps exaggerated for marketing purposes. Have the students create a three-point checklist that they can use to determine whether something they read online is true, false or grossly exaggerated.

■ Imagine a ban on mobile phones for a week – Ask students to determine what would be the consequences for their ability to critically evaluate the world around them without immediate access to media. Does a lack of online information cause them to research elsewhere? Does it cause them to disengage?

■ Racism and nationalism – Distribute two versions of an article about violence. One of these could be the “original” version, usually pinpointing and identifying the nationality or ethnic origin of the people committing acts of violence, and the second version with a greater focus on the origins of the victims. Discuss why the ethnic or national origin of the perpetrators of violence should or should not be mentioned and what the impact of such information has on people. After a class debate, distribute a summary of the findings of researchers like Martin Daly, which makes the clear link, via scientific research, between violence and social inequality and shows that social inequality is a much better predictor of violence than ethnic origin or nationality (www.martindaly.ca/killing-the-competition.html).



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

■ Linking media and information literacy to digital citizenship – Maintain a healthy scepticism about the material that you find online and be prepared to evaluate materials with a critical eye. Regularly search for divergent opinions and information in order to avoid propagating myths or falling for false claims.

■ The Center for Media Literacy has practical resources to assist schools in developing, organising and structuring class exercises on media literacy (www.medialit.org/cml-medialit-kit). Get students to apply some of the following questions to selected online articles and messages they personally receive to think about media and information literacy in their everyday lives.

- ▶ Who created the message?
- ▶ What techniques are used to attract my attention?
- ▶ What lifestyles, values and points of view are presented in or omitted from the message?
- ▶ Why was this message sent?
- ▶ How might different people understand the message differently from me?

■ MIL Curriculum for Teachers – UNESCO has developed a Media and Information Literacy (MIL) Curriculum for Teachers intended as a tool that will provide educators from all backgrounds with the main competences (knowledge, skills and attitudes) related to MIL. It focuses on the pedagogical approaches necessary to enable teachers to integrate MIL into their classrooms (<http://bit.ly/2NaEW7i>).



FURTHER INFORMATION

■ The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 6](#), “E-mail and communication”; [Fact sheet 10](#), “Searching for information”; [Fact sheet 11](#), “Finding quality information on the Web”; and [Fact sheet 22](#), “Getting assistance”.

■ The UNESCO mission is to inspire media and information literate societies through a comprehensive strategy. UNESCO has prepared a model Media and Information Literacy Curriculum for Teachers, as well as the development of guidelines for preparing national MIL policies and strategies, among other international projects: <http://bit.ly/2MQT6gS>.

■ Frau-Meigs D. (2011), *Media matters in the cultural contradictions of the “information society” – Towards a human rights-based governance*, Council of Europe Publishing, Strasbourg, available at: <http://bit.ly/2PyfPgw>.

■ Media Literacy Now has a thought-provoking essay arguing for the linkage of MIL and digital citizenship, available at: <http://bit.ly/2o5p3US>.

■ The Global Digital Citizen Foundation has a critical thinking workbook with games and activities for developing critical thinking skills, available at: <http://bit.ly/2BGuVO9>. This allows students to go beyond being informed on a subject or issue.

■ UNESCO has produced a media education kit for parents, students, teachers and professionals which provides a comprehensive view of media education while outlining the ways in which people can increase their participation in their political and cultural communities: <http://bit.ly/2P1scRc>.

■ Be Internet Awesome (https://beinternetawesome.withgoogle.com/en_us) teaches kids the fundamentals of digital citizenship and safety so they can explore the online world with confidence (ages 9-11).

SECTION 2 WELL-BEING ONLINE



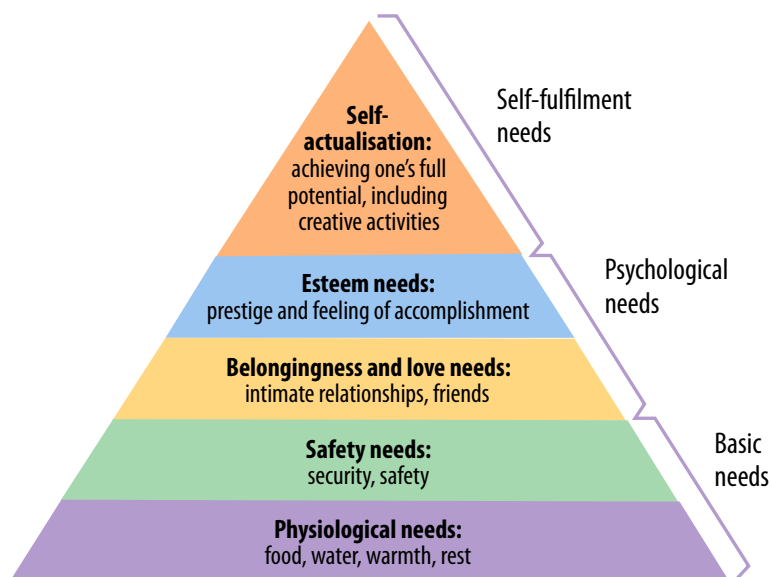
Well-being online

Well-being is a universal concept closely related to citizenship that relates to our capacity to:

- ▶ realise our full potential;
- ▶ cope with the normal stresses of our environment;
- ▶ work and communicate productively and fruitfully;
- ▶ make a meaningful contribution to our community.

When we consider well-being in the light of digital citizenship, it is especially useful for teachers, parents and children themselves to take a closer look at the “Maslow hierarchy of needs”.²²

Figure 10: Maslow hierarchy of needs



This aligns in many ways with the Council of Europe's digital citizenship competence framework, as children cannot move on to the next layer of their citizenship skills if they have not satisfied the earlier level of competences. The basic skills of listening, observing and co-operating, for example, are stepping stones to the cognitive skills of knowledge and critical understanding. Shared community values and attitudes such as justice, fairness, equality and civil mindedness enable us to fulfil many of the requirements for self-actualisation and fulfilment.

Technology has intricately woven itself into almost every strand of our daily life, making it essential for citizens to be constantly aware of the challenges and conscious need for balance to counteract the more negative aspects of the digital world. Some governments are taking this into consideration and we see initiatives such as the National Programme for Happiness and Positivity (<https://bit.ly/3vxa-Pjk>) in the United Arab Emirates along with the appointment a Minister of State for Happiness.

22. Maslow A. H. (1954), *Motivation and personality*, Harper and Row, New York.



WHAT CHILDREN SAY

” I feel that people need the freedom to be able to share their knowledge and opinions without the fear of being harmed for doing so. Everyone should have the right to express themselves for who they truly are, and should not feel constricted by today’s discriminative society.

Katie, 15, England



WHAT TEACHERS SAY

” The importance is how digital citizenship and competences are represented at each different age. During early childhood, children need to integrate competences such as civic mindedness, contesting the status quo and calling into question things they encounter, see or hear.

Teacher, Riga



WHAT PARENTS SAY

” Parents, teachers, society – all of us involved in children’s education have to join forces and learn to work together. We’re all part of a triangle with our children right in the centre.

European Parents Association.

” I’m worried about the impact on human contact, the development of social skills, physical and emotional health and lack of interest in non-media pursuits such as sports, outdoor activities, hobbies, clubs, involvement in local community, school performance and work. I believe that if used correctly, media can be a useful tool, but it requires learning and management.

Parent, France

CHECKLIST FACT SHEET 4: ETHICS AND EMPATHY



- ▶ What is the relationship between ethics and empathy?
- ▶ How can empathy play a role in peace-building and mediation?
- ▶ What role can ethics play in digital citizenship?

CHECKLIST FACT SHEET 5: HEALTH AND WELL-BEING



- ▶ Can technology and health be mutually beneficial?
- ▶ Why is balance the optimal factor between technology and well-being?

CHECKLIST FACT SHEET 6: E-PRESENCE AND COMMUNICATIONS



- ▶ How will the EU General Data Protection Regulation (GDPR) affect e-presence?
- ▶ What are the implications of the overlapping of communications on social media and the internet?
- ▶ What are some of the ways that children can create a positive e-presence?

DIMENSION 4 ETHICS AND EMPATHY

” Empathy is the oxygen breathing life into the relationship between individual and other

Heinz Kohut (1977)



Ethics are the moral principles that govern people's behaviour and the way they conduct life's activities. Although ethics are generally assumed to be based on what is accepted as morally good and bad within a given society or group, in digital environments accepted behaviour often deviates from what is ethical and, indeed, unethical behaviour is sometimes seemingly even condoned. One typical example is bullying, when children (and adults!) strive to outdo each other with hurtful comments to get the praise of their peers. Moreover, as the borderless world of digital technology enables us to move effortlessly from one social framework or community to another, what is accepted as morally good or bad in one may clash with expectations in another.

— **Empathy** is the capacity to understand or feel what another person is experiencing from within the other person's frame of reference, i.e. the capacity to understand their perspective and reality and to place oneself "in their shoes". Because it leads us to understand the interests, needs and perspectives of others, empathy is an important determinant of moral behaviour, and a necessary building block in creating moral communities. It is the driver and the essence of perspective taking, constitutes the lens through which we look at a person or a group of people and has a major impact on how we perceive, understand and respond to others and to life events. In this way, empathy "colours" the ethical framework transmitted through family and society, enabling each person to progressively create their own nuanced filter through which input can be analysed and "good" or meaningful actions taken, or decisions made.

— Empathy and ethics are at the core of the Council of Europe's competence model, since they are based on an understanding of the values of human dignity and human rights, and shaped by an attitude of respect for, and a sense of responsibility towards, others, as well as through a solid knowledge and critical understanding of oneself. Combined with the skills of listening, observation and co-operation, these competences enable a person to perceive a multi-perspective reality and engage with the diversity of others. Daniel Goleman, author of several publications on emotional intelligence, identifies this perception-engagement process as "tuning into emotional cues".²³ He underlines the importance of paying attention to non-verbal communication as a means of sensing others' feelings and perspectives, and taking an active interest in their concerns. It is obviously more challenging to tune into non-verbal communication in an online environment. Furthermore, neuro-plasticity research suggests that the constant over-stimulation of our brain caused by the multitude of sounds and rapid images we are bombarded with via the internet is having an impact on our capacity to process subtler non-verbal and other cues, and slowing down development of our prefrontal cortex which helps us analyse potential consequences of our actions.²⁴

DEVELOPING ETHICS AND EMPATHY THROUGH CHILDHOOD

— Ethics and empathy are normally initially taught or modelled by parents. The more parents' ways of thinking are in line with the dominant culture, the less their children will have cause to think about them. However, when children enter child care, kindergarten and school, the interaction with other children from wide-ranging backgrounds rapidly confronts them with other realities. This is an important part

23. Goleman D (2011), *The Brain and Emotional Intelligence: New Insights*, More Than Sound, USA.

24. Carr N. (2010), *The Shallows: What the Internet Is Doing to Our Brains*, W. W. Norton & Co., New York.

of the socialisation function of educational establishments, where diversity and inclusion become enriching and empowering forces as children set off on their path towards active digital citizenship.

■ Ethics and empathy are not linear and become dynamic as people seek to comprehend one another and, through interaction, influence each other's thinking and understanding. As children progressively extend their social circle and information sources to include on- and offline friends and social media tools and platforms, they are confronted with an even greater range of perspectives that will continue to shape their ethics and capacity for empathy. Friendly, non-obtrusive guidance of parents and teachers will play a fundamental role in this process, optimally until early adolescence.

■ Research over recent years has given us a better understanding of the neural processes that affect the ability of the human mind to understand and process emotion. Empathy is seemingly explained through the activation of mirror neurons that also define our human "mind-reading" and emotion sharing abilities.²⁵ From earliest childhood, children learn to read the emotional state of others in their interactions within the family circle and come to spontaneously mirror or mimic the emotional response that they would expect to see from others in a given condition or context. Although we are still not very far advanced in finding reliable measures for empathy,²⁶ research shows that people considered to be very empathetic have especially busy mirror neuron systems in their brains. Research in this area is also providing valuable insights into autism.

WHY ARE ETHICS AND EMPATHY IMPORTANT IN DIGITAL CITIZENSHIP?

■ Empathy can be used to trigger or reinforce anti-ethical behaviour. Fear and high stress, for example, act as inhibitors of a certain hormone (called oxytocin) that reduces our capacity for empathy. This modifies what we would normally consider ethical behaviour and explains why high stress or fear generally interfere with a person's capacity to interact with others effectively. It is from this that we derive the old saying: "fear is the father of prejudice". Some recent national elections have shown how empathy can be misused to induce unethical behaviour in another way, too, with candidates acting in an empathetic way to people who are racist or sexist, for example, indirectly condoning such bigotries to gain support. Empathy can be a powerful stirrer of calls to arms, that can lead to or even quell violence. Whereas photos like that of the napalmed Vietnamese girl Kim Phuc in 1972, and in 2017 the Syrian refugee toddler washed up on the beach, have helped shorten a war or raise public outrage at an inhuman situation, the example of James Foley being beheaded by ISIS (2014) triggered an escalation of military violence.

■ Research suggests that the best way to weaken people's racial or other biases is through open, empathetic dialogue. Empathy plays a critical role in peace building and mediation because it expands understanding and contributes to shaping

25. Krznaric R. (2015), *Empathy: Why it matters, and how to get it*, Random House, UK.

26. The Interpersonal Reactivity Index (IRI) is the only published measurement tool accounting for a multidimensional assessment of empathy, consisting of a self-report questionnaire of 28 items, divided into four seven-item scales covering the subdivisions of affective and cognitive empathy. Davis M. (1983), "Measuring individual differences in empathy: Evidence for a multidimensional approach" *Journal of Personality and Social Psychology* 44 (1), pp. 113-126. DOI:10.1037/0022-3514.44.1.113.

relationships between the sparring factions. When empathy is integrated in pedagogical strategies with children and adults alike, it helps learners tackle challenges with greater confidence and accept failure as a means rather than an obstacle to learning, fostering self-awareness in the process. Being empathetic also helps people fit in more easily in a new group or context, because it gives them the tools to assess the situation and act in a way that will get them accepted, while remaining true to their values. Empathetic people are more able to live by their own ethical standards, without having to do things they know are not acceptable just to fit in.

■ In our technology-rich society, children are confronted with a multitude of opportunities, obstacles and influences unbeknown to citizens just a generation ago. Empathy and ethics together will serve them as an indispensable moral compass to navigate successfully through this new reality, providing a means of ethically tackling the biases and challenges they will inevitably encounter along the way.



HOW DOES IT WORK?

■ Ethics is about relationships, about caring for the well-being of ourselves and those around us, and about developing an understanding of what is or is not acceptable in the social frameworks we are part of. It is about having a well-informed conscience and being true to who we are and what we stand for. Ethics is a dynamic concept, based on the whole set of competences in the Council of Europe competence framework, and evolving throughout life as we live more experiences, explore difficult questions and integrate a broader range of perspectives.

■ The development of both ethics and empathy are impacted, from earliest childhood onwards, by a variety of environmental factors, not least parenting styles and practices. Paternal warmth and use or non-use of corporal punishment are thought to be of particular importance,²⁷ but above all children need to be encouraged and guided to reflect on their own feelings and observe and imagine the perspectives of others as they explore the world. Roman Krznaric, a renowned researcher working with the Greater Good team at Berkeley University in the USA, suggests that empathetic people have six habits in common,²⁸ and we can draw on these to help children of all ages develop empathy and better understand ethics. Empathetic people:

1. are effective listeners and observers;
2. are curious about strangers;
3. look for things they have in common with others and challenge their prejudices about others;
4. like to play games and conduct activities that enable them to “try on” the life of other people;
5. want to bring about social change and help create group actions to get everyone involved;
6. use every opportunity to develop their imagination and their creativity.

