



DigiGen

The impact of technological transformations on the Digital Generation 870548

# The impact of technological transformations on the digital generation: Digital citizenship policy analysis (Estonia, Greece and the UK)



Meediapädevuse nädal 2020

Multimeedia konkurss "Üks koht, üks lugu"

AITÄH, ET JAGASITE OMA LU...

Melodie: It's like you have easier access to the internet than I do! I share the computer with my sister, and my mum takes it away from us a lot. Even your...

Bilel: We have everything here. Masha'Allah, you have to believe me: it's paradise! A lot of women fantasise about us; we're Allah's warriors

Melodie: But every day people die in your paradise

Bilel: I have no idea. The enemy steals from and kills poor Syrians. He rapes women, too. He's attacking us, and we're defending peace.

Bilel: To me, I wear my hijab every day?

ταφερομαι και Ε  
ική Συναίσθηση

### Self-image and Identity

This strand explores the differences between online and offline identity beginning with self-awareness, shaping online identities and media influence in propagating stereotypes. It identifies effective routes for reporting and support and explores the impact of online technologies on self-image and behaviour.



Managing online information

This strand explores how online

### Online relationships

This strand explores how technology shapes communication styles and identifies strategies for positive relationships in online communities. It offers opportunities to discuss relationships, respecting, giving consent and behaviours that may lead to harm and how positive online interaction can empower and amplify voice.



Health, well-being and lifestyle



Policy brief April 2022



## Executive summary

This report critically assesses over forty policy documents relating to digital citizenship from Estonia, Greece and the United Kingdom. The analysis is conducted in the three countries focusing on the inclusion and promotion of digital citizenship. The focus is on policy documents by government bodies, educational organisations, and civil society actors where these are available.

Overall, there is a tendency to reduce digital citizenship to technical ICT competencies or at best digital competencies that focus primarily on using e-governance and other digital services as part of one's everyday life as a citizen. We recommend a more involved definition of digital citizenship competencies that focuses on the use of digital services, the Internet, ICT tools and social media as part of not only living one's life as a citizen but also as part of political participation, civic engagement and expression of personal political agency. Ideally, digital citizenship competencies should be more than the sum of their parts (e.g., more than digital competencies plus ICT skills plus media literacy).

To that effect, we include here an account of how the overall results of the DigiGen 'ICT and Civic Participation' have been discussed across all the other dimensions of DigiGen (family, education and leisure), and how we can inform EU Policy, United Nations Sustainable Development Goals, and best practices across the board.

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DOI: 10.5281/  
zenodo.6457932



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## 1. Introduction

The DigiGen work package 6 research cluster was originally designed to address the question: What are the socio-economic, gendered, and political culture-related issues influencing the digital political engagement of young people? This cluster aims to assess the online political behaviour of young people accounting for socio-economic and gender considerations and their motivations for using digital content and devices to express political opinions and engage in political actions as they move to work and public life (digital citizens). The goal is to understand young people's civic participation as linked to their future world of work and as adult citizens. The main objectives of Work Package (WP) 6 are the following:

- To identify the socio-economic, gendered, and political culture-related pathways of young people's engagement in online political life in diverse societies (UK, Greece and Estonia) and how this might affect them offline.
- To investigate how young people are engaged in different kinds of (digital) networks associated with setting up, explicitly or implicitly, political, social, professional or public profiles as digital citizens.
- To explain why and how some young people are politically active in hybrid (online and offline) environments while others are not, and what forms these activities take.
- To critically assess educational systems and the incorporation and promotion of digital citizenship among their priorities.

Demos, a cross-party think-tank in the UK defines digital citizenship as consisting of 'the civil, political and social rights of a citizen in their online activities, their political engagement and action through digital means, and their membership of an online community that is a distinct source of identity (Reynolds and Scott 2016: 19). The report explained that digital citizenship comprises effective informed engagement of people within their local or digital environment on public issues in an educational context. Their definition encompasses both young people, children and adults. Whether political or civic, engagement appears a core element of digital citizenship. The use of digital citizenship as a thematic concept is closely associated with the works and interventions of NGOs and other third-party organisations working alongside other actors in the education domain.

First, in Task 6.1, we produced netnographic research (online observation, content and 65 interviews in total) conducted between September 2020 and April 2021 in Estonia, Greece and the United Kingdom, comparing the reasons and the means by which youth engaged in online civic participation, focusing on online movements mobilising for racial, social and environmental justice (see Karatzogianni et al., 2021).

Second, in Task 6.2: Focus group discussions were organised as digital storytelling workshops with young people involved in the production of online political discourse with the aim of identifying how they are affected by the online environment of their choice and key strands in youth ideological online production. Within the workshops, a digital tool (PowerPoint) was used for the co-production

of relevant material (photos, screenshots of relevant online content) to inform on the motivations, causes and means that young people find appropriate and meaningful for what they perceive as civic participation (as digital citizens) (see Karatzogianni et al., 2022).

This deliverable report (D6.3), which includes a policy brief with policy and practice recommendations, is based on Task 6.3. Task 6.3 aims to critically assesses digital citizenship in educational systems and in national digital citizenship documents (multimedia included). The analysis is conducted in three countries (the UK, Greece and Estonia), focusing on the inclusion and promotion of digital citizenship. In terms of how digital citizenship has been defined here, we used the definition by Demos, a cross-party think-tank in the UK, which views digital citizenship as consisting of ‘the civil, political and social rights of a citizen in their online activities, their political engagement and action through digital means, and their membership of an online community that is a distinct source of identity’ (Reynolds and Scott 2016: 19). Reynolds and Scott’s Demos report argues that digital citizenship comprises effective informed engagement of people within their local or digital environment on public issues in an educational context. Their definition encompasses both young people, children and adults. Whether political or civic, engagement appears a core element of digital citizenship. The use of digital citizenship as a thematic concept is closely associated with the works and interventions of NGOs and other third-party organisations working alongside other actors in the education domain. Therefore, this report’s focus will be on policy documents by government bodies, educational organisations, and civil society actors which relate to ‘digital citizenship’ along the lines defined above. The DigiGen results from findings in Tasks 6.1 and 6.2, as well as overall DigiGen findings across the other work packages, will also be used to contribute to policy recommendations.

**Overview of D6.3:** This report offers insights and comparative analysis of the policy documents relating to digital citizenship in the three countries. **Section 2** provides a discussion of data and the method of analysis. **Section 3** provides an analysis of digital citizenship-related documents from Estonia, **Section 4** analyses documents from Greece, and **Section 5** analyses policy documents produced in the UK. In **Section 6**, we identify commonalities and differences in the policy approaches in the three countries for EU policy, for use for the United Nations Sustainable Development Goals, and best practices. Lastly, the **Appendix** offers visual images used in policy documents in each country.

## 2. Data/method

In Estonia, policy documents analysed were gathered in two steps: researchers reached out to contacts in the Ministry of Education, the Ministry of Economic Affairs and Communications, the Ministry of Culture, the Education and Youth Board and the Government Office, who sent recommendations of documents to look at. This was very helpful, because they also suggested work-in-progress development plans, drafts of which have been made available to the public, and contextualised the policy documents (e.g., that there has been a strategic decision to transfer all strategies on ‘competencies’ and ‘literacies’ into the remit of the Ministry of Education). We also conducted additional web searches and relied on one of the researcher’s experiences as a teacher and as an employee at Vabamu (Museum of Occupations and Freedom, Tallinn). In Greece, we analysed policy documents coming from the Ministry of Digital Governance, the Ministry of Interior and Public Administration, the Ministry of Finance and the Ministry of Education (and the Institute of Educational Policy in particular). In the United Kingdom, we reviewed selected policy and intervention texts on digital citizenship from the last decade. The focus is on keywords including ‘digital citizenship or digital citizens’ across government portals and private and third-party organisations. Search queries were conducted on the Department for Education, Home Office, Department for Digital, Culture, Media and Sports portals. In addition, we searched for relevant policy documents and interventions from third-party and private organisations. The data extracted in both phases was sifted through to identify appropriate policies and interventions.