27. Tisot C. (2014), “Environmental Contributions to Empathy Development in Young Children”, Hong Kong.

28. Krznaric R. (2012), “Six Habits of Highly Empathic People”, *Greater Good Magazine*. Also at <http://bit.ly/2Mtx2K0>.

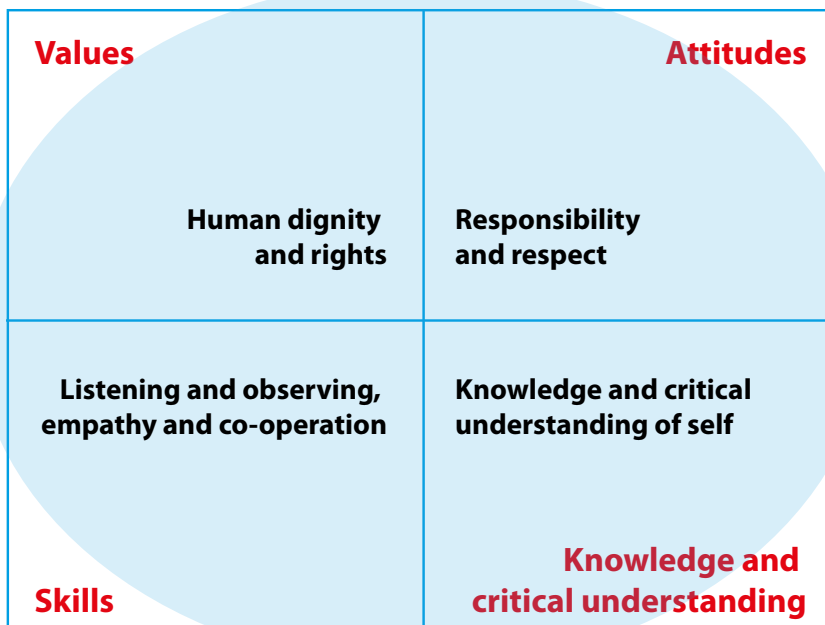


EDUCATIONAL AND CITIZENSHIP VALUE

— Ethics and empathy act as a moral compass that steers young people in their actions and in discussions on personal and societal issues. Because they provide essential reference points in all facets of a person's life, they are important tools in developing self-efficacy and in valuing cultural diversity and openness to cultural otherness and other world views, beliefs and practices. When learners are made aware of the role that ethics play in guiding their actions and are sufficiently empathetic to be able to look at issues from different perspectives, they are more able to tolerate ambiguity and less easily influenced by peers, media and trends. They are able to accept that multiple viewpoints existing side by side can be an enriching, empowering element without needing to convince or convert others. In this way, ethics and empathy become a springboard for the imagination and are valuable assets in problem solving and autonomous learning.

— Stanford University (USA) has recently conducted research that underlines the educational value for teachers, too. In three different experiments with a total of almost 2 000 children at different school levels, it was proven that by training teachers to have an empathetic rather than a punitive mindset, the rate of student absenteeism can be reduced by half.²⁹

Figure 11: Ethics and empathy – Core digital citizenship competences



29. Parker B. (2016), "Teacher empathy reduces student suspensions", *Stanford News*, available at: <https://stanford.io/2Lg0r4Z>.

FACT SHEET 4

ETHICS AND EMPATHY





ETHICAL CONSIDERATIONS AND RISKS

— Schools and teachers tend to avoid topics such as ethics and empathy because they consider that it is beyond their role, and this can have a permanent impact on future digital citizens. If we consider, as discussed in Fact sheet 2, that learning has a much broader vocation than academic achievement and should be preparing children “to be” and “to live together”, then it is urgent that ethics and empathy become an integral element in the school curriculum and an important topic for discussion in families.

— The internet facilitates encounters between like-minded people and can have a major impact on ethics by bringing together people who previously hid certain types of deviant behaviour because it was not accepted by society. When such groups are able to meet and share experiences, the ethical bar is lowered and their deviant practices can become acceptable to them because there are, after all, so many people indulging in this behaviour. One example is the highly lucrative child sexual abuse market and another is hate speech and radicalisation. Digital citizens need to understand the importance of being true to their own ethics and be informed and hence more diligent to avoid lowering their standards because “other people do it”. A search for specific material out of curiosity can rapidly be picked up by social media and news providers’ profiling and filtering mechanisms and lead young people to encounters that can rapidly escalate.

— Class and family discussions need to touch upon the many ways that empathy can be used to manipulate behaviour, cause mob movements and convince people to adhere to values that they would normally consider unacceptable.



IDEAS FOR CLASSROOM WORK

— My well-being and yours: Respect... begins with me (<https://bit.ly/2WlvfE7>) is a recent addition to the [WebWeWant.eu](https://www.webwewant.eu) publication created by teens for teens. It offers a series of activities for 11-17 year olds aimed at promoting reflection on their interactions with others. It looks at issues such as bullying, hate speech, radicalisation and how to develop empathy.

— Moral Games for Teaching Bioethics (<https://bit.ly/3sNdnqv>) confronts young learners with societal challenges related to bioethics through games suitable for small group and whole class situations. The introductory chapters give an informative overview of the educational objectives of the games and a closer look at the competences that underpin them.

— PlayDecide (<https://playdecide.eu/playdecide-kits>) – keywords “environment” and “technology” – will, once you have signed in, provide access to two games, Human Enhancement and Young People in the Media. Both games encourage young people (<https://playdecide.eu/get-started>) to investigate and debate ethics-related themes using a multiperspective role-play approach. The PlayDecide website proposes games built on the same templates on more than 30 topics ranging from digital money to neuro-enhancement.



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

Take a closer look at the templates provided on the PlayDecide website (www.playdecide.eu) and work with a group of children to help them build their own game on digital citizenship. Assist them in choosing their topics for the Info and Issue Cards, then discuss the different perspectives they should cover to create Story Cards. When your game is finished, you can share it with others by uploading it to the PlayDecide website, maintained by European Commission funding.

Dr Brené Brown uses a short, animated clip to emphasise that we can create genuine empathetic connections if we are brave enough to get in touch with our own weaknesses: www.youtube.com/watch?v=1Evvgu369Jw.



FURTHER INFORMATION

The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 21](#), Online harassment: bullying, stalking and trolling.

Empathy: Why it matters, and how to get it by Roman Krznaric (2015, Random House, UK), considers empathy the key to personal and political change, and describes tools, platforms and obstacles that are currently supporting or impeding this. He draws on the latest research, as well as on the innovative work being conducted in this field across the world.

The Shallows – What the Internet Is Doing to Our Brains by Nicholas Carr (2010, W. W. Norton & Co., New York) looks at the deeper ethical issues of “our connected existence” and the impact the internet has on every aspect of our lives from the way our brains work to cultural and societal issues. The author describes this in further detail and responds to audience questions at: www.youtube.com/watch?v=It_NwowMTcg.

A recent Council of Europe publication provides interesting insights into causes, effects and ways to tackle on- and offline bullying: Richardson J., Milovidov M. and Blamire R. (2016), *Bullying: perspectives, practices and insights*.

YouTube Creators for Change is a global initiative that supports creators who are tackling social issues and promoting awareness, tolerance and empathy on their YouTube channels. The goal of this programme is to drive greater awareness of social issues and to amplify the voices of positive role models who are tackling difficult social issues with their YouTube channels.

DIMENSION 5 HEALTH AND WELL-BEING

” The greatest
wealth is health

Virgil



A BIRD'S EYE VIEW OF HEALTH AND WELL-BEING

The health and well-being domain covers wide-ranging topics and challenges, from the appropriate, timely use of technology and the impact of unreliable or distorted information to the way technology is modifying interactions within families and between citizens in their everyday life. For the purpose of clarity, key aspects of this domain will be separated into three different areas, as we look at how digital technology influences the capacity of citizens to participate, learn and create both positively and responsibly.

1. Social-emotional impact through modified human interactions.
2. Informational aspects related to gathering and processing data.
3. Health-related aspects from ergonomics to pseudo-medical data we find online.

HOW DOES TECHNOLOGY IMPACT HUMAN INTERACTION?

Online technology has considerably modified the way we interact. While it force-feeds our brain with a constant diet of fast-moving sounds and images, it simultaneously reduces the capacity of people to “read between the lines”. Non-verbal cues such as facial expressions and body language are essential facets of communication that facilitate comprehension and lessen the risk of misunderstanding. Except for tools such as voice over internet protocol platforms (VoIPs, which include video applications like Skype and WhatsApp),³⁰ a large part of today’s interactions, especially among teenagers, is reduced to the bare bones of sound, icons and short-cut language.

Emoticons, for example, offer little scope for sensing meaning or discerning patterns in communication, which are so important in developing digital citizenship competences such as sound listening and observing skills, and empathy. In a nuance-less world, a joke or misunderstanding can very easily escalate into conflict, violence and bullying. At another level, when children are unable to see the nuanced version of a situation, it is much more difficult for them to hypothesise on the consequences of their own actions. This underscores the crucial need to foster the development of analytical and critical thinking.

INFORMATIONAL CHALLENGES TO HEALTH AND WELL-BEING

Today’s over-rich diet of sounds and images has other effects on children and young people’s well-being too, in particular related to their information-processing capacity. Data often comes from unreliable sources and, on top of this, internet users are consistently profiled by search engines to filter out any information that does not “fit” their profile (see Fact sheet 9, “Privacy and security”). Because of this, young people are frequently denied the means of exploring multi-perspective views on issues and can be rapidly polarised towards extreme views, as we are seeing with the rise of hate speech, radicalisation and poorly informed excessive standpoints.

To complicate the issue further, researchers are showing through Magnetic Resonance Imaging that even moderate use of online technology can result in the overdevelopment of certain parts of the brain and slow down development in other

30. Also called Over-the-top Technologies or OTT.

parts. They are pointing to a consequent underdevelopment of the prefrontal lobe which is said to be limiting the capacity of young people to project the outcomes of actions. Kindergarten teachers and child psychologists are also voicing concern that online technology is having a considerable impact on developmental phases in early childhood, markedly prevalent in reduced concentration spans and delayed development of certain motor co-ordination skills.

ERGONOMICS AND HEALTH

Besides the impact on health and well-being of issues such as bullying,³¹ hate speech and radicalisation, excessive use of technology can bring about a range of physical issues from postural distress and lack of exercise to disrupted life-balance. These problems are further exacerbated by the plentiful but often misleading health information to be found online, requiring the sharpest of critical thinking skills to sift out the true from the false. The current focus on beauty and body in today's era of selfies and likes can rapidly lead young people to seek out nutritional tips that may accentuate eating disorders, such as anorexia, or join groups of "like-minded" people that goad them into other risky behaviours. These challenges are likely to have a lasting effect on a person's social, professional and emotional life, and hence on their role as an active citizen.



HOW DOES IT WORK?

Balance is the operative word in the digital domain of health and well-being and necessitates a blend of the full range of digital competences, from values to attitudes, and skills to knowledge and critical understanding. Balance is something that children develop by learning to listen, observe, show empathy and co-operate. Well-being is built to a large degree on how children perceive themselves through the eyes of others, and hence on interaction with others.

Over the past quarter of a decade, European society appears to have acknowledged health and well-being as essential elements in digital citizenship, and is striving to upgrade education systems accordingly. This requires taking into account the social, physical, cognitive and psychological aspects of learners rather than just performance-related aspects. It underlines the importance of focusing on the individual as well as the group.

Above all, new educational approaches strive to give children room to develop their capacity for listening and enquiring, discerning social patterns and systemic approaches, building empathy, valuing diversity and much more. In today's society, the oft-repeated phrase "Mens sana in corpore sano" – "a healthy mind in a healthy body" (generally attributed to the pre-Socratic philosopher, Thales) – is taking on a new meaning as we progressively comprehend the importance of counterbalancing our device-bound online lives with the challenges of well-being in society.

31. Copeland W. E., Wolke D., Angold A. and Costello E. J. (2013) present findings on the long-term health, wealth and social impact of bullying in "Adult Psychiatric Outcomes of Bullying and Being Bullied by Peers in Childhood and Adolescence (Bullying and Parasomnias: A Longitudinal Cohort Study)", *JAMA Psychiatry* 70(4), pp. 419-426.

■ Digital 5 a Day – In 2017, the Children’s Commissioner for England launched a “Digital 5 a Day” campaign (www.childrenscommissioner.gov.uk) aiming to promote the digital health and well-being of children and teens over the long summer vacation. The five simple, well-described steps are a good starting point that families and teachers can adapt to their own contexts.

1. Connect – wisely, safely and not just online
2. Be active
3. Get creative
4. Give to others
5. Be mindful.

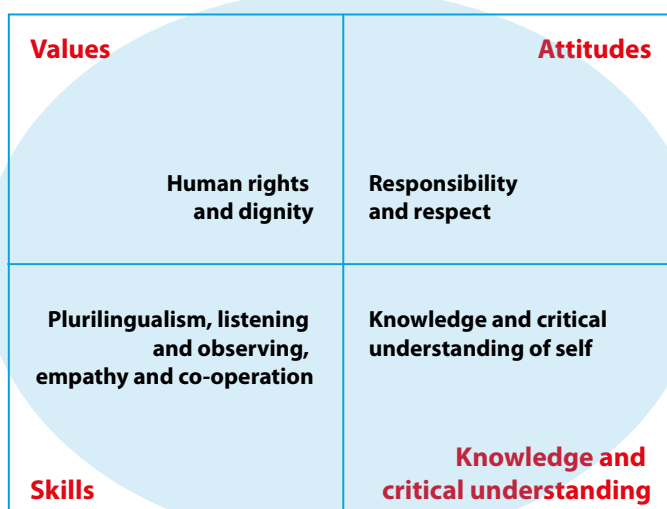


EDUCATIONAL AND CITIZENSHIP VALUE

■ Health and well-being are the golden threads in personal development throughout a person’s whole life. As shown by the Maslow hierarchy of needs, which is acknowledged as sound by most educators worldwide, children who have not satisfied their needs at the lower levels of the pyramid will be unable to reach a point of self-fulfilment where they are able to realise their full potential as active citizens, digital or otherwise. Health and well-being depend on, but also determine, a person’s capacity to listen, observe, empathise and co-operate, and these competences are the building blocks for higher cognitive skills such as problem solving and conflict resolution.

■ These in turn contribute to a person’s understanding and practice of fundamental rights, justice, fairness and openness to cultural diversity, world views and practices, which are the cornerstones of democracy and justice. Citizens with a negative or limited world view caused by a lack of well-being are less likely to be able to actively contribute to society.

Figure 12: Health and well-being – Core digital citizenship competences



FACT SHEET 5 HEALTH AND WELL-BEING





ETHICAL CONSIDERATIONS AND RISKS

Among the numerous ethical considerations and risks related to health and well-being, perhaps the biggest ones are linked to impoverished interactions between humans and the progressively reduced “field of vision” imposed by the filter bubble search engines build around a person through profiling. Both limit the development of openness to cultural diversity and the capacity to engage with other beliefs and world views. Radicalisation can be one of the side effects, if a young person has not developed sufficient analytical and critical thinking skills.

Self-esteem is another aspect to be taken into consideration. Social media is, to a large extent, built on the selfie trend to take and upload photos of ourselves and our activities, anywhere and at any time. This erodes an individual’s knowledge and understanding of self. By portraying ourselves to get a maximum number of likes, “real” lives are tweaked according to popular ideals and trends, diversity is reduced and, rather than shaping the internet, society becomes shaped by it.

Knowledge and critical understanding of language and plurilingual skills are being undermined, too, as expression is often reduced to 140 characters, chopped about through linguistic shortcuts. The low percentage of content available in certain languages is further impoverishing linguistic skills.

Excessive use of online technology to the detriment of other activities and modes of relation building raise both physical and mental risks. We need to draw the attention of families and schools to the impact of online technology on physical and mental developmental stages, and on the sleep loss it may be causing from the excessive doses of blue light children are getting from computer screens.



IDEAS FOR CLASSROOM WORK

Social and emotional skill development is central to this digital citizenship domain, and many relevant classroom activities can be found on the ENABLE website (<http://enable.eun.org/resources>). The ENABLE repository includes lesson plans, slideshows, a quiz and a wealth of information for teachers.

Classroom.kidshealth.org proposes a wide range of material for pre- and early teens in fact sheets on topics ranging from how the body works to special needs. The activities are accompanied by a teachers’ guide.

Setting up a class media plan – Trigger reflection and debate about the time children spend online and the learning or social value of their activities. Get them to keep a log for a few days, then work in small groups to come up with a framework of principles that will guide healthy technology use for the home or school community. Post it in a visible place in the classroom and encourage children to do a monthly check-up on how well they are following their own principles.

Kiko and the Hand helps 3 to 7-year-old children understand that their bodies belong to them, that there are good and bad secrets and good and bad touches: <https://rm.coe.int/eng-kiko-book/1680a22b15>.



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

Board games should not be overlooked as they are a fun, instructive means of promoting well-being within small circles of family and/or friends. They give children the rare opportunity to experiment with social parameters in an environment in which, at least for the length of the game, they can negotiate with adults on an equal footing.

Well established peer support systems in schools have proven to be successful in promoting a more amicable classroom atmosphere. The ENABLE project (<http://enable.eun.org/resources>) offers a comprehensive programme for training and ongoing guidance of peer supporters, as well as campaign and activity ideas they can implement in class, school and youth groups.

Technology and wellness should be themes explored by children, parents and teachers. As there is a proliferation of new devices, each more enticing than the last, parents can take these new opportunities to monitor how their children are feeling. Parents and teachers should keep in mind some of the negative aspects that a poor balance in use of technology may have on health and wellness. Reinforcing balance and boundaries while continuing the exploration of the internet, technology and social media should help attain a certain level of wellness.



FURTHER INFORMATION

The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 21](#), “Online harassment: bullying, stalking and trolling”; [Fact sheet 17](#), “Digital citizenship”; and [Fact sheet 18](#), “Digital parenting: positive and proactive”.

Bullying – perspectives, practices, insights published by the Council of Europe in 2017 documents research and experiences of anti-bullying experts from a dozen different countries. It shows the broad dimension of approaches that are being successfully implemented worldwide, including focus on children who are more vulnerable to bullying either because of physical or mental traits, or due to their family circumstances.

Handwriting, a path to health and well-being? Researchers in Australia have recently conducted quantitative and qualitative studies that show that handwriting has a significant impact on individual well-being. In experiments involving 2 000 people, those who handwrote notes, thoughts, feelings or memories are 2.5 times more likely to experience relief from anxiety, fear and worry.

The study also revealed that handwritten notes help parents connect better with their children. Handwriting makes people more aware of their feelings and thoughts, a crucial aspect in maintaining a healthy state of mind, as it helps reinforce the positive aspects in life and promotes reflection. Another positive aspect is that practising handwriting will also maintain the capacity of present and future generations to access the many important historical documents that are handwritten.

■ The effects of cursive writing on the brain is still not fully understood so more studies and research are necessary before any decision can be made about its future in classrooms.

■ “Digital Guidelines: Promoting Health Technology Use for Children” provides recommendations from the American Psychological Association. While the recommendations have become more flexible, it may be noteworthy for parents and teachers to adapt recommendations that would work best in their communities. Available at www.apa.org/helpcenter/digital-guidelines.aspx.

■ Google has launched resources such as the Family Link in Europe, Middle East and Africa (EMEA), which allow parents to set device screen time limits, see app usage and approve apps.

DIMENSION 6

E-PRESENCE AND COMMUNICATIONS

” Either write something worth reading, or read something worth writing

Benjamin Franklin



As the internet has become increasingly present in our lives, our online identities have become ever more important. How we interact with each other can have positive or negative impacts on ourselves as well as on others. Being able to create and maintain a healthy e-presence and communicate in ways that allow us to engage responsibly and do not impede upon the rights of others is pivotal to digital citizenship.

Originally, e-presence was a marketing tool for personal branding and the combined process of drawing traffic and creating a lasting positive image on the Web. This marketing concept included the knowledge of search engine optimisation, e-reputation, social media uses and so forth. It has since come to extend to the personal and interpersonal qualities that guide digital identity and the social and cognitive competences to do so.

e-Presence is how you maintain your presence online and extends to your personal and interpersonal qualities that guide you in maintaining your digital reputation and digital identity. The extent and quality of your online presence can be found via a search online using your name or other personally identifiable information. Depending on the type of communications that you have engaged in, your e-presence can be negative or positive and, depending upon your social and cognitive skills for crafting your digital reputation, this can also boost or impede your e-presence.

Communications are the interactions, ideas, images, videos and pieces of information that you share and exchange with others through virtual social spaces. Obviously, communications can be offline as well as online, and online communications can spill over to offline and vice versa. The focus of this fact sheet will be online communications.

Like e-presence, online communications can be of a negative or positive nature but here we emphasise the ability to communicate and interact with others in a safe and responsible manner. The skills necessary to create positive online communications are also linked to one's social and cognitive skills in crafting the message. Given the nature of online communications and the fact that they can be viewed, shared or can go viral, online communications should be beneficial to society and online communities, where possible.

E-PRESENCE AND COMMUNICATIONS CHANGE WITH TECHNOLOGY

As new technology, social media platforms and the internet continue to rapidly evolve, e-presence and communications also change and evolve. Face-to-face personal interaction may be reduced in some circumstances, but as many Web conferencing companies can attest, many people still prefer face-to-face interactions for certain aspects of business, just as many people prefer face-to-face interactions for personal communications.

As technology changes, other forms of communication can be seen, such as virtual reality or augmented reality. Virtual reality is when users interact in a digital environment in such a way that it simulates the user's presence in a real or imaginary situation, whereas augmented reality layers computer-generated enhancements over an existing reality to make it more meaningful and let users interact with it. Both can change the way we communicate. The immersive experience offered by VR and AR can be altered so that each person has a different perception of reality – this is a new dimension to communications that provides for a tailor-made personal and social experience.

E-PRESENCE, DATA PROTECTION AND PRIVACY

■ All citizens should be aware of how to protect their online identities, protect their personal data and maintain a modicum of privacy if so enabled. By using critical judgment and performing simple research, digital citizens should be able to change the privacy settings on most platforms and apps in order to maintain positive online identities (see Fact sheet 9 for further information about protecting your online identity).

■ With the General Data Protection Regulation implemented across the European Union in 2018, individuals should have more control over their data and privacy and be able to control their e-presence in a manner they deem suitable.



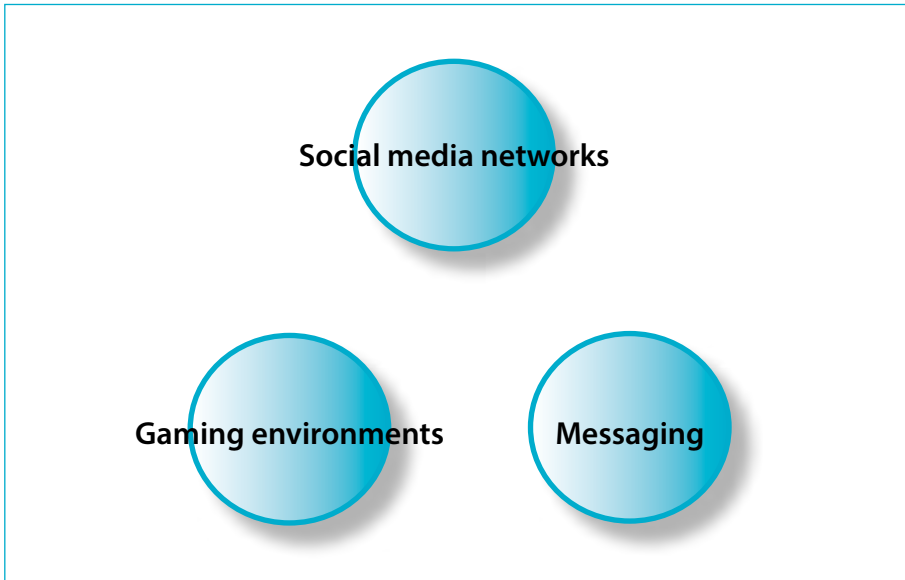
HOW DOES IT WORK?

■ e-Presence can be established directly or indirectly. You can directly create an account, upload data, images and information. Your indirect presence is created by others who have tagged you in images or uploaded your information and data or data and information about you. Many online platforms inform you when you have been tagged on their platform, and you have the ability to confirm or deny the tag.

■ Communications technology offers a variety of methods and means of communications from the simple to the very complex, and digital media has amplified our communication possibilities (Figure 13). Communications have gone way beyond face-to-face and offline interactions and exist in a multitude of ways and forms online. Users are now able to communicate one on one, one to many or many to one. The methods of communications are varied and can include the following:

- ▶ chats (informal term for interactive communication taking place on a dedicated discussion channel)
- ▶ instant messaging (a type of online chat that provides real-time text messaging)
- ▶ SMS
- ▶ e-mails
- ▶ voice over IP (VoIP) conversations
- ▶ social networks
- ▶ podcasts
- ▶ virtual and augmented reality environments
- ▶ gaming environments.

Figure 13: e-Presence communication modes



■ One of the trends that has emerged is the ability of people to communicate across several of these methods and media simultaneously. For example, when playing a video game, you can also send chat messages, or you can use a social media network to play a game and message with others about your score.

■ With the many different methods of communications, users can adopt an approach which best affords benefits for them. Benefits include reduced distance between people, the ability to create contact with people external to their immediate community, the ability to share information and resources and more.

Considerations for positive communications

- ▶ Everything that you post, send or record online leaves a digital footprint (similar to footprints in the sand).
- ▶ Think before you post a message, regardless of the content. Something that you think is positive may be misconstrued.
- ▶ Keep all personally identifiable information private, including images that might leave clues as to who you are, your location or your gender.
- ▶ Respect the equipment that you use and remember that if you use the servers of your school or employer, your communications may not be private.
- ▶ Find out if there are options allowing you to customise the time during which your online contribution will remain visible. Chances are that you would be pretty embarrassed at 16 by pictures or opinions that you posted when you were 10.



EDUCATIONAL AND CITIZENSHIP VALUE

- Communications and e-presence are valuable for digital citizens as they build and maintain their online reputations and online interactions in a positive manner.
- Understanding how to manage one's digital identity and digital footprint is essential for digital citizens.
- Many argue that online communications do not replace telephones and face-to-face communications, but rather enhance traditional communication.

Figure 14: e-Presence and communications – Core digital citizenship competences

Values			Attitudes
	Human rights and dignity		Responsibility, respect, civic-mindedness and openness
	Listening and observing, empathy and co-operation		Knowledge and critical understanding of self, language and communication
Skills			Knowledge and critical understanding

FACT SHEET 6

E-PRESENCE AND COMMUNICATIONS





ETHICAL CONSIDERATIONS AND RISKS

■ e-Presence and communications provide innovative ways for people to exchange and interact. However wonderful technological tools may be, there are still serious consequences and risks that need to be taken into account, such as:

- ▶ unauthorised access to your e-mail accounts;
- ▶ misunderstandings in your written messages or use of images, emoticons or emojis;
- ▶ e-mail communications are used extensively by criminals engaged in fraud, phishing schemes, scams and other types of online criminal activities;
- ▶ chat rooms should be used responsibly and the theme should be age-appropriate.

■ With respect to unwanted aspects of online communications, classification of negative acts online can include cyberbullying, online harassment, trolling, cyberstalking or even phubbing (the act of snubbing someone while the other person is trying to engage in a conversation and you continue to look at your mobile phone).

■ **To maintain a positive e-presence**, it may be advisable to do the following.

- ▶ Create several e-mail accounts for different purposes, such as signing up to social networks or for purchasing products online. The different accounts are not fraudulent but they can be used to maintain your privacy.
- ▶ Use appropriate “netiquette” and remember that you have an audience. Be considerate with your e-mails, both in the content and volume.
- ▶ Remember that, in general, if you would not say it in public, you should reconsider writing it in an e-mail or online.

■ **To maintain positive communications**, it may be advisable to:

- ▶ remember that even when you are using different platforms or playing games, the exchanges you have with other players are in fact online communications.



IDEAS FOR CLASSROOM WORK

■ **Google search and alerts** – Have students perform a Google search using their name. Once they have seen text regarding themselves, invite them to click on images and scroll through the pages to better understand the extent and quality of their e-presence. And then, finally, invite the students to click on any video links they find to discover their “video e-presence”.

■ Depending on the results, students may be inclined to delete some of the information or consider increasing their positive content.

■ **Social media cleanse** – If your students have social media accounts, ask them to go through their accounts one by one. They should scrutinise the information contained in those accounts: does it provide an accurate picture of the student? Are these the type of data that the students would like future recruiters, employers or

family members to see? If the answer is no, they should be kindly advised to delete the unwanted data.

■ **E-mail addresses** – If students have an e-mail address, invite them to explore the security settings in order to make their accounts more secure and to protect their e-presence. Make sure that the students do not include personally identifiable information in their e-mail address and advise them to consider using a nickname or avatar where possible.

■ **Understanding digital footprints** – Have younger students watch this eight-minute video on digital footprints: www.youtube.com/watch?v=Ro_LIRg8rGg. Ask them to suggest effective ways to reduce their digital footprint.



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

■ More and more students are using chat groups as a way to share school assignments and stay in touch with class communications. Teachers may wish to exploit this already familiar form of communication and add an educational element. Some ideas include:

- ▶ real-time discussions on current events
- ▶ tutoring and guidance
- ▶ educational gaming interaction
- ▶ group investigation
- ▶ creation of an online community
- ▶ creation of posters, presentations or diagrams together in real time.

■ Consider that teachers and students have the ability to share beyond the walls of the classroom thanks to digital technology. Brainstorm with students on their favourite tech tools for communication and collaboration. Include ways to bring digital citizenship themes into the brainstorming session.

■ *Through the Wild Web Woods* is an online game from the Council of Europe for teaching children up to the age of 10 or 11 about basic internet safety, responsibility and civic-mindedness in a fun and friendly fairy-tale environment. The game is available in 14 European languages. The game was supported by and created in the spirit of “Building a Europe for and with children”: www.wildwebwoods.org/popup_langSelection.php.

■ The Internet literacy handbook is a guide for teachers, parents and students on getting the most out of the internet, protecting privacy on websites and social networks, and much more: <https://rm.coe.int/internet-literacy-handbook/1680766c85>.

■ The *Digital Citizenship Roadshow* is a project to develop a Europe-wide internet safety and skills programme model, designed to give young people the capacities they need to stay safe online, become positive online citizens and increase their resilience to anti-social behaviour, hate and extremism online. The workshops are delivered by national youth engagement experts and educators from the local partner national organisations, supported by YouTube personalities or ambassadors working in a “host” role.



FURTHER INFORMATION

■ The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 2](#), “Online presence and the cloud”; [Fact sheet 3](#), “Web 2.0, 3.0 and more”; [Fact sheet 4](#), “Blogs and vlogs”; [Fact sheet 5](#), “Internet on the go”; [Fact sheet 7](#), “Chat and messaging media”; [Fact sheet 8](#), “Social networking and social sharing”; [Fact sheet 23](#), “Internet of things”; and [Fact sheet 26](#), “Are you the product? Big data, data mining and privacy”.

■ The European Commission provides a comprehensive glossary on digital presence and communication, and an overview of relevant groups in Europe: <https://ec.europa.eu/eurostat/cros/>.

■ Turkle S. (2015), *Reclaiming Conversation: The Power of Talk in a Digital Age*, Penguin Press, New York.