Documents were analysed first through a close reading, then by coding thematically around sensitising concepts of digital skills, digital competencies, citizenship, civic competencies, civic skills, civic engagement, political participation, and any connections thereof, from which discursive themes (Gee, 2011) of ‘ICT skills as digital citizenship’, ‘digital competencies as digital citizenship’, and to a limited extent ‘digital civic and political participation as digital citizenship’ emerged. Relevant texts were analysed, classifying the social and political undertones embedded in the discourse in relation to digital citizenship in terms of policy and intervention. A key focus was on how the dominant narratives in the various texts shape the ways in which the notion of digital citizenship is conceptualised across the different texts and implemented. We draw on Critical Discourse Studies (formerly: Analysis). ‘CDA highlights the substantively linguistic and discursive nature of social relations of power (...).’ (Wodak 1996: 18). Discourse ‘as a social practice implies a dialectical relationship between a particular discursive event and the situation(s), institution(s) and social structure(s), which frame it. (...) discourse is socially constitutive as well as socially shaped: it constitutes situations, objects of knowledge, and the social identities of and relationships between people and groups of people.’ (Fairclough & Wodak 1997: 258). Context is key in such an analysis: what intertextual/interdiscursive relationships exist? What constitutes the wider socio-political context? Finally, our approach is multimodal, considering both the detailed semiotic choices in written text and images.

### 3. National Digital Citizenship Policy in Estonia

The terms<sup>1</sup> used across Estonian policy discourse are *digital competences* (digipädevused) and *digital skills* (digioskused). The notion of digital competencies first appeared in 2014 when these were added to the list of general competencies in the national curricula and its importance was underlined in the Estonian Lifelong Learning Strategy 2020. In doing so, Estonia followed the recommendations of the European Parliament and the Council of Europe Digital Competences Framework issued in 2013.

Across Estonian national curricula, national development strategies in areas of education and digital society and the government's overarching development framework of Estonia 2035, the conceptualisation of the role of ICTs and digitality is mainly preoccupied with ICT skills, digital competencies as articulated by the European Commission (DigComp, 2017) and (DigCompEdu, 2017) and to lesser extent media literacy and *digital engagement* (digitaalne kaasatus, which is defined in the Education Development Strategy 2035 as 'access to digital services and skills and attitudes that foster use of digital services' (Education Development Strategy 2035, 2021: 13)). Digitisation is framed as a tool for making public services better, faster, cheaper and more accessible. The presumption within the policy discourse is that better ICT skills, more digitalisation of information and better digital public services that are broadly trusted lead to more equality, egalitarianism and bring the state closer to its citizens and residents both young and old, in Estonia and abroad.

Meanwhile, the Estonian government joined the international Open Governance Partnership in 2012 (currently 78 countries), which includes a promise to 'increase the capacity for co-creative policy making in government institutions' (Riigikantselei, 2020). Participatory policy-making has been incorporated into the Estonia 2035 Development Framework, including an 'opinion journey' that more than 1000 young people from 25 schools took part in (Eesti 2035 Koosloome, 2021). In 2021 the focus of the opinion journey was on young people's proposals and ideas on the living circumstances and the environment.

The current generation of policy documents (Estonian Education Development Strategy 2021-2035 and Estonian Digital Society Development Plan 2030) have more strictly divided the areas of oversight, with everything related to skills, literacies and competencies, including digital competences, remaining in the remit of the Estonian Ministry of Education and its agencies, policies and initiatives (apart from the digital skills and competencies of the employees of the public sector, which are covered in the Digital Society Development Plan 2030).

The Digital Society Development Plan 2030 speaks of digital competencies in the context of IT specialists, datafication and cybersecurity; in terms of ordinary citizens, the document refers to the Education Development Strategy

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1 Concepts used across documents (all defined in each document) Digital competencies (digipädevused) - varying definitions offered, but most draw from the European Parliament / Council of Europe and DigiComp frameworks. Digital skills (digioskused). Digital engagement (digikaasatus) Media literacy / media competencies (meediapädevus)

2021 – 2035, claiming that ‘a digital society can only be developed, if people have skills, that support using and consuming ICT-services’ (Majandus ja Kommunikatsiooniministeerium 2022). The Digital Society Development Plan elevates development of basic digital literacy and basic digital security skills in all population, development of professional digital skills and increase in ICT specialists in particular. If digital competences are mentioned in other strategies, it is often as a technical skillset to use IT solutions. An example from Estonia 2035: ‘Due to the constantly evolving and more widespread use of technology, it is important to prepare people for the use of technology and to improve people’s digital competences. In Estonia, nearly 100,000 people aged 17–74 do not use the Internet, most of whom are elderly, with lower incomes and / or lower levels of education’. Direct engagement with digital citizenship, the role of the digital in civic engagement / political participation across policy discourse is limited, but articulated as follows in Estonia 2035: ‘We support young people’s active civic participation and connection with the Estonian state (Estonia 2035, 2021: 26).

Digital competences (skills in using information technology and creating digital content; professional digital skills; ability to develop information systems) are one of the key competencies mentioned in Education Development Strategy 2021-2035 and defined in the ‘National Curricula of Basic and Upper Secondary School § 4’. These are defined as:

(4) Digital competence is the ability to use developing digital technology for coping in a quickly changing society for learning, acting as a citizen as well as communicating in communities; to use digital means for finding and preserving information and to evaluate the relevance and trustworthiness of the information; to participate in creating digital content; including creation and use of texts, images, multimedia; to use suitable digital tools and methods for solving problems, to communicate and cooperate in different digital environments; to be aware of the dangers of the digital environment and know how to protect one’s privacy, personal information and digital identity; to follow the same moral and value principles as in everyday life.

In the National Curriculum, these competences are not seen to be subject-specific and are envisioned to be achieved via cross-curricular topics such as ‘Civic Initiative and Enterprise’ and ‘Information Environment’ (National Curriculum for Basic Schools Appendix 13, 2014). On upper secondary level, the Appendix 5 for Social Studies makes no connection to digital citizenship. Again, digital competencies should be achieved via cross-curricular topics (National Curriculum for Upper Secondary Schools, Appendix 14, 2014). In 2016, the Ministry of Education issued recommendations on how to integrate digital competences into subjects (Haridusministeerium 2016). In general, this system of horizontal and vertical components and skills is considered too complex and abstract. How and if at all these cross-cultural topics are taught varies from school to school and depends on teachers’ abilities to collaborate and improvise.

These shortcomings are being addressed through the Annual Media Competence Week (Haridusministeerium 2021) coordinated by the Estonian Ministry of Education. It brings together various NGOs and initiatives, provides a large

variety of up-to-date active learning materials and tools to introduce these cross-curriculum topics of digital competences on every school level. Media competencies are defined as the skills, knowledge and attitudes that help one critically analyse the information presented in a variety of channels and to judge it adequately. Further, the homepage of the Ministry of Education goes beyond the definition, rhetorically linking media literacy with ‘developing into a person, who has an adequate understanding of the information environment’, and ‘is capable of understanding the societal ethical norms, and follow those when creating content.’ Finally, the webpage also explicitly mentions info-war, and information disorder, stating that ‘media literacy is important to maintain national security and democracy’ (Haridusministeerium meediapädevused, 2022). Finally, the Education and Youth Board has created a detailed website on digital competencies (digipadevus.ee), which acts as a platform of information and tools for teaching digital skills and has operationalised digital competencies both for learners and for teachers. Since 2018 the Education and Youth Board has a ‘digital incubator’<sup>2</sup> program for schools where teachers and the school management are offered training, consultations, mapping of existing skills, support and technology use and targeted development to enhance the use of digital technologies at school. 71 schools have taken part of the digital incubator between 2018 – 2021.

For a learner (Digipadevus.ee 2022) the list includes competencies and skills in five areas: info-, and data literacy; interaction and collaboration in digital environments; content creation, digital safety and security and problem-solving. Each is broken down into multiple further sub-competencies. Sub-competency 2.3 (collaboration and interaction) is expressly linked to civic engagement, it is called ‘Civic engagement in digital environments’, and reads as follows:

The learner as a citizen uses the digital services (e-report card, study administration systems, e-government portal, library-, and banking services) provided by the school, the local government, the state government and corporations. The learner uses suitable digital technologies (e.g., social media, blogs, videos) to record and express one’s initiatives, to include others and to participate in others’ initiatives.

Teachers’ digital competencies are divided into six categories, each with its own sub-competencies. The six are (1) professional development and engagement; (2) digital educational tools and learning materials; (3) teaching and learning; (4) assessment; (5) empowering learners and (6) developing the digital competencies of the learners (this competency is divided into the five competencies listed as students’ digital competencies).