■ boyd d. (2014), *It's Complicated: The Social Lives of Networked Teens*, Yale University Press, New Haven.

■ Project tomorrow (<http://blog.tomorrow.org/>) is a blog with the following message: “Preparing today’s students to be tomorrow’s innovators, leaders and engaged citizens”.

■ Write the world (<https://writetheworld.com>) is a global community for young students to share their writings with the world and discover what it is to be human by exploring the humanity of others.

■ Touchable Earth (www.touchableearth.org) is an app to teach pre-teens about the world and citizenship. “Touchable Earth is the first app where kids teach kids about the world. Taught entirely by school age children in short videos, Touchable Earth promotes tolerance for gender, culture, and identity”.

SECTION 3 RIGHTS ONLINE



Rights online

Today more than 250 million people are using the internet every day in Europe alone. They are sharing more and more of their personal data – whether through social media, games, online shopping or filling out school or administrative forms.

■ In this fast-changing digital age, citizens have to be aware more than ever before of their rights and the ways these can be challenged online. Data has become a marketable commodity and, as a consequence, personal data and online identity are things which must be safeguarded from a whole range of risks such as unauthorised disclosure, identity theft or online abuse, to name a few.

■ Protection of privacy and personal data is a fundamental human right, and with the implementation of the General Data Protection Regulation (GDPR) by the European Union in 2018, citizens are getting more control over their personal data. Some of these new “rights” were either not feasible or unnecessary before the internet came to play such a major role in our lives, including the following examples:

- ▶ “portability” – the right to request that your personal data are moved to another service provider, for example when you change your mobile or social network platform operator;
- ▶ the right “to be forgotten”, meaning that you can ask to have your personal data deleted if you no longer want them to be processed, and there is no legitimate reason for a company to keep them;
- ▶ the right to receive clear and understandable information;
- ▶ child-friendly information has to be adapted into clear, understandable language to replace those long, complicated terms and conditions that no one reads anyway.

■ The internet has considerably reinforced other fundamental human and children’s rights. Freedom of expression, for example, has never before been so easy – today everyone can be a journalist and publish their work for large audiences. This brings a big responsibility too, as we are accountable for everything we say or do, even though the internet sometimes gives the illusion that we can hide behind a cloak of anonymity.

■ Article 12 of the United Nations Convention on the Rights of the Child (UNCRC) states that children have a right to know about their rights and to be empowered to take action to promote and protect those rights. The following fact sheets take a closer look at your rights online.



” We want our voice to be heard and to take part in decisions that will define our future.

Joao, 17, Portugal

” Youngsters are particularly exposed to hackers because they often put more of their private information on social media.

Sofie, 16, Belgium



” Nowadays young people can't imagine their lives without the internet, it offers so many incredible opportunities for them. At the same time, they want to feel safe. One aspect of safety is privacy. Everyone on the internet should know how to post, how to share, how to act responsibly.

Evangelia, Greece



” We assume that parents have the criticality to understand their rights and help their children understand them too, but very often this is not the case. Parents need some simple guidelines to help them.

European Parents' Association

CHECKLIST FACT SHEET 7: ACTIVE PARTICIPATION



- ▶ How can students' active online participation be in sync with human rights and fundamental freedoms?
- ▶ How can schools be supportive of active online participation?

CHECKLIST FACT SHEET 8: RIGHTS AND RESPONSIBILITIES



- ▶ What is a golden rule for rights and responsibilities for every platform, website, app and device?
- ▶ How does the GDPR help students exercise their rights and responsibilities?

CHECKLIST FACT SHEET 9: PRIVACY AND SECURITY



- ▶ How can students effectively manage their privacy?
- ▶ How can stakeholders ensure security for online environments?

CHECKLIST FACT SHEET 10: CONSUMER AWARENESS



- ▶ Why do students need to participate in the digital economy?
- ▶ As e-commerce takes on a bigger role in society, how can students protect themselves and enjoy the benefits of e-commerce?

DIMENSION 7

ACTIVE PARTICIPATION

” The truest test of a democracy is in the ability of anyone to act as he likes, so long as he does not injure the life or property of anyone else

Mahatma Gandhi



Active participation includes the competences that citizens need to reach a level of awareness of themselves in relation to the environments they are plunged into, in order to take sensible decisions and participate actively and positively in the democratic cultures they live in.

Active online participation may prove challenging to some, as users must weigh the benefits and risks of speaking their mind, sharing their opinions and putting their views on display. However, users have the right to freely express those opinions and views as long as they are not impugning someone else's rights and freedoms.



HOW DOES IT WORK?

Online active participation quite closely follows the human rights and fundamental freedoms outlined in the Council of Europe's Human Rights for Internet Users.

- ▶ Access and non-discrimination
- ▶ Freedom of expression and information
- ▶ Assembly, association and participation
- ▶ Privacy and data protection
- ▶ Education and literacy
- ▶ Information and content adapted for children and young people
- ▶ Effective remedies and redress.

Motivations behind reasons for active participation may vary, but self-efficacy, appreciation and belonging may offer an insight into online behaviours. Many users want to participate in order to make a difference in their community (to show self-efficacy). Others may feel the need to contribute their knowledge and resources in online communities (to earn the appreciation of others). And still others may simply want to belong to that community and so they actively participate with like-minded people.

MINIMALIST FORMS OF ONLINE PARTICIPATION

This minimalist form of online "participation" has given rise to new terms like "slacktivism", a combination of the verb "to slack" and the term "activism", expressing a critique of defining participation as the signing of an online petition or liking/sharing a news story that conveys a political message. Slacktivism posits that "people who support a cause by performing simple measures are not truly engaged or devoted to making a change".³²

Online active participation, like offline participation, may be influenced by the demographics of the users. English is the dominant language on the World Wide Web and it may reflect the opinions of Anglophones more than other countries. Other studies have indicated that white, educated, male domination in online active participation may exclude other users, such as women, minorities or people with disabilities. On the other hand, many movements have now taken to the internet to express their discontent with the status quo.

32. http://data.unaids.org/pub/outlook/2010/20100713_outlook_ataids_en.pdf.

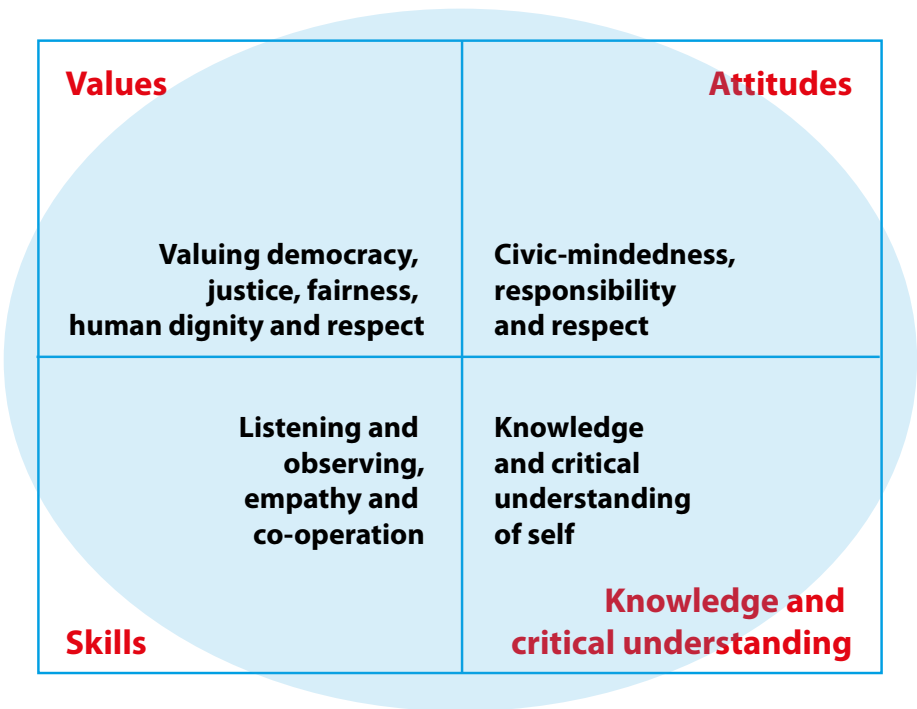
At the time of writing, #BlackLivesMatter, #MeToo and #autismspeaks are just three examples of online active participation that is making a difference in communities. One of the challenges of online participation is to avoid replicating the state of lawlessness and mob rule that our current legal system and due process has struggled to bring about in the “real world”. While there may be plenty of reprehensible people online, there will be no justice if online interactions turn into digital stoning.

PERSONAL DEVELOPMENT

Whether for offline or online activities, participation in one’s community is an essential part of living a fulfilling life. Every community needs people to support the infrastructure and online participation – active online participation – can be one way of assuring mutual benefits in an online community. Active participation also has a role to play in the development of e-democracy, where one uses electronic communications to enhance the democratic process.

Active participation can also be useful in personal development as internet users are able to take online courses, participate in group tutorials or even join “Ask me anything” threads on social media sites. Whereas previously, students and those examining life would have had to venture into libraries or go on adventurous quests to understand philosophical issues or debates, now inquisitive minds can engage online and participate in meaningful discussions.

Figure 15: Active participation – Core digital citizenship competences



FACT SHEET 7

ACTIVE PARTICIPATION





ETHICAL CONSIDERATIONS AND RISKS

Active online participation and the use of social networks allow users to have their own voice and to comment “in public” on certain issues. This immediate exposure may be gratifying to some and yet cause problems for others who do not follow mainstream views.

Social networks can provide broader influence on policy outcomes, and yet if an extremist viewpoint is taken up by the majority, either via a politician with a large social media following or because of targeted advertising on social media platforms, this may put democratic processes at risk.

Transparency and accountability may be sidestepped when active participation is led by trolls or others with negative online influence.



IDEAS FOR CLASSROOM WORK

Ask the students to examine a recent or current local election and follow the politicians and parties. Have them identify the negative and positive messages that were used in active online participation, and analyse the veracity of the messages.

Have students select a social media platform and analyse the motivations that push people to join that platform. Identify how users share content and data and how they otherwise engage with others in the community. Have students list some of the best practices and some of the behaviour to avoid. Get students to discuss whether they:

- ▶ always read every article they share;
- ▶ always read all other comments before posting theirs;
- ▶ bother reading all responses to their comments before responding again.

Online interactions are not easy to manage. It is akin to millions of people speaking at the same time and trying to listen to millions of articles and comments at the same time. This is why offline interactions and exchanges where people can share ideas and debate in a non-chaotic manner will remain important for the foreseeable future.

Pick up the newspaper of the day, whether online or in print format, and locate some of the top news items. Create a hashtag for those items, if one is not already associated with the story. Have the students search the hashtag across as many different platforms as possible. Ask students with second or third languages, to include the hashtag search in another language. Examine the different types and forms of expression and participation on the different platforms. What themes can be identified? What themes may be missing?

Read through the European Commission’s “Good practice in the youth field – Encouraging the participation of young people with fewer opportunities” (<http://bit.ly/2PrC5TL>). Ask students to list ways that they can improve participation in their youth communities.



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

■ The informed and active participation of all citizens in the digital environment depends on the development of digital citizenship skills. With the widespread use of the internet, and the ease at which people in different communities can access information, active participation is linked closely to the respect of digital rights and responsibilities and digital citizenship, in general.

■ Determine whether students or the local community has a cause that needs support. Once the theme is decided, have the students research crowdfunding and the best ways to raise donations for a charitable cause or event. The final project should be a crowdsourcing plan that could be viable for that cause or event.

■ Consider looking at the Academy of Central European Schools projects and schools: <https://keep.eu/projects/17532/Academy-of-Central-European-EN/>. Discuss which projects provide the biggest chance for active participation by the students. Invite the students to create their own project for their school or submit a project to ACES.



FURTHER INFORMATION

■ The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 1](#), “Getting connected”; [Fact sheet 10](#), “Searching for information”; and [Fact sheet 11](#), “Finding quality information on the Web”.

■ Council of Europe, Human Rights for Internet Users, available at: www.coe.int/en/web/internet-users-rights/guide.

■ EU Youth Manifesto Youth Manifesto is an online “declaration” by European youth on how to participate and make the internet better: <http://paneuyouth.eu/2015/07/24/youth-manifesto-publication/>.

■ The EU Youth Strategy is available at: https://ec.europa.eu/youth/policy/youth-strategy/civil-society_en.

DIMENSION 8

RIGHTS AND RESPONSIBILITIES

” We are all now connected by the Internet, like neurons in a giant brain

Stephen Hawking



BUILDING A COMMUNITY THAT IS JUST AND FAIR

■ The digital environment has become a complex environment, especially in terms of rights and responsibilities of users. Digital citizens need to be aware and understand their own online rights and responsibilities in order to not infringe the rights and responsibilities of others.

■ Just as citizens in a society have certain rights and responsibilities, digital citizens in the online world also have certain rights and responsibilities. Digital citizens can enjoy rights of privacy, security, access and inclusion, freedom of expression and more. However, with those rights come certain responsibilities, such as ethics and empathy and other responsibilities to ensure a safe and responsible digital environment for all.

■ The internet can be a powerful tool for advancing ideas and communities, but it can also be a destructive weapon when users' rights are impeded or if users are not given the opportunity to establish any rights whatsoever. Individual users, governments, industry and public institutions have an obligation to maintain the integrity of the internet community, whether it has local effects or international effects.

■ Devising just and fair participation mechanisms where users' powers are distributed optimally will be the main challenge for the future. Inspiration can be drawn from existing and emerging good practices like Wikipedia and blockchain technology, which allow for the decentralisation of control and power, the advent of a "real" online direct democracy.

RIGHTS AND RESPONSIBILITIES: THE FIRST STEP BEGINS WITH YOU

■ Once someone decides to use digital technologies, they can enrich their experience by reading and understanding their rights and responsibilities. While the golden rule, do to others as you would have them do to you, will take you far, users should also try to read through the terms of use on the websites, platforms and apps that they use. For every device, software system, app or program, there are corresponding legal documents explaining the rights and responsibilities of the user and, perhaps even more importantly, of the websites, platform or app.



HOW DOES IT WORK?

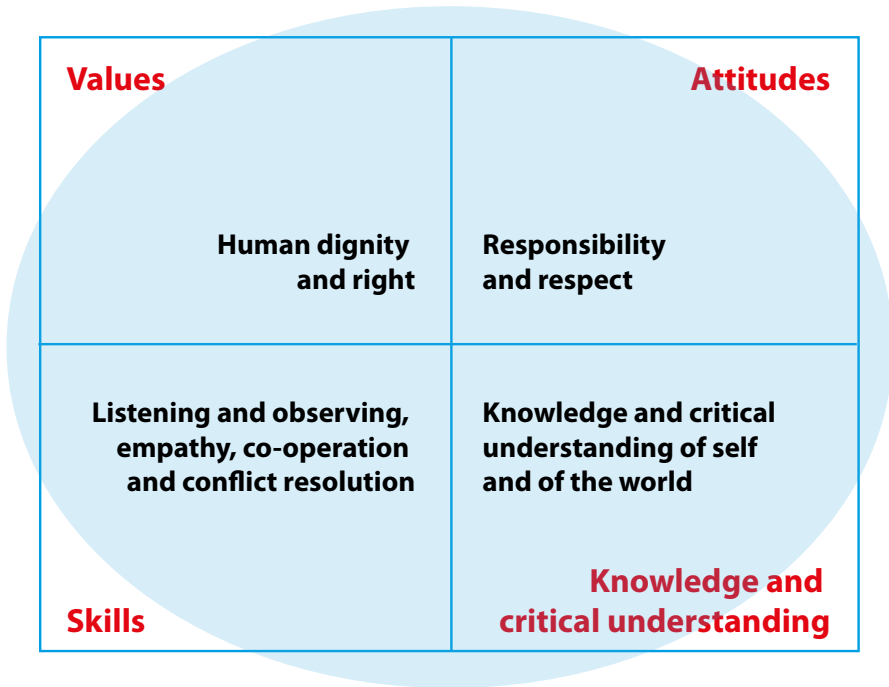
■ You have the right to use any and all digital technologies, and you have the responsibility to use them in a safe and responsible manner. Taking this a step further, a right means that you have the freedom from interference by another user or institution, whereas a responsibility means that you have a duty to act in a certain way.

■ All democratic communities, wherever they are located, have placed emphasis on the just and fair: just and fair rules, just and fair opportunities, just and fair say. The digital community is no exception, and the European institutions have embodied concepts of fair and just in their fundamental documents.

EDUCATIONAL VALUE AND CITIZENSHIP VALUE

Internet users need to understand what their rights are, as well as understanding what the procedures are in case their rights are violated. Users may also be called upon to report when other users' rights are being violated online. Internet users of all ages should be aware of three major actions in the event of rights violations: ignoring the content, blocking the person who made the offensive remarks or reporting the person.

Figure 16: Rights and responsibilities – Core digital citizenship competences



FACT SHEET 8

RIGHTS AND RESPONSIBILITIES





ETHICAL CONSIDERATIONS AND RISKS

■ Fundamental digital rights may be wished for by all citizens in a community. However, not everyone has equal access to information. As such, those with less access may lose their autonomy of expression.

■ Those who must rely on others for access to information may inadvertently be harmed by restricted access.

■ Girls, women, ethnic minorities and those in other minority groups may not have the same access to internet technology, and as such may not have the same access to their rights. Organisations such as the International Telecommunications Union, which organises the International Girls in ICT Day, strive to create a global environment that empowers and encourages girls and young women to learn more about ICT.



IDEAS FOR CLASSROOM WORK

■ Ask students to make a list of all the European Union websites dealing with digital rights and responsibilities. Have them create a chart where they can compare and contrast the rights and responsibilities involved for each legal instrument.

■ Ask younger students to read the Passport to Your Rights produced by the Council of Europe: <https://edoc.coe.int/en/6-10-years/5549-passport-to-your-rights.html>. Then ask them to think about their digital rights and responsibilities. When they compare their rights and responsibilities in the world at large, can they identify similarities or differences with their digital rights and responsibilities?

■ Have your students search the internet for some examples of responsible use and acceptable use policies for guiding the use of technology in the classroom. Have them compare the two; what are the main similarities and differences? If your school does not have either type of policy, get them to choose which would be most relevant for your school. Together with your students, create a policy that can then be presented to the school administration.

■ Create a contest for a social media platform and have students design the terms and conditions for participating in the contest. What are the rights and responsibilities of the users?

■ Discuss rights and responsibilities as creators of online content. Have students work in small groups to research and discuss the following questions.

- ▶ What can you create online (words, images, music sampling, remixing, videos, etc.)?
- ▶ How can you protect your creations?
- ▶ How can you use others' creations without infringing their rights?

■ Have a full class discussion on the responses provided by the students.



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

Personal data are protected by laws and regulations, which means that individuals or organisations are not free to use your data as they please and must comply with these rules (violations may lead to sanctions). For example, all citizens have the right to control their own personal data, which necessitates knowing what personal information has been gathered about them. The General Data Protection Regulation was introduced in the European Union in 2018 in part to help citizens exercise these and other fundamental rights related to privacy and data protection.

Read through the rights that are guaranteed (<https://bit.ly/3sLPygz> or <http://bit.ly/2BRbYIH>). Consider how you can exercise the following rights or have them exercised on your behalf according to your age, by contacting the service in question in your country. If you cannot get the information you are seeking, contact the national Data Protection Authority.

Research digital rights courses online and consider enrolment.

Consider taking an online course in digital citizenship or digital rights. Ensure that the programme covers some of the issues noted in the 10 digital domains discussed in this handbook.

Have all students examine the timing for the next International Girls in ICT Day (<http://bit.ly/2o2Gw08>), and ask the students to create their own agendas for the day.

Read through the listings of rights and responsibilities from UNICEF (<https://unicef.org/2LhcrDi>). Then ask the students to consider what social media platforms or other forms of communication would be an effective platform for them to share their views.



FURTHER INFORMATION

The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 17](#), “Digital citizenship”; [Fact sheet 9](#), “Privacy and privacy settings”; and [Fact sheet 26](#), “Are you the product? Big data, data mining and privacy”.

For information on the General Data Protection Regulation, see <https://gdpr-info.eu/>.

For more information on the most specific rights to delisting (implemented in 2014) and portability, as introduced by the GDPR, see: www.cnil.fr/en/questions-right-delisting.

For more information on European digital rights, see: <https://edri.org>.

The European Commission has information on the EU Charter of Fundamental Rights: http://ec.europa.eu/justice/fundamental-rights/charter/index_en.htm.

More information on children’s rights can be found in the [UN Convention on the Rights of the Child](#).

Relevant Council of Europe documents include “Human rights for internet users”: www.coe.int/en/web/internet-users-rights/guide.

The Code of EU Online Rights is the basic set of rights and principles enshrined in EU law that protect citizens when accessing and using online networks and services: <https://op.europa.eu/en/publication-detail/-/publication/50d06da2-18bb-40b2-9e97-7d19527f2c88/language-en/format-PDF>.

European Parliament, “Empowering women on the Internet”, available at: [https://www.europarl.europa.eu/thinktank/fr/document.html?reference=IPOL_IDA\(2015\)536473](https://www.europarl.europa.eu/thinktank/fr/document.html?reference=IPOL_IDA(2015)536473).

Rights and responsibilities for Global Citizenship, available at: www.theglobalcitizensinitiative.org/the-rights-and-responsibilities-of-global-citizenship/.

DIMENSION 9

PRIVACY AND SECURITY

” Privacy is not an option, and it shouldn't be the price we accept for just getting on the Internet

Gary Kovacs



This domain covers the concepts of privacy, identity management and cyber security. Whereas privacy concerns mainly the protection of one's own information and that of others, identity management is being in control of our online profile, and security relates more to a person's awareness of how online actions and behaviour can put both at risk. The privacy and security domain covers competences such as effectively managing information shared online and using tools (navigation filters, passwords, anti-virus and firewall software) to avoid dangerous or unpleasant situations or to retain some sense of anonymity.

PRIVACY AND PROTECTION – TWO SIDES OF THE SAME COIN

Privacy, data protection and security are intricately linked to rights, freedom and responsibility, and should be introduced to children from their very first steps on the internet. Users who are aware of the responsibilities and challenges are more able to detect and circumvent online risks and dangers, protect their data and digital identity, and maintain security measures that make their digital activities safe and sustainable for themselves and others. When online, everyone is entitled to safety and security, as well as respect for the ideas they share and fair treatment for the resources they create and disseminate. A right of access is inevitably accompanied by expectations and responsibilities, and schools and families have an essential role in preparing young people to shoulder these.

As technology progresses seamlessly into every corner of our daily life, privacy and protection are becoming inextricably entwined. Nowadays, internet security no longer only depends on how we, as digital citizens, manage our own security risks, but is also about making sure that our actions and behaviour do not put others at risk. Being a digital citizen therefore means learning how to protect access to our devices and handle with care anything that can threaten the privacy and security of ourselves or others. Educating children to be responsible stakeholders in the digital society and economy has to be a priority if the internet is to be an environment of trust, where fundamental human rights and civic mindedness prevail.

MY PRIVACY AND YOURS

Protecting privacy online calls on a broad spectrum of competences. The very meaning of privacy is underpinned by knowledge and critical understanding of self and others, and a value for human dignity and human rights. This is not possible without a solid knowledge of how today's powerful communication tools work, a critical understanding of the many ways that information can be used against us and how snippets of information or tagged photos can easily be put together to complete a far more detailed and possibly sensitive picture than was initially intended. Privacy is a culturally sensitive concept that calls for a solid understanding of cultural diversity, a respect for the beliefs, world view and practices of others and the motivation to protect such personal information from being spread across the internet.

We live in an age of big data, where private information is a currency in its own right. Citizens everywhere, and not just children and young people, have to keep in mind in their online activities, especially in social media and when using search engines, that they may be the consumer, but they are also the product. Both commercial sites and non-commercial sites and platforms customise the content

they feed us on the basis of a profile that has been built from the footprints we have left online. Even national elections and referendums have purportedly been shaped through profiling voters and using big data in unscrupulous ways.

■ Although in today's world it is an almost impossible feat for citizens to maintain full power over their personal data, education can go a long way by fostering the relevant skills. Understanding the terms and conditions of information service providers, for example, and the purpose of cookies before consenting to them, are essential in digital citizenship. Citizens must also be able to decide when to provide or not provide data that is being requested, verify the purpose and end use of data collection, and make sure they know how collected information will be processed. They have to know how, when and where to accept that personal data is accessed, refuse its collection without informed consent, have it corrected, delisted or erased. Citizens need to know how to contact service providers and seek recourse from the national Data Protection Authority, a judge (depending on national legislation) or an advocacy group when their rights are breached.

MANAGING DIGITAL IDENTITY

■ It is important that children begin learning to manage their digital identity from the moment they step into the digital space, and quickly become aware of how easy it is to give away more information than intended. They need to critically understand which aspects of their data are private, what data can be safely shared and how this varies across contexts, for example, with family members, as a student or member of a sporting club, or when they visit a doctor or health service. When children start accessing online services independently, they need to be able to choose when it is safer, and legal, to use pseudonyms or different accounts, profiles or e-mail addresses to protect their identity. Another first step that can become a fun activity for even very young children is learning to create, change and manage passwords. This is all part of becoming competent in "digital identity management", a fundamental digital citizenship skill that is based on a whole range of knowledge, values and attitudes.

■ Identity theft can happen when victims inadvertently leak private information, or voluntarily provide personal data as a result of a phishing attempt or a scam, and it can dangerously escalate. Losing control of a relatively unimportant online account such as access to an online forum can easily be remedied, but having a social media profile, a main e-mail account or an online banking identity hacked can have very serious consequences. Besides the economic and social cost for the victim, personal data and data on his/her online connections may be jeopardised. Just imagine if someone began using your account or credit card to order items online or impersonating you via your profile or e-mail!

CYBERSECURITY – A RAPIDLY GROWING THREAT

■ Digital citizens today have a shared responsibility to contribute to maintaining a secure online environment. Hacking is a growing challenge; in 2017, it brought down extensive hospital, banking and shipping systems. Comparatively little is being done to make schoolchildren aware of the gravity of such anti-social behaviour which would certainly be fiercely criticised in an offline context.

■ Spam, phishing, viruses, malware and bots have far-reaching consequences too, and digital citizens can protect themselves from these threats if they know where to procure the right protective tools and how to apply them. Understanding and caring for our digital environment is as important as caring for our home and living environment, especially as the internet of things and the internet of toys make their way into our daily life. Sustainability, both online and offline, relies on knowledge and critical understanding, and a value of human rights and dignity, since the carelessness of one person can place the whole family, school or an entire network at risk. We teach young children to navigate the risks to their home, town or city, so should they not learn at the same time how to safely and securely navigate the online environment, for their own welfare and that of others around them?

■ Privacy and security is an important domain in digital citizenship education that has to be tended to by governments, educational authorities, families and children themselves. With a strong, well-implemented multistakeholder privacy and security policy in society and embedded in the school curriculum, children and young people can become digitally competent and empowered enough to enjoy their rights and respect their responsibilities as citizens in the digital age. Blockchain technology could also be added to the learning agenda, as it holds great promise for solving many of the dilemmas and challenges already discussed: privacy, data protection, digital identity management and cyber security.



HOW DOES IT WORK?

■ As the concept of privacy varies broadly across cultures and across families, it should become an everyday topic for family discussion. Children learn from their parents' example about what they can share and when, and their critical understanding of the world is built in part on knowing why certain information is private and why it is important to respect the data of others.

■ Targeted commercial ads, information and propaganda are unfortunately difficult to escape and can be especially harmful to young minds. Children and young people need to become aware of how tracking and profiling occur, and that they are leaving footprints when they use search engines, consult sites, make online purchases or "like" on social networks. They need to know that even their "likes" are monitored and used to map their profile so that ads can be customised and directed towards them. Cookies can be used as tracking and profiling tools too but, as they also play a "positive" role in facilitating access to favourite or most used sites, it is not always easy to refuse them. While the actual benefits of cookies are questionable, protecting yourself from unwanted tracking through third-party cookies is highly recommended. Regularly cleaning your navigation history is another way to reduce tracking and limit targeted ads.

■ To avoid falling prey to propaganda, unethical commercial practices and time-wasting information overload, digital citizens need to develop solid critical thinking and analysis skills. Filtering and ad-blocking tools exist, but they are rarely fully reliable, and it is helpful if young people create their own checklists of steps to take to avoid or rapidly delete unwanted content. This valuable learning activity is one stepping stone to building critical thinking skills.

■ Digital citizens have a civic responsibility to tackle cyber security on each of their own internet-connected devices, applying available privacy and security settings and installing anti-virus/spam/malware and other software for optimal security. Insufficient security makes it easier for spam to circulate, and spam is one of the most prevalent means of spreading false or fraudulent information and preying on the goodwill of recipients to gather information or gain pecuniary profit. Hundreds of new viruses and malware are emerging every day, so users need to be diligent about regularly updating their security whenever new versions or patches become available. Geolocation settings and Bluetooth should be switched off when not in use, because they provide easy access to intruders, and can give away far more information about us than we would wish.



EDUCATIONAL AND CITIZENSHIP VALUE

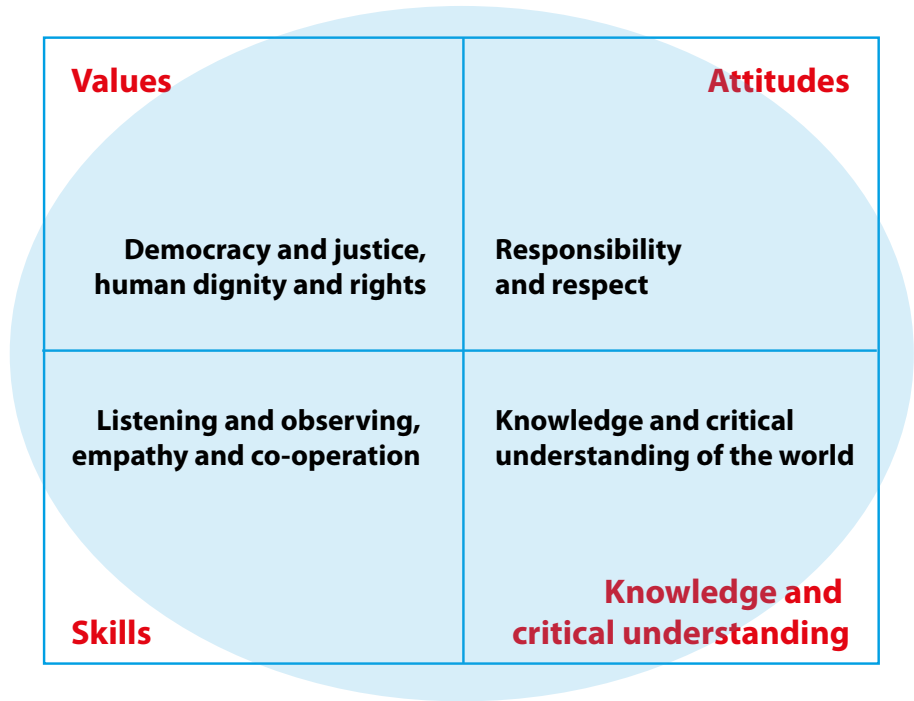
■ Children gain many of their early insights into how society works through learning about privacy, identity management and security. Privacy is closely linked to children's earliest experiences of the world beyond their home and offers an ideal opportunity for them to learn about sharing, empathy, caution and the fact that once something is given it cannot be taken back. Defining their own profile and that of others around them will introduce children to the notions of diversity and inclusion, sharpen their capacity to listen and observe, foster an openness to cultural otherness and, if tackled pedagogically, can help build their self-esteem. Older children can learn important lessons about privacy if parents or teachers have them print their social media profile page from time to time and post it in a public space. Older students will rapidly become aware of double values with regard to privacy online and offline.