Other relevant policy documents do not explicitly link civic engagement, political participation and digital citizenship to digital competences, but do address some related issues. Expert visions for developing Estonian education-, research, youth, and language areas (Ekspertrühmade tulevikuvisionid ja ettepanekud Eesti haridus-, teadus-, noorte- ja keelevaldkonna arendamiseks aastatel 2021-2035), a vision document for national strategies led by academics and researchers and

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2 digikiirendi, <https://harno.ee/digikiirendi>

commissioned by the Ministry of Education (Sutrop et al., 2019), takes a holistic approach to digital skills, speaking of digital skills and lives as an essential part of contemporary human existence and well-being. The analysis is based on the OECD vision document 'Future Education and Skills 2030' (OECD, 2018). This document's analysis of the current situation in Estonia is quite critical (Sutrop et al 2019). Traditional education is argued to be failing to prepare members of society to act as competent consumers, workers or entrepreneurs in an environment based on artificial intelligence technologies and within the data economy. Education and research policies that divide knowledge from practice and juxtapose technology and the so-called hard sciences to creative self-expression, humanities and the social sciences do not sufficiently support creativity, imagination, social responsibility and empathy and therefore do not support the development of key competences. This hinders Estonia's development into a digital economy that values the ecological, psychological, ethical and social aspects of new technologies. The triumph of technology that underestimates human aspects is argued to lead to widening social divides, social depression and mental disorders (Sutrop et al 2019: 69).

It is difficult to estimate whether the multiple strategies have been developed autonomously or in consultation, but other than the cross-reference section at the end, there is little conceptual overlap between the strategies of different ministries within the text body. Only a few of the policy documents try to be innovative by incorporating digital citizenship as an integral part of the human experience and thus an area of responsibility. Digital is predominantly still framed as the key to providing services. Digital competencies are understood mainly as a combination of technical ICT skills, information and media literacy skills related to safety, privacy and misinformation, and to a lesser extent, interactive and creative skills.

For example, the Youth Development Strategy 2021–2035 (Noortevaldkonna arengukava) only mentions digital competencies in parallel to other important elements of succeeding in society. The chapter on 'Participation' argues that all policy documents and activities concerning youth must support youth and youth organisations active participation and input into policies and activities concerning them, with special focus on changes impacting digital communication and democratic civic participation (Youth Development Strategy 2021–2035, 2022: 23). Yet, the document does not cover political representation, action or even youth work in the digital sphere, which is at odds with actual trends of how young people live and interact, share and express opinions, etc. This is the more poignant, given that the strategy is linked to European Youth Goals which have an entire chapter dedicated to digital citizenship.

The Strategy of Integration and Social Cohesion in Estonia 2021 - 2030, an integration strategy document by the Estonian Ministry of Culture, does not use the concept of digital citizenship nor expand its focus to virtual lives. Its lack of including the digital was also criticised at a Parliament hearing. Digital is seen as a tool for providing certain services, e.g., Estonian language courses, to overcome the issue of multiple information pools and lack of access to information which are

the main concerns and aims to be achieved. Virtual communities are mentioned when talking about the Estonian diaspora. A lot of attention is paid to updating and making the National Citizen Registry more accurate as a precondition for offering better services.

Meanwhile, the 'Estonian Digital Society 2030' by the Ministry of Economic Affairs has introduced new concepts of their own - *digivägi* (digital force), *digikratt* (e-trickster, an Estonian folklore-based metaphor for machine-learning/AI based solutions in e-governance). This strategy focuses on creating necessary conditions for technological advancements in private and public services (e.g., 5g internet) as a core source of economic empowerment and development. Through this Estonia is envisioned to become *digivägev* - digitally powerful and an internationally renowned digital nest - *digipesa* - for digital nomads and e-residents (sometimes translated as e-citizens). The document positions itself as a facilitator of tools but also addresses many important issues such as how citizens interact with the state and how they perceive it while online, data ownership and transparency are addressed. They also admit that the Internet must become available everywhere to avoid stratification. Therefore, the development of (professional) digital skills must be a natural part of every level of education. This relatively coherent document considers the broader impact on online civic participation and culture and is able to think in digital worlds beyond client-service relationships, but it does so in its visionary 'startup' language.

Furthermore, references to gendered, sexuality-based, religious, racial inequalities or specificities in digital competencies, skills and citizenship are generally absent. However, language-based (and thus ethnic, as Estonia has a sizeable Russian minority and a Ukrainian minority, both of whom up till now have been Russian speaking or multilingual) and age-based (young vs. old, also by more specific age groups) references sometimes exist. The Digital Society Plan 2030 discusses the usability of digital services for people with different skills and abilities, primarily addressing the language barrier, which is seen as cutting some people off from the common information space and digital services, and thus a way to interact with the state. Second, regional disparities are addressed, predominantly by stating that access to high-speed Internet should be the same all over Estonia to allow access to services and culture.

In terms of civic association initiatives, one of the most thorough analyses with policy recommendations on civic participation in the digital space was published in Estonian Human Development report 2019 - 2020 by the Estonian Cooperation Assembly (Eesti Koostöö Kogu). The chapter 'Socio-political discussion in the digital public space' relies on analyses of available Estonian data to explore current socio-political discussion in public and semi-public digital spaces. The authors (all academics) conclude that though it has become one of the dominant spaces for political activity, certain practices as well as the reliance on the global social media platforms with their particular affordances and approaches to governance and moderation promote polarisation and inhibit productive public discussion, as well as the integration of various social groups (Ventsel & Madisson, 2020). Across the introduction and the four articles of the chapter, some possible solutions and

recommendations are made.

Ibrus (2020) highlights the need to support local media (including regional media) as they are losing the battle for eyeballs and advertising revenue to global social media platforms. He also suggests that Estonian journalism needs to do more to foster thematic and specific discussion spaces (e.g., forums by research area). Ventsel and Madisson (2020) suggest that media education should be offered at all levels of formal and non-formal education, and address the following questions: how to decipher the meaning of the types of social media texts (e.g., memes) and understand why they are used in specific discussions; how to be source-critical in social media and how to detect the hidden intentions of those intermediating the texts; and how to recognise meaning creation aimed at gaining attention, misleading the audience and inciting conflict (ibid), etc. Kalmus and Siibak (2020) point out that Estonian young people's digital civic engagement and political participation is not inhibited by access to the Internet or lacking basic digital skills, but rather by the toxic discussion culture emerging on social media sites as well as their perception that digital participation has limited societal impact. The authors suggest initiatives towards curbing cyberbullying and the development of a virtual space with successive civic or political initiatives that could produce tangible results (Kalmus and Siibak 2020).

Further, there are foundations, NGOs and events that directly or indirectly contribute to the public discourse on digitality, competencies and citizenship, such as:

- The Media Literacy Week<sup>3</sup> which is coordinated by Ministry of Education
- The Coalition for Civic Education<sup>4</sup> is an initiative by the Network of Estonian Nonprofit Organisations, NENO (or Vabaühenduste Liit in Estonian, established in 1991), which is the single and largest Estonian organisation uniting public benefit nonprofit organisations. NENO sees itself as an advocacy organisation focusing on a sustainable civic space and additionally to that we also focus on capacity building and civic awareness. While their general website descriptions, glossaries and strategies do not expressly talk about digitality nor link digital competencies to citizenship or engagement, the events they organise include hackathons for climate and immigration issues.
- The Foundation Liberal Citizen<sup>5</sup> (Sihtasutus Liberaalne Kodanik, SALK) was founded to counter the Estonian Conservative Party's initiative of a referendum to protect the traditional marriage between one man and one woman during their brief stint in the parliament. SALK has long term goals to create analytical and engagement capacities in particular areas of politics and to offer a platform, a network and a set of tools for those people interested in shaping the future of Estonian society. They regularly publish studies, polls and statistics (including, for example of political advertising on Facebook) and are working towards increasing the number of first-time voters.

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3 <https://www.hm.ee/et/MPN>

4 <https://heakodanik.ee/kodanikuhariduse-koalitsioon/>

5 <https://salk.ee/about/>

- Vabamu<sup>6</sup> the museum of occupations and freedom has an online self-directed learning environment for young people.<sup>7</sup> It is targeted at young people who are interested in extracurricular expansion of their horizons and to find high quality, bite sized educational information in the current informational overload. In addition, they organise discussion events and seminars eg citizenship of the biosphere, sexual education, investing of virtual money immigration, they have also hosted an exhibition on the ‘Success story of the e-Estonia’.