■ Conscientious parents and teachers drill children on road safety, and ensure they are protected until they have developed the necessary capacity to become autonomous, yet very young children often roam freely in the online space which is far greater than any town or street. Self-protection, privacy and security can and should be taught through playful age-appropriate activities from the moment children first have access to an internet-connectable device. They can then progress one step at a time offline until they are cognitively ready to access the digital space.

■ Security is also about caring for others, and actively contributing to bringing about positive change to the environment in which we live. It is important that children and young people learn about the positive side of security, which enables us to trust and respect each other and take active steps to ensure the well-being of others.

■ Security is, moreover, a fast growing but long neglected area of employment for coming generations. Wi-Fi connected homes, toys and, in the very near future, automobiles and public transport are rapidly making security a very important facet of our lives, and one that is already offering promising study and professional opportunities. Security is an exciting topic for investigative learning at school and at home.

Figure 17: Privacy and security – Core digital citizenship competences



FACT SHEET 9

PRIVACY AND SECURITY





ETHICAL CONSIDERATIONS AND RISKS

■ Anonymity underlies many of the challenges and risks that arise from online interactions and goes hand in hand with accountability. When internet users believe that their actions cannot be traced back to them, they tend to behave in a very different way than they otherwise would. Acting ethically in seemingly anonymous situations places a much greater focus on the values of justice and fairness, which are in turn built on respect for human dignity and human rights, civic-mindedness and a responsible and respectful attitude towards oneself and others.

■ Privacy is a constantly evolving concept. As we embed and operationalise more and more pervasive technologies into our lives, through what is known as a normalisation process we gradually come to accept lower or different standards or values. Is it a cause for ethical concern that many young people today see George Orwell's 1984 as no more than an entertaining novel? Article 16 of the United Nations Convention on the Rights of the Child (UNCRC) underlines that children have a right to privacy, but are we breaching this right through over-pervasive technological practices, and a lack of privacy education and digital culture literacy?

■ Some of the latest internet-connected toys appearing on the market are raising ethical concerns among human rights advocates. Dolls, robots and other types of connected devices are capable of recording a child's innermost ideas and thoughts and, if security measures are not sufficiently strong, that information can be accessed and reused by third parties.

■ Families need to be more aware of the capabilities of their internet-connected household devices, what data is being collected and where this goes. Who would have thought, to give another example, that our mobile phone tracks the speed of our movements as well as informing us of how many kilometres we walk in a day, or that baby monitors are sending the very private activities that go on in the nursery through the internet. Policy makers and end users need to exert pressure on data processors to provide the option for each user to host his or her online data on his own personal cloud or even (in the case of the internet of things and connected toys, for instance) on his own local area network drive or server.



IDEAS FOR CLASSROOM WORK

■ Invite students to do a Google search on their own names. Be sure to look under images and videos as well. Have them create a Google alert on their own names so that they will know when their name has been posted online. Is there any information they would wish to have removed? How did it arrive online, and what is the most effective process to try to have that particular piece of content removed?

■ The PlayDecide role-play game on data protection and privacy (<http://paneuyouth.eu/files/2013/06/PD-kit-privacy-and-data-protection.pdf>) offers a fun way to explore the implications of privacy law, copyright and freedom of speech and information across national boundaries, or for different age and cultural groups.

■ Invite students to work in groups of three or four and propose a strong password for a fake online account. Make it clear that they should come up with a new password and not an existing password that they already use. Have the different teams present their password and ask the rest of the group to identify the features of a strong password by looking at the proposals.

■ www.webwewant.eu, a website and handbook (in 12 languages) with activities created by teens for teens, contains several chapters and exercises linked to this topic. In particular, take a look at Chapter 2, “Think before you post”, and Chapter 5, “My privacy and yours”.

■ Play and learn: Being online offers 4 to 8-year-olds and their teachers and parents a range of activities on privacy and security. The publication (in 21 languages) is accompanied by an online game at www.esafetykit.net.

■ Resources, posters, tutorials and password generators to better design and manage strong passwords are available from the CNIL: <https://www.cnil.fr/en/media>.



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

■ Considering privacy with a multicultural approach – Discuss privacy with your students, looking at how the concept differs across cultures and across families. Ask them to gather information to support the discussion and the reasons that may explain different notions. This activity can be linked to history or geography lessons as a means of embedding digital citizenship into these subject areas. The outcome could be a class privacy code that could be shared across the school. Revisit the code some months later to understand some of the issues children are having in applying the code in their online activities.

Creating profiles

■ Work with very young students to create their profile and begin by getting them to list some facts about themselves (their address, their favourite food, their parent’s telephone number, etc.). After a discussion with them about privacy, have them draw a red box around private information, a green box around information that can be shared with everyone, an orange box for information that can be shared in certain circumstances, noting what these may be, for example a visit to the doctor.

■ With older children, explore and compare user profiles on some of the more popular social networking sites (see the Council of Europe’s Internet literacy handbook, [Fact sheet 8](#) on social networking). What private information are users inadvertently disclosing? Draw up a checklist for creating a safe user profile.

■ Checking cyber security – Have children bring their mobile phone to class to discover together the inbuilt and software security measures in place, but also the many “open gates” that may be allowing their information to leak. Teachers can consolidate their knowledge before conducting this exercise with students at sites such as www.tccrocks.com/blog/cell-phone-security-tips/. They could also try inviting an expert or someone from a mobile phone company to bring expert knowledge and added interest to the activity. Companies are often very interested in such opportunities to meet young users in a well-supervised context. Information on updating security measures on other internet-connected devices and research on additional tools can be found at www.epic.org/privacy/tools.html.

■ Get students to imagine the consequences of the loss of an online research project; how do the consequences compare with losing a computer or tablet that could be replaced? Ask them to draw up a checklist of security measures to avoid losing content, then check their list against the Internet Survival Guide (<http://bit.ly/2OW3dyk>). This guide, written as part of the BEE SECURE project by the Luxembourg government, provides tips, tricks and best practices.



FURTHER INFORMATION

■ The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 9](#), “Privacy and privacy settings”; [Fact sheet 19](#), “Cybercrime: spam, malware, fraud and security”; [Fact sheet 20](#), “Labelling and filtering”; [Fact sheet 26](#), “Are you the product? Big data, data mining and privacy”.

■ Consult the Council of Europe page at www.coe.int/en/web/internet-users-rights/privacy-and-data-protection to learn more about its work in the field of data protection. [Fact sheet 19](#) of the Council of Europe’s Internet literacy handbook is dedicated to cyber security and related topics. It may also be useful to read about the General Data Protection Regulation implemented in EU member states in May 2018: <https://gdpr-info.eu/>.

■ Data protection authorities, highly specialised in the domain of privacy and security, play an important role in assisting educators in the digital education of citizens. They recently developed a training framework for students specifically dedicated to data protection, for use in a cross-curricular approach in official school programmes and training courses for educators: the “Personal Data Protection Competency Framework for School Students” (<https://bit.ly/3mAFfwY>).

■ In early 2018, the UK Council for Child Internet Safety (UKCCIS) published a framework to equip children and young people for digital life. “Education for a Connected World” aims to identify the skills and competences that children and young people need to have at different ages and stages to be able to navigate the online world safely and responsibly. It interestingly focuses specifically on eight different aspects of online safety education, including self-image and identity, managing online information, and privacy and security (<http://bit.ly/2P2ildz>).

■ The American online safety organisation “iKeepSafe” has developed an extensive privacy curriculum providing classroom and family activities for tweens and teens (<https://ikeepSAFE.org/privacy-curriculum-matrix/>).

■ How to Geek offers concrete, well-explained ideas about creating a password (www.howtogeek.com/195430/how-to-create-a-strong-password-and-remember-it/). Other security-related activities for older children have been published by a British organisation specialising in STEM (science, technology, engineering and maths): (www.stem.org.uk/resources/community/collection/401587/gcse-cyber-security).

■ *The European Handbook for Teaching Privacy and Data Collection at Schools* (González Fuster G. and Kloza D. (eds), 2016), provides lesson plans adapted for younger and older students, a mini-bill of privacy and data protection rights, glossary and resource list (http://arcades-project.eu/images/pdf/arcades_teaching_handbook_final_EN.pdf).

DIMENSION 10

CONSUMER AWARENESS

” Are these things really better than the things I already have? Or am I just trained to be dissatisfied with what I have now?

Chuck Palahniuk



It is fundamental that all individuals understand their rights as consumers of products and services. Consumer education can be twofold: awareness of those rights as a consumer; and the application of those rights and responsibilities if products and services exploit and/or infringe the rights of others.

The internet can be used as a tool to help digital citizens understand their choices as consumers in today's society, and also as a medium to help digital citizens reclaim their rights. Some consumer education campaigns have successfully used media for wider audiences and today the internet can push and promote awareness at a fast global pace.

With new technology allowing consumers to make purchases with facial recognition or via embedded chips or e-tattoos, consumers must continue their vigilance. More than 60% of Europeans access the internet on a daily basis and more than two thirds of internet users have made purchases online.³³ The European Commission has provided information to inform individuals (and businesses) about buying goods and services online (https://ec.europa.eu/taxation_customs/citizens/buying-goods-and-services-online-personal-use_en).

Another aspect of consumer awareness, or perhaps more correctly termed the flip-side of consumer awareness, is entrepreneurship. Digital citizens are also acting as entrepreneurs, actively selling products and services to digital citizen consumers. These online entrepreneurs are using social media to market their goods, online platforms to host their goods, digital delivery systems to ship their goods and more. Online entrepreneurs are now more than ever concerned with the rights and responsibilities of their users/clients/followers, as they engage in this digital economy newly regulated by the General Data Protection Regulation.



HOW DOES IT WORK?

Being a digital citizen may often mean being a consumer, without active knowledge of what this really means. Empowering digital consumers means providing a framework of principles and tools that allow them to drive a smart, sustainable and inclusive economy. Consumer education on those principles and tools is at the forefront of successful awareness and participation in the economy, digital or otherwise.

E-commerce has undoubtedly brought positive benefits, as shopping becomes easier and more convenient; however, e-commerce transactions are not without risks. Recent trends show that more and more children make online purchases (often via a parent's credit card account) before attaining the age of 18 or even holding a part-time job appropriate for a student. Video games and other online amusements for children often use concepts of money to mean value in the game. Children may not always understand the true value of money, as parents can attest when seeing the in-app purchases. The concern of children "virtualising" money may have an economic impact for their future.

When making a purchase and before giving out private data, check for the locked padlock symbol that shows up in the toolbar. This is a sign that your transaction is taking place over a secure connection. Before making online transactions, check that the URL includes "https"; the "s" stands for "secure" in the Hypertext Transfer

33. http://ec.europa.eu/eurostat/statistics-explained/index.php/E-commerce_statistics_for_individuals.

Protocol and authenticates the website and the associated web, which protects against man-in-the-middle attacks.

PERSONAL DEVELOPMENT/EDUCATIONAL VALUE/CITIZENSHIP VALUE

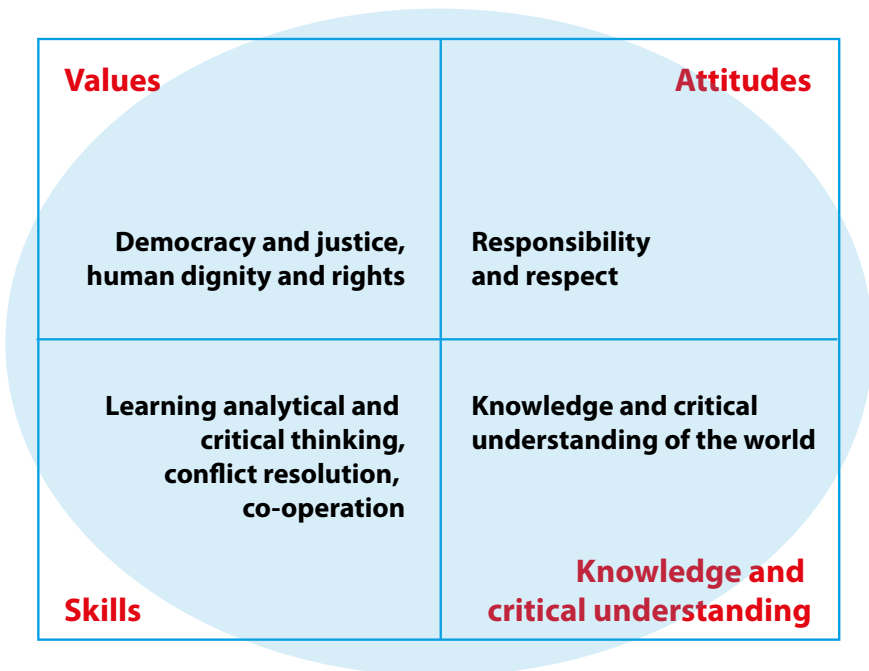
■ Digital citizens who are skilled in consumer education are able to embrace a sustainable concept of consumption that focuses on well-being and security. The rise of the “consumer citizen” cannot be neglected as individuals make choices based on ethical, social, economic or ecological beliefs. Inland Norway University of Applied Sciences has developed Guidelines for Consumer Citizenship Education: <https://bit.ly/3kp4PIQ>.

■ Consumer citizenship began as a Canadian concept and it is quickly gaining ground as globalisation creates opportunities and risks, both offline and online. Education for sustainable consumption has basic learning outcomes that can be used in parallel for digital citizens with the Council of Europe butterfly model; values, attitudes, knowledge and critical understanding. This can lead to:

- ▶ critical awareness
- ▶ ecological responsibility
- ▶ social responsibility
- ▶ action and involvement
- ▶ global solidarity.

■ Consumer awareness, including online entrepreneurship, regarding all aspects of the product or service can increase consumer confidence, as consumers are able to make choices that are reflective of that knowledge.

Figure 18: Consumer awareness – Core digital citizenship competences



FACT SHEET 10

CONSUMER AWARENESS





ETHICAL CONSIDERATIONS AND RISKS

- Consumers should be aware that online shopping requires additional safety measures, not only to keep financial data secure, but to keep consumer identity and choices private.
- All technological devices and equipment should be up to date with the latest safety settings, and consumers should remember that often after website or platform updates their settings are returned to a default position.
- For online purchases, consider using a separate credit card dedicated to online purchases so that you can monitor it easily.
- Verify that all online checkout areas are encrypted.
- Use reputable websites and be suspicious of offers that may seem too good to be true.
- Read up on your consumer rights prior to purchase: does the website offer a refund, money-back guarantee or some other method of reclamation?
- Be aware of online business models which make you pay indirectly for the content/services you use and grant you none of the protection and rights that come with being a consumer (paying for content/services). Examples include sharing your data, being exposed to advertising or even mining cryptocurrencies via your web browser while you look at content. None of these are “bad” per se, but a balance needs to be found in order not to have a race to the bottom (too much advertising).
- Online entrepreneurs should provide easily understood terms and conditions for users, as well as appropriate opt-in features.



IDEAS FOR CLASSROOM WORK

- Have the students choose an online payment service such as PayPal or Stripe. Invite them to read through the terms and conditions of the platforms to determine the costs of the transactions and any other pertinent information that users should know – prior to purchase!
- Plan an e-commerce website with your students (to sell school products, for instance) or do further work on existing initiatives of that kind already taken within the framework of the school. Study the structure of a good e-commerce website.
- In groups of two or three, have the students read the Charter on Fundamental Rights of the European Union (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012P/TXT&from=EN>). Does the document include consumer rights and responsibilities? Can the document be edited to include more concepts for the future digital environment?
- Have the students examine several online sales websites. What are the top-selling products? What types of guarantees or refunds are provided? Does the online shopping site have distribution channels around the world? Does global distribution affect the top-selling products?

■ Create a comparative research project on online entrepreneurship, where the students can choose several YouTubers, Instagrammers or other appropriate entrepreneurs to investigate. Ask the students to identify the goods and services offered by the entrepreneur, the methods of delivery, the terms and conditions, and other protection put in place to protect the consumer.



GOOD PRACTICE/LIVING DIGITAL CITIZENSHIP

■ When making an online purchase, find out about the retailer or vendor. eBay, for example, allows vendors to build a reputation according to their track record and feedback.

■ Research Amazon's history and how the company came into existence and continues to flourish. Ask the students to prepare a debate on whether or not Amazon has provided value to consumers, to sellers and to communities.

■ Make sure that you have control of your personal data and refer to the General Data Protection Regulation for better understanding. Pay attention to boxes relating to the retailer's options to retain your data or contact you for marketing purposes.

■ If you have any doubt about the seriousness of a website, do not hesitate to do some research online and look for other consumer testimonials, reviews or experiences.

■ Research project – Invite the students to pick their favourite example of technology, such as a smartphone, a tablet, a computer or a gaming console. Have them research the chain of production for the electronic device: are there any illegalities, under-age workers, etc.? Are consumers aware of the history of the parts and pieces that go into their technology? Why or why not?

■ When offering online products and services, create a due diligence sheet of rights and responsibilities of consumers. Then ensure that your entrepreneurial endeavour does not infringe those rights and responsibilities.



FURTHER INFORMATION

■ The Council of Europe has materials relevant to this fact sheet in the Internet literacy handbook; please see ILH [Fact sheet 13](#), "Shopping online" and [Fact sheet 9](#), "Privacy and privacy settings".

■ The European Commission's Directive on Consumer Rights: http://ec.europa.eu/consumers/consumer_rights/rights-contracts/directive/index_en.htm.

■ The European Commission on Consumer Safety: http://ec.europa.eu/consumers/consumers_safety/index_en.htm.

■ The European Commission Entrepreneurship 2020 Plan: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0795&from=EN>.

■ The European Commission Erasmus for Young Entrepreneurs: https://ec.europa.eu/growth/smes/supporting-entrepreneurship/erasmus-young-entrepreneurs_en.

- European Parliament support for social entrepreneurs: [www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI\(2017\)599346](http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2017)599346).
- TrustArc is an independent, non-profit, global initiative aimed at building trust and confidence in online transactions: www.trustarc.com.
- For information on the General Data Protection Regulation: <https://gdpr-info.eu/>.
- "Citizens, consumers and the citizen-consumer: articulating the citizen interest in media and communications regulation", Livingstone S., Lunt P. and Miller L., Sage publications (<http://journals.sagepub.com/doi/abs/10.1177/1750481307071985>).
- A practical guide to stop receiving ads, spam and notifications, and take control of your activity on the internet: <https://cleanfox.io/blog/home-page/>.
- Shopping more safely on the internet – from Denmark, 17 important tips for internet shopping, securing sites, avoiding scams, usable in class or at home in autonomy: <https://heimdalsecurity.com/blog/online-shopping-security-tips/>.
- Do not track: an interactive documentary series on the tracking and the economics of the web: <https://donottrack-doc.com/en/intro/>.
- Play without being played – The second adventure of the Three Little Pigs in cyberspace; a game aimed at educating young audiences about misleading and abusive advertising created by Canadian MIL Center Habilomedia: https://mediasmarts.ca/sites/mediasmarts/files/games/cybersense_nonsense/cybersense/start.html.

Glossary

This glossary defines and explains the major terms used in the handbook. Whenever appropriate, it also sets these terms in the context of digital citizenship education (DCE) and highlights the controversial issues and challenges for teachers/users to consider. The terms in italics direct the users' attention to related concepts and complementary notions and refer to relevant fact sheets.

Access

— The ability of individuals and organisations to connect to the internet, using all sorts of devices (computers, tablets or phones, for example) and all sorts of services (such as e-mail and applications). For DCE, access is a precondition for digital citizenship as the internet has become a critical resource, vital for all sorts of online and offline activities.

See also: Account.

Refer to Fact sheet 1 "Access and inclusion".

Account

— An internet account is set with a user name and password. It acts as a key to many online tools and services. It allows the user to be authenticated and authorised to access and use online services. For DCE, it raises issues of privacy and safety settings.

See also: Access; Privacy.

Refer to Fact sheet 9 "Privacy and security".

Anti-virus

— A computer program that attempts to identify, isolate, obstruct and eliminate computer viruses and other malicious software. For DCE, it is important for online safety as a lack of protection may lead to identity theft, security breaches or other issues related to online well-being.

See also: Privacy; Malware; Virality.

Refer to Fact sheet 9 "Privacy and security".

App

— Originally defined as "an interactive program that can be accessed through a web browser to relay information". As the mobile phone has morphed to become an internet-accessing mini-computer, apps designate popular end-user software applications that extend the phone's capabilities by enabling users to perform many everyday life tasks, from entertainment (travel, food, games or social networking) to information gathering (news, maps or MOOCs). For DCE, mastering the "apps culture" and its pervasive ecosystem is important for empowering citizens, especially young people and people with disabilities, as mobile connectivity has changed the way people communicate, share information and learn from the libraries and repertoires of materials available online.

See also: Browser; Terms of service (TOS).

Refer to Fact sheet 2 "Learning and creativity"; 10 "Consumer awareness".

Artificial intelligence (AI)

■ An IT discipline that investigates the theories and the techniques needed to design and create digital environments and software. It produces for instance virtual “personal assistants” conceived to imitate human behaviour. Users usually interact with AI through a series of vocal or written questions that the system answers accordingly. AI technology can also be found in digital games, robotics, driving assistants and in all systems that need to access a vast amount of data to facilitate decisions. For DCE, monitoring AI developments is important as it raises the issue of use of personal/private data and attendant citizenship issues linked to privacy, dignity, well-being, politics and public space.

See also: Augmented Reality (AR); Big data; Robot.

Refer to Fact sheet 6 “e-Presence and communications”.

Augmented reality (AR)

■ A technology that superimposes a computer-generated image on top of the user’s view of something in the real world, to create an interactive experience. This can be done using a mobile phone in a specially created box-like frame, or using a dedicated device. The real-world objects are “augmented” by computer-generated information, that can include visual or auditory information, or even movement or odour. AR can help us explore how ancient ruins, for example, could have looked in the past, or how places or things may look in the future, for example, new transport routes in a town.

See also: App; Artificial intelligence (AI); Big data; Video game; Virtual reality (VR).

Refer to Fact sheet 6 “e-Presence and communications”.

Big data

■ Voluminous and complex sets of data to which various statistical types of analysis can be applied (to profile people, to predict behaviour or for learning analytics). To make sense out of such huge amounts of data, the data is often broken down using five V’s: Volume, Variety, Velocity, Veracity and Value. For DCE, the challenges and controversies include data integrity, data sharing, data transfer and information privacy.

See also: Blockchain technology; Data; Privacy; Profiling.

Refer to Fact sheet 9 “Privacy and security”; 10 “Consumer awareness”.

Blockchain technology

■ A way to archive data implemented through a list of records called “blocks”. These blocks point one towards the other until they create a “chain” that can be distributed along the network through peer-to-peer technology. The blocks contain cryptographic data that are strongly protected and, so far, the technology is considered one of the most secure data systems. This is the same technology used for the creation of the digital currency “bitcoin”.

See also: Big data; Data; Privacy.

Refer to Fact sheet 9 “Privacy and security”; 10 “Consumer awareness”.

Browser

■ Software used to navigate on the web. Users can access sites by entering the proper URL (a unique text string that redirects to a specific website) or by clicking on links obtained, for instance, through a query on a search engine. Most of the browsers offer functions like age filters, a history of the sites visited or a library of favourite addresses.

See also: Access; App; Search engine; Digital footprint.

Refer to Fact sheet 1 "Access and inclusion"; 9 "Privacy and security".

BYOD (Bring your own device)

■ Refers to the policy of permitting employees, teachers or students to bring personal devices (laptops, tablets or smart phones) to their workplace or the classroom. For DCE, it may be useful for expanding access and improving the use of learning materials but it also raises issues of equality, inclusion and security (malware, viruses).

See also: Access; Anti-virus; App.

Refer to Fact sheet 1 "Access and inclusion".

Chat room

■ Any form of online conferencing, ranging from real-time live chats with other known or unknown users (online forums), which is different from instant messaging dedicated to one-to-one communication. Chat rooms are mostly used to share information and are increasingly being adopted in classrooms and online learning environments.

See also: App; VoIP (Voice over Internet Protocol).

Refer to Fact sheet 2 "Learning and creativity".

Cloud computing

■ An IT model that allows a set of networked elements (devices, servers, service platforms, repositories, etc.) to be seamlessly interconnected. This allows users access to their online services (such as e-mail, working services, music, data repository or movies) from any device connected to the web, without direct downloading. For DCE, the controversies arise in terms of security and privacy issues because the service provider can access the data at any time and damage them accidentally or willingly or share them with third parties. There is also issues in terms of the legal ownership of the data, and concerns surrounding privacy and confidentiality, especially considering the future potential of AI personal assistant developments.

See also: Access; AI; Blockchain technology; Data; Privacy.

Refer to Fact sheet 2 "Learning and creativity"; 10 "Consumer awareness".

Consumer awareness

■ The understanding by users of their rights and responsibilities as consumers of online products and services. Most of the time these rights are encapsulated in the "terms of service". For DCE, consumer awareness implies issues concerning the infringement of the rights of others and legal and age-relevant means of understanding all the dimensions of "terms of service".

See also: Terms of service.

Refer to Fact sheet 10 "Consumer awareness".

Cookie

■ A small file which is stored on a user's computer, designed to hold a modest amount of data specific to a particular user, for website management. Each time the user accesses the website again, the cookie is sent back to the server on which the website is stored. A tracking cookie can be embedded with advertising material from a third-party site and can be used to report on a user's browsing history and facilitate targeted and tailored adverts. Rejection of a cookie can make certain websites unusable. For DCE, controversies arise around the capacity to enable or disable/delete cookies. They can be seen as an invasion of privacy since they allow profiling without user knowledge. They require critical thinking to avoid propaganda and unethical commercial practices.

See also: Access; Data; Privacy.

Refer to Fact sheet 9 "Privacy and security"; 10 "Consumer awareness".

Cyberbullying

■ A harmful form of harassment, using electronic tools and services. It can include posting threats, rumours, sexual remarks, cyberstalking and hate speech. The consequences can be serious for victims (causing fear, anger, depression or low self-esteem, for example). For DCE, it relates to harmful online content and behaviour and to issues concerning a lack of empathy and a risk to freedom of expression (chilling effect) and well-being.

See also: e-Reputation; Identity theft; Well-being.

Refer to fact sheet 4 "Ethics and empathy".

Cyber security

■ The protection of computers from theft and damage to their hardware, software and content. It also includes protecting against the disruption of services by intentional or accidental means (piracy or hacking). For DCE, phishing, spamming, viruses and malware are among the security risks and challenges. Knowledge of these challenges and of the protection tools available for citizens to control their hardware and their data is essential.

See also: Access; Well-being; Privacy; Security.

Refer to Fact sheet 9 "Privacy and security".

Data

Basic descriptors of a person's real life, digitally transformed. In the case of sensitive personal information (SPI), these descriptors can be used on their own or with other information to classify and locate a citizen (name, social security number, date and place of birth, biometric records, etc.) and to identify a citizen in his/her context by linked traces (medical, educational, financial or employment sources). For DCE, the controversies are linked to third-party uses, be they commercial (the market for collecting and selling data) or criminal (stealing data for illegal purposes). This can lead to breaches in security and privacy.

See also: Big data; Blockchain technology; Privacy; Profiling.

Refer to Fact sheet 9 "Privacy and security"; 10 "Consumer awareness".

Digital detox

■ A period of time during which a user refrains from using electronic devices (laptops, smartphones, tablets, etc.). It is presented as an opportunity to reduce stress and to focus on social interaction in the physical world. For DCE, it is an opportunity to pay attention to real-life citizenship participation and reinforce natural well-being, while reinforcing privacy and the distinction between work and leisure.

See also: Cookie; Privacy; Well-being.

Refer to Fact sheet 5 "Health and well-being".

Digital divide

■ The economic, social and cultural gap related to access and use of IT. This can lead to inequalities between individuals and between countries. For DCE, the issues relate to inclusion and social justice as well as learning and knowledge. It can result in two-tiered citizenship, with a lasting impact on participation and well-being in democracies. It is associated with the inability of citizens to access digital technology, or to use it, for example, due to a lack of skills.

See also: Access; Well-being.

Refer to Fact sheet 1 "Access and inclusion".

Digital footprint

■ A citizen's unique set of traceable digital activities (posts or payments, for instance) left on the internet. Digital activities fall into two categories: passive (or involuntary) and active (or voluntary). The first category concerns data collected without the citizen's knowledge, the second with data willingly released for sharing and interacting with others online. For DCE, this raises issues of privacy, traceability and security.

See also: Browser; Privacy; Security; Traces.

Refer to Fact sheet 9 "Privacy and security"; 10 "Consumer awareness".

Digital identity

■ Information on a person, an organisation or a device representing a real-life entity. It enables the process of authentication of a user interacting online. It provides automated access to other computers and facilitates mediated relationships. It has come to mean aspects of a person's real-life identity and encompasses the whole collection of data generated by a person's online actions and history (purchasing, navigating, networking). For DCE, the issues relate to the management of such traces and online activities to ensure trust and well-being and to prevent the undue divulgence of information.

See also: Cookie; Data; e-Presence; Netizen.

Refer to Fact sheet 9 "Privacy and security".

Drone

■ An unmanned aerial vehicle that may have some autonomy and can be operated by computer. Drones were originally used in a military context but are now widely available for civilian use.

See also: Robot.

Refer to Fact sheet 2 "Learning and creativity".

Emoticons

■ Textual portrayals representing a user's moods or facial expressions in the form of icons. They can serve to convey emotions and ensure patterns of communication that can lead to misunderstandings (jokes, gags or pranks, for instance) in the absence of visual and facial clues online. For DCE, it is an integral part of the competences needed to express empathy and to prevent conflict or cyberbullying.

See also: Cyberbullying; Empathy.

Refer to Fact sheet 4 "Ethics and empathy"; 5 "Health and well-being".

Empathy

■ The capacity to understand or feel what another person is feeling, putting oneself in another's position. It is also about experiencing vicariously and requires skills and competences online because of the risks of misunderstanding caused by the lack of face-to-face encounters. For DCE, it raises issues around enablers of interpersonal communication and anonymity as well as barriers to online relations like cyberbullying or trolling.

See Cyberbullying; Emoticons; Participation; Well-being.

Refer to Fact sheet 4 "Ethics and empathy"; 5 "Health and well-being".

e-Presence

■ Originally, e-presence was a marketing tool for personal branding and the combined process of drawing traffic and creating a lasting positive image on the Web. This implies knowing about search engine optimisation, e-reputation, social media uses, etc. It has come to extend to the personal and interpersonal qualities that guide digital identity and the social and cognitive competences to do so.

See also: Digital identity; e-Reputation; Empathy; Netizen; Participation.

Refer to Fact sheet 3 "Media and information literacy"; 6 "e-Presence and communications".

e-Reputation

■ The perception internet users have of one's person, brand or company. It is a marketing influence strategy to win likes and recommendations and increase ranking of an entity's website or online service. For DCE, the controversies arise in relation to the risks of manipulation of a person's image or brand and are also connected to the monetisation of one's online presence.