## 4. National Digital Citizenship Policy in Greece

The first attempt to outline a comprehensive digital policy was the National Digital Strategy 2006-2013. The main objective of the Digital Strategy 2006-2013 was to materialise the ‘Digital Saltation [sic] in Productivity, a Digital Saltation in Life Quality’ (Makris 2017). In order to reach the EU digitalisation benchmarks, the actions foreseen in the Digital Strategy followed these two directions 1) Improvement of productivity with the use of ICT, and 2) Improvement of life quality with use of ICT and the Internet. In Greece, ICT was initially linked to economic objectives, and it was part of the National Reform Programme coordinated by the Ministry of Economy and Finance. The concrete results of the Digital Strategy 2006-2013, also hampered by the outbreak of the sovereign debt crisis of 2009-2010, were limited.

Another strategy that is relevant to digital citizenship is the E-Government Strategy 2014-2020, drafted by the Ministry of Administrative Reform and E-Governance (established in 2011 and absorbed in 2015 by the Ministry of Interior and Administrative Reorganisation). The three strategic axes of intervention, including ten strategic objectives, were the following:

1. Modernisation of the State and the administration
  - a. Simplification of procedures with the use of ICT
  - b. Digitisation of documents and processes
  - c. Common management of resources
2. Reconnection of the Citizen with the state and the administration
  - a. Common management of the relations between the State, Citizens and Companies
  - b. Creation of one-stop shop services to citizens
  - c. Identification and authentication of citizens
  - d. Participatory democracy
  - e. Digital integration and digital literacy
3. Coordination of horizontal ICT policies in the Public Administration
  - a. Interoperability of basic public administration registries
  - b. Open-access public information

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6 <https://www.vabamu.ee/vabamu>

7 [nova.vabamu.ee](http://nova.vabamu.ee)

Specific objectives include elements that could imply a particular notion of digital citizenship or participation, such as Objective 7 'Participatory Democracy'. However, the approach adopted in the document is characterised by an extremely narrow perspective. More precisely, the current situation analysis is limited to the 'broad mistrust of citizens towards Public Administration due to lacking efficiency and corruption' and to the 'alienation and detachment of citizens from the Administration' (E-Government Strategy 2014: 13).

Therefore, the strategy encourages the promotion of principles, such as evaluation, collaboration and accountability through the enhancement of transparency and involvement of citizens in all levels of public administration. It also foresees actions that would depersonalise contacts between citizens and/or corporations with public administration through the digitisation of procedures, so that interventions and potential incidents of corruption would become difficult if not impossible. Apart from increasing transparency, digital platforms, such as the Greek Open Government Initiative (OpenGov.gr), where 'digital expression and participation of citizens (comments, cases of maladministration, suggestions for improvement)' can serve as a vehicle of consultation between citizens and government bodies (Greek Open Government Initiative).

The second National Digital Strategy was drafted with an inevitable delay mainly due to the critical conditions that occurred in the country during the first half of the 2010s, i.e., the economic crisis and the political turbulence it generated. In December 2016, the new government of the coalition between SYRIZA (Coalition of Radical Left) and ANEL (Independent Greeks) presented the National Digital Strategy 2016-2021, launched by the newly formed Ministry of Digital Policy, Telecommunications and Media (replaced in July 2019 by the Ministry of Digital Governance).

Once again, the bulk of actions as described in the Priorities of the Strategy, referred to economic aspects and to the improvement of infrastructure and public administration, for example:

- Priority 1: Development of national infrastructure for new-generation connectivity
- Priority 2: Acceleration of the digitisation of the economy
- Priority 3: Promotion of ICT for the growth of the digital economy and employment
- Priority 4: Empowerment of human resources with digital skills
- Priority 5: Radical revision of the way Public Administration provides digital services

Another aspect that appeared was safety and trust (Priority 7). At the same time, issues of civic participation were indirectly included under the heading of 'Overcoming exclusions and disseminating benefits of the digital economy' (Priority 6). Here again, the main focus is on the economic benefits that increasing digitisation can offer, while the question of equal participation and the threat of exclusion is mentioned for the first time in an official document:

The increase of the penetration of ICT in the state and in the economy of the country, in order to lead to the desired results, is required to be combined with expansion of the use of the Internet, by all the categories of the population without exceptions. There is a danger that the digital development process itself will leave behind population groups, especially the vulnerable, who will not be able to follow it, thus widening the digital divide. Each step of the digital development must be combined with measures and actions aimed at disseminating its benefits to all segments of the population as well as at removing geographical and social exclusion (National Digital Strategy 2016-2021: 35).

To this end, there was a specific focus on social exclusion, particularly of vulnerable groups such as elderly citizens, unemployed, women and people with low educational status. Moreover, Priority 6.2 continued the enhancement of the Open government procedures, including actions that would help the organisation of digital processes for citizens' petitions to raise questions and claims supported by citizens. Finally, measures pertaining to health, educational and administrative services were foreseen for remote or isolated regions, such as islands or mountainous areas.

Because the assessment of the overall outcomes of the actions undertaken within the above-mentioned strategies and plans has not been positive, there was a need for a reboot, a Bible for the Digital Transformation and Greece 2.0. Despite the efforts, Greece belongs to the low-performing cluster of countries regarding its overall digitisation. According to the Digital Economy and Society Index (DESI), Greece ranked 27th in both 2017 and 2018, exhibiting limited progress relative to the other Member States over the years covered by the National Digital Strategies. In 2021, Greece ranked 25th, being above Romania and Bulgaria only (DESI 2021).

Amid the COVID-19 crisis that led unavoidably to an extended use of ICT for several purposes and to a repositioning of its significance, the Ministry of Digital Governance published in June 2021 the Bible/Book of the Digital Transformation 2020-2025, which comes to replace the National Digital Strategy 2016-2021. The rationale of the new strategy follows that of the previous strategies, rendering, however the digital transformation of the Greek economy and society an indispensable necessity:

Seizing the opportunities of the digital revolution will determine to a large extent the development of the national economy and the prosperity of society. It is not sufficient anymore to follow the developments, but it is time to shape our development model in the 4th Industrial Revolution, emphasising on human skills and entrepreneurship with the support of digital infrastructure and a digital state (Ministry of Digital Governance 2021: 19).

The strategic axes of intervention include the following: Connectivity; Digital competencies and skills; Digital transformation of enterprises; Digital Public Services; Digital innovation; Exploitation of advanced technologies.

At first glance, no reference is made to civic participation or digital citizenship. Some horizontal interventions are foreseen for an 'Open and Participative Governance'. The scope still focuses on the 'establishment of actions and regulations (...) [that] reinforce the building of efficient democratic institutions and the offer of substantial services of quality to citizens and society as a whole' (see Greek Open Government Initiative). However, some innovative elements could entail the introduction of some tools or processes that can enhance forms of digital participation, such as: participative budgeting, good practices for whistleblowers and initiatives for open solutions in the field of justice, open education initiatives, as well as integration of participatory governance practices and open technologies in the national education system (Ministry of Digital Governance 2021: 200).

In the context of the pandemic and in the Recovery and Resilience Facility framework, Greece submitted a National Recovery and Resilience Plan, entitled 'Greece 2.0' approved by ECOFIN on 13 July 2021, and includes 106 investments, 68 reforms, utilising investment resources of 31.16 billion euros. Among the four Pillars of the 'Greece 2.0' plan, the second is dedicated to 'Digital Transformation' (the other three being on 'Green Transition', 'Employment, skills and social cohesion', and 'Private Investments and Transformation of the economy'. Pillar 2 includes three axes: Connectivity for citizens, industries, the State; Digital transformation of the State; Digital transformation of SMEs.

As it can be seen in the measures outlined within each axe, the Plan revisits objectives that previous strategies and plans have recurrently set. More precisely, 'Component 2.1 - Connect' aims at covering ground in very-high-speed connectivity, achieving Greece's gigabit society targets and improving its digital competitiveness, i.e. facilitating the switch to fast broadband connections and the transition to 5G technology. 'Component 2.2 - Modernise' aims to modernise public administration by improving its operational model and providing high-quality services to citizens and businesses. 'Component 2.3 - Digitalisation of business' aims to boost the adoption of digital technologies by businesses, particularly small and medium enterprises (SMEs), and close the digital gap between Greece and the EU average. It is clear that citizenship or civic participation is not considered within this plan.