See also: Cookie; Data; Identity theft; e-Presence; Selfie.

Refer to Fact sheet 3 "Media and information literacy"; 6 "e-Presence and communications"; 10 "Consumer awareness".

EuroDIG

■ A European open multistakeholder platform for exchanging views about the internet and how it is governed. Created in 2008 by several organisations, government representatives and experts, it fosters dialogue and collaboration with the internet community on public policy for the internet.

Fake news

■ A type of deliberate disinformation aimed at misleading online users. It is spread via traditional media and online social media. The intent is to damage commercially, financially or politically a target entity or person. Online, it is also used to increase monetisation (with clickbait headlines, click revenue, advertising revenue). For DCE, the controversies arise around issues of quality of information, manipulation of public opinion, intrusion of public spaces and integrity of elections. It requires competences in critical thinking and in fact and source checking. It puts the emphasis on access and media and information literacy. *See also: e-Reputation; Social media; Virtual reality.*

Refer to Fact sheet 3 “Media and information literacy”; 10 “Consumer awareness”.

FOMO

■ FOMO is an abbreviation for “fear of missing out”.

Geolocalisation

■ The identification of the real-life geographic location of an object, device or person. It is closely linked to the use of positioning systems (like GPS and radars). For DCE, the controversies concern the undue surveillance of citizens as well as privacy and security breaches, but geolocalisation may also open up some very interesting opportunities in education, culture or tourism. *See also: App; Chat room; Data; Privacy; Security.*

Refer to Fact sheet 2 “Learning and creativity”; 9 “Privacy and security”.

Hacking

■ The process of seeking to breach the defences and abuse the weaknesses of a computer system or network. It may be motivated by many reasons, such as protest, profit, play, spying and intelligence gathering and even as a means to evaluate the defences against potential hacks. For DCE, it raises challenges in terms of trust and risks (breaches in hospital security or banking systems, for instance). For children, it can be construed as an anti-social behaviour that can lead to ostracism and problems of well-being online.

See also: Access; Anti-virus; App; Data; Privacy; Security; Well-being.

Refer to Fact sheet 2 “Learning and creativity”; 9 “Privacy and security”.

Hashtag

■ In the language of social media, putting a hash (#) before a word means specifying that it represents the topic of the conversation, exactly like putting a tag on an object in order to facilitate finding it again. Most social media or websites allow users to search through the content by scanning these hashtags. In DCE, hashtagging is a means of identifying some of the most relevant topics “trending” on social media.

See also: Social media; Virality.

Refer to Fact sheet 6 “e-Presence and communications”; 7 “Active participation”.

ICANN (Internet Corporation for Assigned Names and Numbers)

■ A California-based non-profit corporation that has responsibility for giving access to the internet as it deals with internet protocol (IP) addresses, protocol identifier assignment and generic (gTLD) and country code (ccTLD) top-level domain names. For DCE, the challenges arise around the independence of ICANN as it becomes a fully fledged international entity, within the UN, dealing with integrity of IT services and internet freedoms.

Identity theft

■ The deliberate use of someone else's personal identifying information (such as credit card numbers, PIN numbers or passwords). It occurs when this information is used to commit fraud or other crimes. The victim can inadvertently leak private information or voluntarily provide personal data as a result of a phishing attempt or a scam. The victim may suffer long-lasting consequences that are damaging to his/her identity and reputation. For DCE, the issues relate to breach of privacy, security and well-being online.

See also: Cookie; Cyberbullying; e-Reputation; Hacking; Phishing.

Refer to Fact sheet 9 "Privacy and security".

Internet governance

■ The development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures and programmes that shape the evolution and use of the internet.

See also: ICANN; Internet of citizens; Internet Governance Forum; ISOC.

Refer to Fact sheet 7 "Active participation"; 8 "Rights and responsibilities".

Internet Governance Forum

■ A multistakeholder entity for policy dialogue on issues related to internet governance. It brings together all stakeholders (governments, private sector, civil society, technical community, academia) on an equal basis and through an open and inclusive decision-shaping process.

See also: ICANN; Internet governance; Internet of citizens; ISOC.

Refer to Fact sheet 7 "Active participation"; 8 "Rights and responsibilities".

Internet of citizens

■ A Council of Europe recommendation that promotes the human and cultural dimension of the internet to complement the internet of things. It is a new notion which calls for a people-centred approach to the internet, in particular to empower everyone who uses and relies upon it for their everyday activities.

See also: Internet governance; Internet of things.

Refer to Fact sheet 7 "Active participation".

Internet of things

■ The network of physical devices, sensors, captors, vehicles and appliances embedded within electronics and interconnected via the IT networks. It enables these items to exchange data and take decisions without human agency, via the existing internet

infrastructure. Smart applications are applied to homes, cities, cars, power grids, etc. For DCE, challenges arise in terms of data management, privacy and security and overall agency of human citizenship and empowerment in relation to automated devices.

See also: Data; Internet of citizens; Robot.

Refer to Fact sheets 9 "Privacy and security"; 10 "Consumer awareness".

ISOC (Internet Society)

■ An international non-governmental organisation for global co-operation and co-ordination for the internet and its internetworking technologies and applications. The society's individual and organisational members are bound by a common goal to maintain the viability and global scaling of the internet.

See also: ICANN; Internet Governance Forum.

Malware

■ An umbrella term referring to various forms of harmful or intrusive software, which include viruses, worms, Trojan horses, spyware and adware. Malware is made with malicious intent to take control of a user's computer. It can create many vulnerabilities and requires competences to protect oneself with software and firewalls.

See also: Anti-virus; Data; Traces.

Refer to Fact sheet 9 "Privacy and security".

Netizen

■ A portmanteau of the words "internet" and "citizen", as in "citizen of the net". It describes a person actively involved in online communities or the internet in general. It denotes active engagement in improving the internet, making it an intellectual and a social resource, or improving its surrounding political structures, especially with regard to open access, net neutrality and free speech.

See also: Digital identity; e-Presence; Participation.

Refer to Fact sheet 7 "Active participation"; 8 "Rights and responsibilities".

Nomophobia

■ The fear of being without access to a working mobile phone.

Participation

■ The right to a healthy interaction between people in online communities, via wikis, blogs, games and social media. For DCE, it is associated with self-expression, community building, engagement in citizenship, influence and well-being.

See also: Digital identity; Empathy; e-Presence; Netizen; Social media.

Refer to Fact sheet 4 "Ethics and empathy"; 7 "Active participation"; 8 "Rights and responsibilities".

Phishing

■ A portmanteau of the words “phreaking” and “fishing” to imply the idea of using bait to lure a victim. It is the attempt to obtain sensitive personal information (SPI) by pretending to be a trustworthy entity (bank, friend, social media). The purpose is to direct the user to fake websites that can distribute malware or use the SPI for other illicit purposes.

See also: Anti-virus; Cyber security; Malware; Protection.

Refer to Fact sheet 3 “Media and information literacy”; 9 “Privacy and security”; 10 “Consumer awareness”.

Phubbing

■ A portmanteau of the words “phone” and “snubbing”, when a mobile phone is pulled out or used during face-to-face interaction, effectively snubbing the non-phone user. For DCE, phubbing diminishes the quality of human interaction, which is an essential process in citizenship.

Refer to Fact sheet 6 “e-Presence and communications”.

Privacy

The right of personal privacy transcribes online as the possibility to store and share data and display content pertaining to oneself. For DCE, the challenges relate to disclosure and its risks to well-being, cyberbullying, e-presence and commercial profiling.

See also: Data; Digital footprint; e-Presence; Protection.

Refer to Fact sheet 3 “Media and information literacy”; 9 “Privacy and security”; 10 “Consumer awareness”.

Profiling

■ The process of examining the data available in an existing database and of applying statistics to provide metrics about people or other phenomena. It enables data quality and data repurposing for other contexts and applications (like learning analytics for instance). For DCE, the challenges are about awareness of this gathering of data and possible misuses to nudge consumption and intrude on privacy.

See also: Big data; Data; Digital footprint; Privacy.

Refer to Fact sheet 9 “Privacy and security”.

Protection

■ The right to online data protection is closely linked to security and privacy and enshrined in the General Data Protection Regulation. It transcribes as the responsibility to keep digital activities safe by ensuring that data are not stolen or used by third parties without the user’s consent and knowledge. For DCE, the challenges relate to the risks to privacy and security in national and cross-border contexts.

See also: Consumer awareness; Data; Digital identity; Privacy; Traces.

Refer to Fact sheet 3 “Media and information literacy”; 9 “Privacy and security”; 10 “Consumer awareness”.

Robot

■ A machine programmed by computer that carries out tasks automatically. It can replace humans in repetitive or dangerous activities. An internet robot or “bot” is a software application or intelligent agent that runs automated tasks on the internet, like web crawling, to analyse files from web servers. Chat bots are used to converse in natural language with users and social bots are employed in social media networks to generate messages. For DCE, the concerns are about ethical challenges linked to the risk of increased autonomy of robots and their replacing human functions (work, war or teaching).

See also: Artificial intelligence; Internet of citizens; Internet of things.

Refer to Fact sheet 2 “Learning and creativity”.

Search engine

■ A software system designed to search for information on the World Wide Web and retrieve it for users. The information may be a mix of different types of files (including web pages and images). They can be used for data mining with specific algorithms. For DCE, the challenges are about risks connected to the manipulation of searches for political, commercial and other reasons.

See also: Browser Data; Digital footprint; Digital identity; Privacy.

Refer to Fact sheet 3 “Media and information literacy”.

Security

■ Security refers to the processes and practices for handling and protecting personal information and data from unauthorised access and usage, and defending computers, servers and mobile devices, electronic systems and networks from data leakages and malicious attacks. For DCE, knowledge of the challenges posed by security is crucial to a healthy and balanced perception of the risks and opportunities of online-offline relations.

See also: Cyber-security; Well-being.

Refer to Fact sheet 9 “Privacy and security”.

Selfie

■ A self-portrait, taken from a smartphone and shared online via social media. For DCE, the challenges concern harmful content and harmful behaviour connected to cyberbullying, eating disorders and the impact on emotional life.

See also: Empathy; e-Presence; e-Reputation.

Refer to Fact sheet 5 “Health and well-being”; 9 “Privacy and security”.

Slacktivism

■ A combination of the verb “to slack” and the term “activism” to refer to a minimalist form of online participation. It is a form of criticism for lack of online engagement, if the activities and performances only consist in liking and sharing or signing petitions.

See also: Netizen; Participation.

Refer to Fact sheet 7 “Active participation”.

Social media

■ A series of applications and services that facilitate social interaction, based on a logic of sharing data and content. It has become a generic term used to describe social networking sites that host communities of members who share interests and activities. Members have to create user profiles and can share tools to upload texts, pictures or other files, post messages on message boards and take part in forums. Many social networking sites are barred to children under 13 and provide safety profile settings, following COPPA (Children’s Online Privacy Protection Act, a US Federal Law from 1998). For DCE, the opportunities are numerous: for distance learning (MOOCs) or for enabling citizens to overcome former social and physical barriers to obtain new professional qualifications. The risks are linked to challenges to privacy and security.

See also: Empathy; e-Reputation; Fake news; Selfie; Traces.

Refer to Fact sheet 1 “Access and inclusion”; 3 “Media and information literacy”.

Terms of service (TOS)

■ Also known as terms of use (TOU), rules to which one must agree in order to use an online service. They tend to be merely a disclaimer, especially regarding the use of websites.

See also: App; Privacy; Social media.

Refer to Fact sheet 10 “Consumer awareness”.

Traces

■ The history of activities of an internet user as a result of his/her online navigation. The activities fall into three categories of data: information deliberately provided (name, for example), information collected by third parties (such as cookies) and information provided inadvertently (for example, through comments). Traces are transformed into big data and are mined via algorithms. For DCE, they raise issues of privacy and safety.

See also: Data; e-Presence; Digital footprint; Privacy.

Refer to Fact sheet 9 “Privacy and security”.

Troll

■ A person who sows discord online by posting inflammatory messages, often off-topic in a community (a newsgroup or chat room). The intent is to disrupt a community, to upset other people and to elicit emotional responses, either for fun or for political reasons.

See also: Cyberbullying; Fake news; Social media; Virality.

Refer to Fact sheet 3 “Media and information literacy”; 4 “Ethics and empathy”; 9 “Privacy and security”.

Video game

■ A game that allows its players to actively interact with the worlds they enter. The players can see everything from the perspective of the character (in the first person) or from multiple combinations of perspectives, such as massively multi-player online role-playing games (MMORPGs). Different video game genres exist,

based on their gameplay interaction rather than narrative qualities. The advance of virtual reality and augmented reality production values have produced more lifelike games, some of which are also used for learning. In DCE, video games and other online amusements for children can be challenging in terms of addiction, well-being, privacy and consumer awareness.

See also: Augmented reality (AR); Consumer awareness; Digital footprint; Virtual reality (VR).

Refer to Fact sheet 1 "Access and inclusion"; 2 "Learning and creativity"; 10 "Consumer awareness".

Virality

■ A behaviour like that of a virus, an infectious agent that can be contagious. It is associated with the ubiquity of the internet and the speed of dissemination of information. It appears in viral marketing (using social media to spread a commercial message), in viral videos or rumours that attain wide-scale popularity even though their origin is dubious. For DCE, it raises issues around cyberbullying and privacy.

See also: Anti-virus; Fake news; Hashtag; Empathy; Privacy; Social media.

Refer to Fact sheet 3 "Media and information literacy".

Virtual reality (VR)

■ A technology that allow users to wear a specific item of hardware (a headset usually composed of headphones and glasses that include small screens) and with which users interact in a digital environment in such a way that it simulates the user's presence in a real or imaginary situation. It is widely used in video games, simulations and tourism experiences.

See also: Augmented reality (AR); Video game.

Refer to Fact sheet 2 "Learning and creativity"; 5 "Health and well-being"; 10 "Consumer awareness".

VoIP (Voice over Internet Protocol)

■ An IT technique for delivering voice communications and multimedia communications over the internet via internet protocol (IP). For DCE, it attracts attention because much of today's interaction among teenagers is reduced to the bare bones of sound, simple images or written language.

See also: App; Chat room; Social media.

Refer to Fact sheet 2 "Learning and creativity"; 6 "e-Presence and communications".

Well-being

■ A general term for the healthy condition of an individual or group. A high level of well-being is desirable for a positive sense of self and community. Online well-being relates to emotions, empathy, engagement in activities, social relationships and accomplishment of goals. For DCE, the challenges surround the risks to health and well-being, such as cyberbullying and trolling.

See also: Anti-virus; Cyber security; Empathy; Traces.

Refer to Fact sheet 5 "Health and well-being"; 6 "e-Presence and communications".

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Digital citizenship competences define how we act and interact online. They comprise the values, attitudes, skills and knowledge and critical understanding necessary to responsibly navigate the constantly evolving digital world, and to shape technology to meet our own needs rather than to be shaped by it. *The Digital citizenship education handbook* offers information, tools and good practice to support the development of these competences in keeping with the Council of Europe's vocation to empower and protect children, enabling them to live together as equals in today's culturally diverse democratic societies, both on- and offline.

The *Digital citizenship education handbook* is intended for teachers and parents, education decision makers and platform providers alike. It describes in depth the multiple dimensions that make up each of 10 digital citizenship domains, and includes a fact sheet on each domain providing ideas, good practice and further references to support educators in building the competences that will stand children in good stead when they are confronted with the challenges of tomorrow's digital world. The *Digital citizenship education handbook* is consistent with the Council of Europe's *Reference Framework of Competences for Democratic Culture* and compatible for use with the *Internet literacy handbook*.

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