In terms of teaching digital citizenship to children, education is seen as an arena where both digital and civic competencies could be fostered. In Greek schools, Social and civic education is taught in several grades, starting from the 5th and 6th. The material covers several aspects of social life, rights, and duties of citizens. Nevertheless, no references to digital citizenship and participation exist both in general and in curriculum guidelines.

In June 2020, the Law 4692/2020 introduced the Skills Workshops in primary and secondary education. The main purpose of these workshops is to 'add new thematic cycles in kindergarten and in the compulsory schedule of primary and lower high school, with the objective to enhance the cultivation of soft skills, life skills and digital and science skills to students' (Law 4692, art. 1, par. 1). The modules of these workshops cover four thematic areas: Living better - Well-being;

Care for the Environment; I care and I act – Social Empathy and Responsibility; Create and Innovate – Creative Thinking and Initiative.

According to the Institute of Educational Policy, which is responsible for the design and implementation of the Skills Workshops<sup>8</sup>, ‘the goal of the programmes has been determined by the so-called skills of the 21st century: life skills, soft skills and technology and science skills. Indicatively, modern skills include critical thinking, creativity, collaboration, communication, flexibility and adaptability, initiative, organisational ability, empathy and social skills, problem-solving, digital and technological literacy’. More precisely, the skills that are cultivated can be categorised into the following four Skills Cycles: Skills of the 21st century; Life skills; Skills of technology, engineering and science; Mind skills.

Digital citizenship as such is mentioned as part of Life skills, constituting one of the four subcategories, defined as ‘Skills of digital citizenship’ that include: E-government, Digital citizenship, Safe internet browsing, Technology addiction protection, resilience. The workshops that have replaced the ‘Flexible Zone of Intersectional and Creative Activities’ are still under construction, and the actual content and teaching material is based on some suggestions of projects that diverse actors have implemented. Among the suggestions provided by the Institute of Educational Policy, no projects on digital citizenship can be found.

## 5. National Digital Citizenship Policy in the United Kingdom

The Internet and social media have proven crucial for digital citizenship for young people, children and the entire population. For example, an Ofcom report for 2015 revealed that adolescents in the United Kingdom devote roughly over 24 hours a week on social media platforms which is a testament to the centrality of online media in the life of young people. The Demos cross party think tank based in the United Kingdom with a cross-party political viewpoint corroborates the report arguing that ‘we live increasingly significant sections of our lives partially or even wholly online’ (Reynolds and Scott, 2016: 9). Indeed, the lockdown period heralded during the coronavirus pandemic reaffirmed the significance of the Internet and social media for everyday living, from learning and teaching in education to other aspects of work and leisure.

Yet, despite the developments and benefits of the Internet, there are ‘new expressions of a much older problem – political extremism and violent radicalism’ (Reynold and Scout, 2016). The exploitation of social media for the recruitment of adolescents by radical groups, a rise in the spread of extremist narratives, misinformation, cyberbullying, trolling, and incivility via online spaces to which young people have increasingly been exposed are examples of persisting issues finding news expressions online.

The need to safeguard net citizens’ rights and safety, especially children and

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8 <http://iep.edu.gr/el/psifiako-apothetirio/skill-labs>

adolescents, has consequently formed the epicentre of government policy and other interventions relating to online spaces. Thus, it is safe to argue that the United Kingdom government's digital citizenship approach focused more on tackling digital vulnerabilities, the challenges and dangers presented online for young people and children with consequences for civic participation and engagement. In addition, government policy documents use 'digital citizens' as seen in the 2021 Department for Digital, Culture, Media and Sport report and a House of Lords 2022 Parliament publication, which emphasises the individuals engaged on online platforms.

Furthermore, there has been a prevalence of securitisation discourse in terms of Internet Safety, for example:

In fulfilling the duty in section 26 of the Act, we expect all specified authorities to participate fully in work to prevent people from being drawn into terrorism. How they do this, and the extent to which they do this, will depend on many factors, for example, the age of the individual, how much interaction they have with them, etc. The specified authorities in Schedule 6 to the Act are those judged to have a role in protecting vulnerable people and/or our national security (UK Government, Prevent Duty Guidance n.d.).

In the United Kingdom, a core focus of government discourse on digital citizenship is on protecting and safeguarding individuals engaged in online platforms irrespective of age but with specific emphasis on vulnerable groups like children and young people. There is also a particular emphasis on radicalisation and extremism, which enthralls the government's 'Prevent Duty' statutory guidance. The duty mainly addresses safety concerns, especially for young people and children using online platforms for their daily activities, including education and other leisure activities. Key policy documents focus on safeguarding against content online that could be harmful to vulnerable groups.

For instance, the government-themed 'Online Harms White Paper' published in 2020 speaks to the different vulnerabilities created by exposure to harms, including online content or action that poses present or future risk to individuals and other users. Several policies and interventions like the Online Media Literacy Strategy 2021 and the United Kingdom Council for Internet Safety Education for a Connected World do not advocate civic engagement and political participation. However, the discourse on internet safety forms a pre-requisite for effective digital citizenship among young people and children. As the Department of Digital, Culture, Media and Sport report states, despite the numerous benefits of online platforms, the consequences of online harms can be serious and cause lasting physical and psychological damage to the lives of individuals by strengthening disunity and normalising abusive or hateful content (DCMS, 2021: 12). Hence the securitisation of digital citizenship. The United Kingdom Council for Internet Safety 2020 report also draws on a similar narrative, arguing that safety is crucial for children and young people to enjoy the benefits of online platforms.

The UK 2021 Online Safety Bill, which the government touts as 'world-leading'

to ensure that the UK is the safest place to go online, also mandates technology companies to deal with associated online risks, including illegal content, to keep UK individuals safe. It provides a duty of care for companies. Similarly, the statutory Prevent Duty places the onus on certain authorities, including proprietors, governing bodies, school leaders and school staff, management committees, managers of childcare, and other authorities working with children and young people across government, private and third sector organisations. The 2020 governments' Online Harms White Paper' provides an authoritative position on the United Kingdom's government priority concerning internet safety, which can be conceptualised as an element of digital citizenship. The Documents highlight 'a new regulatory framework establishing a duty of care on companies to improve the safety of their users online, overseen and enforced by an independent regulator' (Online Harms White Paper, 2020: 5).

Another dominant discourse is constructed around media literacy, empowerment and skills. In the United Kingdom, media literacy is part of the government's broader digital citizenship approach promoted in schools in collaboration with private and third-party interventions for Internet safety. Here, the dominant discourse empowers and equips young people and children with skills to navigate the Internet safely, being informed and responsible net users who can distinguish between good and dangerous information in the online environment. For instance, Demos digital citizenship intervention aims to equip adolescents and children with skills to identify online propaganda and manipulation, the effect of social media on communicative practices, and how to be responsible for their online social networks (Raynolds and Scott, 2016: 12).

Similarly, the government seeks to equip users with the skills they need to keep themselves and others safe online (Online Harms White Paper, 2020: 13). Currently, resources supporting digital citizenship education are taught under Personal, Social, Health and Economic (PSHE) education, citizenship subjects, and computing subjects focusing on online safety and media literacy. Such courses, including other interventions, are offered by private and third-party organisations and trained teachers. However, in the Demos report, Reynolds and Scott (2016) identify shortfalls in critical thinking skills, media literacy, and the teaching rights and responsibilities of young people engaged online, which are crucial for internet safety for young people:

We argue that digital citizenship education must play a vital role in the delivery of the Prevent duty. To build resilience to extremism effectively, young people online have to be able to critically evaluate the arguments and media content presented by extremists, to safeguard each other successfully online, and to understand how social media change the dynamics of communication and how we interact with each other online (Raynolds and Scott, 2016: 18).

Moreover, the Department of Digital, Culture, Media and Sports (DCMS) 2021 'Online Media Literacy Strategy', which is an outcome of the 2020 'Online Harms White Paper' consultation, argued that users lack the skills and knowledge concerning online media literacy. The inability to safely navigate online platforms and exposure

to high risks is conceptualised as an implication of deficits in media literacy. The DCMS Online Media Literacy Strategy policy direction identified dynamics affecting some groups from attaining media literacy, including limited online experience, barriers to accessing technology, and limited access to education. These factors affect vulnerable groups and reinforce digital inequalities in society. Hence, the government's focus on media literacy is part of the interventions.

We want to support these organisations to continue the excellent work they are doing to improve media literacy across the UK. By providing support and direction for the sector, we want to reach all users to empower them with the skills and knowledge they need to stay safe online. We want users to be able to critically evaluate the content they consume, understand that online actions can have offline consequences, and be able to contribute to a respectful and kind online environment (DCMS, 2021: 2).

Ofcom, the government's online safety regulator in the United Kingdom, is given the duty enshrined in the Online Safety Bill 2021 to promote media literacy and other oversight duties over Internet safe:

Promoting media literacy is a key tool in our primary duty to further the interests of citizens and consumers and will be critical to our future functions as the online safety regulator. We are re-launching our online media literacy programme, using our existing powers, with the goal of promoting people's ability to participate effectively and stay safe online (Ofcom, 2021: 4).

While media literacy is promoted across policy and interventions in education, the dominant discourse is linked to safeguarding and empowerment for young people and children, including teachers, who are the primary contact in schools.

## 6. Relevance to Policy and Practice

While it makes sense that all 'competences' and 'literacies' fall under the remit of the Ministry of Education (in Estonia) such an approach has shortcomings in the context of existing research on non-formal education, socialisation that happens via political participation and non-political online participation (for entertainment, etc.). It also creates a false binary between entrepreneurship, the start-up culture and development of new (often digital) industries (which sit under the Ministry of Economic Affairs and Communications) and digital (citizenship) competencies. Digital citizenship competencies seem to definitionally fall under the remit of at least four Ministries (Education, Interior, Defense, Economic Affairs and Communication). Thus, a cross-ministerial working group would be beneficial.

Although digital transformation gains space both in terms of discourse and policy initiatives, there is no definition or even discussion on any kind of digital citizenship in Greece. State discourse focuses on the digitalisation of administration and economy and on the enhancement of digital competencies and skills of students (education) and adults (in [active] labour market policies). In Greece, (Civic) participation is meant mainly in terms of transparency and accountability. In

contrast, more creative forms of active citizenship through digital means, as they are described in the current Bible of Digital Transformation, remain to be checked and evaluated. In the UK, the focus is on education, skills acquisition and development, innovation, equality, inclusion and internet safety. There is no specific focus on digital citizenship as it concerns civic engagement and the political participation of young people and children.

Overall, there is a tendency to reduce digital citizenship to technical ICT competences or at best digital competences that focus primarily on using e-governance and other digital services as part of one's everyday life as a citizen. We recommend a more involved definition of digital citizenship competences that focuses on the use of digital services, the Internet, ICT tools and social media as part of not only living one's life as a citizen but also as part of political participation, civic engagement and expression of personal political agency.

Ideally, digital citizenship competencies should be more than the sum of their parts (e.g., more than digital competencies plus ICT skills plus media literacy). Many recommendations exist across research. The International Society for Technology in Education suggests it consists of being inclusive, informed, engaged, balanced and alert. Digital citizenship competencies should include competencies for being aware of and acting to maximise goodwill in the context of algorithmic governance and data justice.

## 6.1 Summary of Research Results for EU Policy Use

Before we summarise the research results (from tasks 6.1, 6.2 and particularly 6.3 for EU policy use, but also from knowledge exchange across the consortium in relation to families, education and leisure WPs), it would be useful to refer to here to the EU policy frameworks which address digital citizenship/civic participation.

The EU has committed to 'Communication on the 2030 Digital Compass: the European way for the Digital Decade' (9 March 2021) in section 4:

This European way for the digital society is also based on ensuring full respect of EU fundamental rights: Freedom of expression, including access to diverse, trustworthy and transparent information; Freedom to set up and conduct a business online; Protection of personal data and privacy, and right to be forgotten; Protection of the intellectual creation of individuals in the online space. It is equally important to set up a comprehensive set of digital principles that will allow to inform users and guide policy makers and digital operators such as: Universal Access to internet services; A secure and trusted online environment; Universal digital education and skills for people to take an active part in society and in democratic processes; Access to digital systems and devices that respect the environment; Accessible and human-centric digital public services and administration; Ethical principles for human centric algorithms; Protecting and empowering children in the online space; Access to digital health services.

Proposed principles to realising the Digital Decade are offered in the ‘European Commission proposal for a Declaration of Digital Rights and Principles for the Digital Decade’ (26 January 2022) of the Declaration concerning digital education ‘supporting efforts that allow learners and teachers to acquire and share all necessary digital skills and competences to take an active part in the economy, society, and in democratic processes’ (See Chapter II, p. 3) and also concerning participation in the digital public space:

We commit to: - supporting the development and best use of digital technologies to stimulate citizen engagement and democratic participation. - continuing safeguarding fundamental rights online, notably the freedom of expression and information. - taking measures to tackle all forms of illegal content in proportion to the harm they can cause, and in full respect of the right to freedom of expression and information, and without establishing any general monitoring obligations. - creating an online environment where people are protected against disinformation and other forms of harmful content (See Chapter IV, p. 4).

Similarly, the ‘Council resolution on EU Youth Strategy 2019-2027’ (18 December 2018), which is less specific on digital citizenship but has a more general focus on citizenship, proclaims that

Explore and promote the use of innovative and alternative forms of democratic participation, e.g., digital democracy tools and facilitate access in order to support youth participation in democratic life and engage young people in an inclusive way, whilst being aware that some young people do not have access to the Internet and digital technologies, or the skills to use them.

Lastly, in the ‘Communication on the EU Digital Education Action Plan’ (30 September 2020), there is strategic priority 4.2 on enhancing digital skills and competences for digital transformation. Action 7 and 8 actively support this strategic priority. Action 7 is the production of a set of “common guidelines for teachers and educators to foster digital literacy and tackle disinformation through education and training”. Action 8 is to ‘update the European Digital Competence Framework (DigComp) to include AI and data related skills.’ In March 2022, the European Commission proposed an updated DigComp2.2 which lays out a digital competence framework for citizens. Section 1.1 ‘information and data literacy’ focuses on addressing knowledge, skills and attitudes needed to find and critically analyse online content, with specific learning scenarios for use by children and young people. Section 2.3 ‘engaging citizenship through digital technologies’, clarifies that digital services play a role in constructing participatory spaces and can exclude and divide us. The learning scenario given in this section points directly to children and young people’s civic participation:

I can propose and use different micro-blogs (e.g., Twitter), blogs and wikis, for a public consultation regarding social inclusion of migrants in my neighbourhood to collect proposals on the topic of the group work. I can inform my classmates about these digital platforms and guide them on how to use a particular one to

empower citizenship participation in their neighbourhood.

Furthermore, the EU Child Rights Strategy proposed by the European Commission in March 2021 includes a chapter concerning 'Digital and information society: and EU where children can safely navigate the digital environment, and harness its opportunities.' The strategy clarifies that 'digital technologies allow children to be part of global movements and play the role of active citizens.' Within this proposed text, EU Member States are encouraged to 'support media literacy actions as part of education, to develop children's ability to critically evaluate online content, and detect disinformation and abusive material.' There are also specific actions addressed directly to ICT companies, as actors with significant influence over the realisation of young people's civic participation.

DigiGen seeks to inform these aforementioned EU policy initiatives concerning the conditions contributing to children and young people being negatively impacted and the conditions contributing to children and young people benefitting by ICT use, considering inequalities in socio-economic background, ethnic minority background, gender and disability. In that sense, overall results (see Ayllón, et al., 2020; Ayllón, et al., 2021) point to the following factors, others impacting negatively and others positively on digital citizenship:

1. Digital deprivation, because digital citizenship is not possible when access is a problem, as it is for 5.4% of school-aged children in Europe (23.1% of children and young people are digitally deprived in Romania, while such percentage is only 0.4% in Iceland), with Children that cohabit with low-educated parents, in poverty or in severe material deprivation are those most affected. Hence measures to boost the implementation of the European Pillar of Social Rights principle 20 on access to essential services should include access to digital infrastructure and services as a pre-requisite for digital citizenship.
2. Education and socio-economic standing of the family: The education of parents and caregivers, because those most affected are in families with low-educated parents, in poverty or in severe material deprivation. The EU Child Guarantee (adopted in June 2021 and now in the implementation phase through national action plans) is essential to bridge the digital divide and prevent digital poverty for children and their families. The national action plans on the Child Guarantee should include a stream of actions to for structural support to families as a key environment to empower children and youth as digital citizens.
3. Low digital engagement and low digital confidence are two country clusters with a particular West-East divide. Whereas in Belgium, France, Germany and Spain, the percentages of digitally disengaged children are relatively low, in Eastern Europe, such percentages are high, together with being bullied, and a low level of home possessions also increases the likelihood of being digitally disengaged. The fact that overall digital engagement and digital confidence are important is also reflected in the way qualitative research in Greece shows more appetite for physical, political participation rather than online, as it is more evident in Estonia and the UK.
4. Exclusion of younger children, especially when there is limited range of functions in digital affordances. For example, when younger children are denied access

to things such as a class-chat in schools. Chat functions can allow children from an early age to develop the ability to learn how to participate in an online group community, provide a sense of belonging and help develop online writing skills that are crucial when interacting with elected representatives or community organisations. Also, in youngest children (age 5-10), they can be deterred if they experience things like harassment and trolling and digital surveillance.

5. Directly relating to adolescents, they could be more encouraged and supported to build confidence to combat their fear of participating politically online, and more attention may be given during their education toward allowing for the time to do so (see Karatzogianni et al., 2021; Karatzogianni et al., 2022).

## 6.2 Summary of Research Results for UN SDG

For this section we focus more on the United Kingdom's impetus to implement the United Nations 2030 agenda for sustainable development goals (SDG), which has amplified since the UK's exit from the European Union with the increasing drive for development in business and digital innovations and the promise to provide world-leading technological infrastructure, broadband access for all, bridging inequalities and making the UK the safest place to go online among governments critical priorities in the UK. These priorities closely align with the SDG and connect to several digital citizenship facets. The government has since embarked on implementation, including in areas related to the digital like addressing innovation, safety and online harms, equality, education and skill acquisition for young people and children administered through government ministries and departments. For instance, Goal 3 of the SDGs, which seeks to 'Ensure healthy lives and promote well-being for all ages', aligns with government safeguarding priorities. In response, part of the UK government's delivery plan states: 'We will build efficient, digital-enabling environments where colleagues can use data, intelligence and analytics to work more flexibly and collaboratively to make better decisions. We will use new technology to fight crime, for example, through the National Crime Laboratory' (Home Office, 2021). The Prevent Duty and Online Safety Bill are part of the implementation instruments for online safety.

Goal 4, which 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all', also aligns with the government's priorities for equality and inclusion. The government's response includes boosting young people's skills by providing 'continued access to the skills toolkit, an online platform that gives access to free high-quality digital, numeracy and employability courses that build skills valued by employers' (Department of Education, 2021). Similarly, the Department of Digital, Culture, Media and Sport, about Goal 4 seeks to 'enhance the cohesiveness of our communities and nations including through major events and ceremonial occasions, and reduce inequalities of participation in society, particularly among young people (Department of Digital, Culture, Media and Sports, 2021). Goal 8, 'Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all', the government aims to make the United Kingdom inclusive and the safest place to be online. 'The Department for Education is supporting the most disadvantaged and vulnerable children and young people through high-quality local services

so that no one is left behind' (Home Office 2021). Goal 12. 'Ensure sustainable consumption and production patterns, also promotes supporting disadvantaged and vulnerable groups including children and young people through high-quality local services and the promotion of equalities' (Ministry of Justice, 2021).

In terms of the UN Sustainable Goals, overall, the results of our research show that polarisation in the political culture and the malfunctioning of the digital environment (e.g., dis- and misinformation) are significant triggers that inspire and challenge young people who want to 'do something about it' and have a voice in their communities. This problem links to Goal 4 as it involves education (i.e., ensure inclusive and equitable quality education and promote lifelong learning opportunities for all); attention to the consumption of news Goal 12 (i.e., to ensure sustainable consumption and production patterns); and Goal 3 as it involves adolescents (i.e., to ensure healthy lives and promote well-being for all at all ages).

## 6.3 Summarising Results for Best Practice

Results from the three tasks (6.1, 6.2, 6.3), but also through synergising results across the DigiGen project (e.g. during our Consortium meeting in Leicester Meeting, 17-18 March 2022), we can see that research of ICT use in families, education and leisure points to the fact that children as young as age 5 use digital media to create and begin to develop a kind of digital civic identity, with the family as a political socialiser (see Karatzogianni, et al., 2021). We believe that parents and educators need to be co-producing and enabling that civic identity with engaged parents. The following recommendations were provided through the observations from DigiGen partners WP3 (family), WP4 (leisure), WP5(education). In WP6, we see in our results that participants are very willing to talk about politics and events that have captured their imagination due to the adverse experiences in their communities. This is true even when the mainstream media or national governments do not encourage public deliberation about the issues. For example, young people are willing to use social media and online communities to educate themselves on a news item that is not covered widely or misinformation circulates instead. This is an excellent sign that encouraging young people to investigate online news coverage is a valuable exercise for motivating youth to become more active digital citizens. Overall, in terms of positive and negative practices for children or young people as users of ICT, results from our discussions in a recent Consortium meeting show the following (see also Eickelmann et al., 2021):

1. Young people are aware of threats in the online world (considering responsible behaviour online (e.g., in Estonia).
2. Learning to see the Internet as a tool to inform yourself, whether in a school-related context or only out of children and young people's own interest (Germany).
3. A sense of possibility to learn additional things about social issues beyond school requirements is shared by children (Greece).
4. Children link digital responsibility to how to behave online (Norway).
5. Some young people are aware of some threats online, and most digital

- education has focused on safety online (Romania).
6. Showing video clips helps students develop their thoughts on a topic and develop a greater sense of responsibility (Norway).
  7. Awareness of internet safety is raised by drawing attention to hate speech and cyberbullying, and children are reflecting on this (Germany).
  8. Children have a strong foundation in being critical of sources, and schools focus a lot on looking at multiple sources for information, especially if they are not sure if the information is true/correct or not (Norway).
  9. Online dangers (phishing, frauds, lack of knowledge regarding in-App purchases). Yet, some teachers also worry that students may become too clever in the online world (... and start to hack!).
  10. Blurred lines between school and leisure for both students and teachers. Leisure is considered the opposite of education. School closures during COVID and online schooling challenged the amount of quality leisure time.
  11. Health (physical): headaches and 'digital fatigue' from losing oneself in social media. Teachers and families worry about too much screen time and deterioration of health and fitness.
  12. Misunderstandings in communication between friends via chatting.
  13. Uncritical use of social media, distorted perception of sociability, sexuality and fame, comments on social media can be challenging), being bullied and excluded from groups.
  14. Loss of concentration and challenges in separating computers as a learning and gaming devices. Poor connection between leisure use and developing creativity.

In terms of results indicating good practices enabling civic participation for parents, as DigiGen research into children's ICT use and its impact on family life (see also Lorenz and Kapella 2020) indicated:

1. Parents should be encouraged to use different styles of mediation in relation to Digital Technologies (DT), e.g., regulating screen time, offering co-use and active distractions through other activities and strengthening the general communication in the family about DT. Support to parents should be organised to provide them with the knowledge and suggestions of ways to approach this in parental education.
2. Parents should be (more) aware of their function as role models for children.
3. Learning-by-teaching can occur for all family members – not top-down only.
4. Parents need easily accessible, evidence-based information.
5. Parents need to be encouraged and enabled to cooperate with other persons in relevant systems (e.g., school).
6. Interventions should comprise participatory co-creation of clear rules in the family.
7. They should avoid the situation of a 'lonely child'/excluded child
8. Interventions should ensure children's right to participate in the digital world in general, as many families have no access for various reasons (e.g., digital deprivation)
9. In the digital world, children's rights in different spheres of their life must be ensured as well (e.g., private, family, school)

10. Support for parents who experience insecurities and tensions in their parental mediation practices relating to digital citizenship.
11. Families should be cautious about sharing private information – e.g., through practices like sharenting.

Results across DigiGen, show that school is the arena of first experiences of participation/activism. As a place of discriminatory experiences that lead to participation, an environment that affords or constrains participation/activism, but also as something keeping one from participation because it takes so much time. First participation in mobilisations occurs either at high school or university. As political awareness-raising often occurs through alternative information channels and/or social media, school as such is not considered useful to learn how to become an informed citizen. For that to change, in terms of good digital citizenship practices for educators for the use of ICT for students under 18, relevant DigiGen results (see also Eickelmann et al. 2021) emphasise:

1. Lack of teacher's knowledge leaves some civic participation activities out from the classroom (Estonia).
2. Hardly any education on digital citizenship and political engagement related to ICT (Germany).
3. Social and civic education is taught in the 5th and 6th grades, but no digital citizenship and participation references exist (Greece).
4. Children report having a lot of lessons and discussions in school about being critical of sources and about fake news (Norway).
5. There is basically no education about digital citizenship, European digital values, datafication, no holistic picture of what the digital entails (Romania).
6. Social media is of great importance for children and young people already in the 4th and 5th grades; in this context, only some children receive education about personal data protection and the dangers of hackers (Germany).
7. Discussions with teachers and parents are limited to issues of internet safety and sometimes privacy; no discussions on possibilities for further participation (Greece).
8. Covid-19 has increased the isolation in separate social bubbles, increased cyber-aggression and hatred online, distorted perception of sexual-objectification of women (Romania).
9. Teachers believe they need to teach students to be able to use digital tools in the modern world, both technically but also in terms of privacy (Norway).
10. Children perceive digital competencies and digital skills as a necessary means for professional development, not as an enhancement of one's civic responsibility (Greece).
11. Teachers try to explain how algorithms work and what happens if you, for example, send a nude photo on Snapchat or write something nasty in a comment section of an online newspaper (Norway).

Overall, in relation to industry practitioners, results point to the fact that ICT use enhances everyday communication and maintenance of friendships, even in extraordinary circumstances, such as the pandemic. Gaming and in general

'screen time' help strengthen one's digital competencies (e.g. practising a language, reading coordinates, logical thinking, hand-eye coordination skills), which can have an enabling effect for digital citizenship. Children and young people may develop an interest in politics, obtain information through digital platforms (Twitter, YouTube or creating political memes), and influence the development of normative guidelines/moral codes of conduct, for example, when gaming, as they learn how to deal with conflicts online. This is why the governance architectures for digital gaming, or other social environments that allow children, would need to consider that through them, children and young people can be trained toward enhanced or reduced political behaviour, as future digital citizens.

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## 8. Appendix Sample of visual images from policy documents

### Images from Estonia

Image 1 <https://digipadevus.ee/oppija-digipadevusmudel/>

The illustration of the student's digital competencies starting from top left – info-, and data literacy, interaction and collaboration in digital environments, creating digital content, digital security and safety, problem solving.

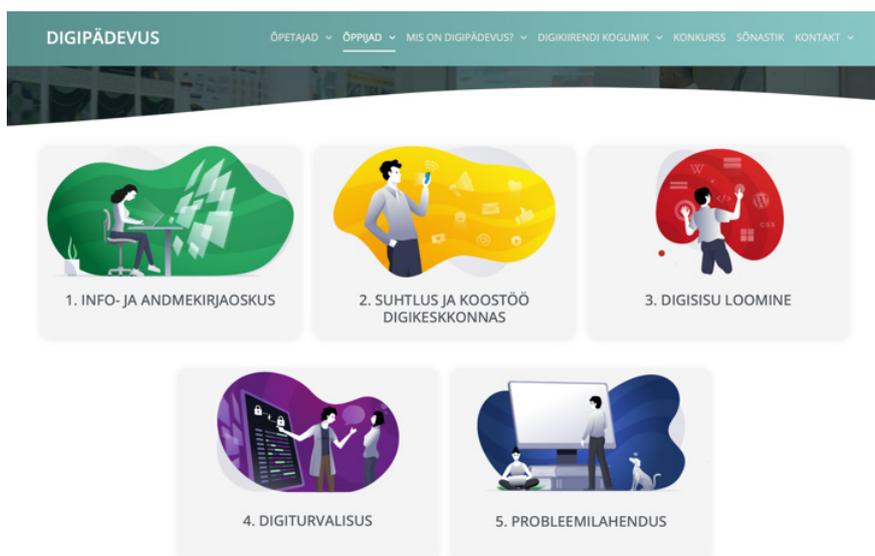


Image 2 <https://digipadevus.ee> The cover images for teacher's digital competencies (purple) and students' digital competencies (green)

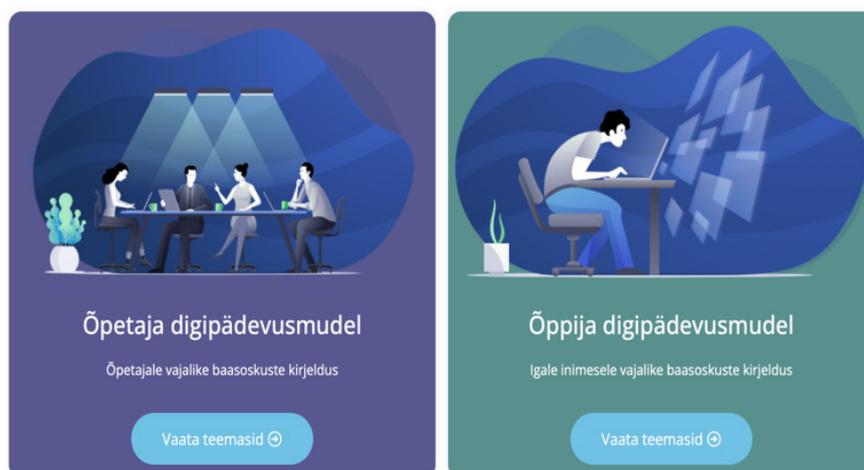


Image 3 [https://www.hm.ee/sites/default/files/meedia\\_t2nud.png](https://www.hm.ee/sites/default/files/meedia_t2nud.png) The image for the media literacy week 2020 - multimedia competition 'One place, one story' The speech bubble above the heads of the bear and the children reads: 'Thank you for sharing your story'.



Images from Greece (translated) from the Institute of Educational Policy (2021) Skills Workshops 21+

Image 4 'I live better - Good Life'

**Ζω καλύτερα - Ευ Ζην**



Image 5 'I take care of the Environment',

**Φροντίζω το Περιβάλλον**



Image 6 'I am interested and act- Social Consciousness and Responsibility',

## Ενδιαφέρομαι και Ενεργώ - Κοινωνική Συναίσθηση και Ευθύνη



Image 7 'I create and innovate- Creative Thought and Initiative',

## Δημιουργώ και Καινοτομώ – Δημιουργική Σκέψη και Πρωτοβουλία



### Images from the UK

Image 8 (UKCIS) United Kingdom Council on Internet Safety (2020) Education for a connected World

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 <p><b>Self-image and identity</b></p> <p>This strand explores the differences between online and offline identity beginning with self-awareness, shaping online identities and media influence in propagating stereotypes. It identifies effective routes for reporting and support and explores the impact of online technologies on self-image and behaviour.</p>	 <p><b>Online relationships</b></p> <p>This strand explores how technology shapes communication styles and identifies strategies for positive relationships in online communities. It offers opportunities to discuss relationships, respecting, giving and denying consent and behaviours that may lead to harm and how positive online interaction can empower and amplify voice.</p>	 <p><b>Online reputation</b></p> <p>This strand explores the concept of reputation and how others may use online information to make judgements. It offers opportunities to develop strategies to manage personal digital content effectively and capitalise on technology's capacity to create effective positive profiles.</p>	 <p><b>Online bullying</b></p> <p>This strand explores bullying and other online aggression and how technology impacts those issues. It offers strategies for effective reporting and intervention and considers how bullying and other aggressive behaviour relates to legislation.</p>
 <p><b>Managing online information</b></p> <p>This strand explores how online information is found, viewed and interpreted. It offers strategies for effective searching, critical evaluation of data, the recognition of risks and the management of online threats and challenges. It explores how online threats can pose risks to our physical safety as well as online safety. It also covers learning relevant to ethical publishing.</p>	 <p><b>Health, well-being and lifestyle</b></p> <p>This strand explores the impact that technology has on health, well-being and lifestyle e.g. mood, sleep, body health and relationships. It also includes understanding negative behaviours and issues amplified and sustained by online technologies and the strategies for dealing with them.</p>	 <p><b>Privacy and security</b></p> <p>This strand explores how personal online information can be used, stored, processed and shared. It offers both behavioural and technical strategies to limit impact on privacy and protect data and systems against compromise.</p>	 <p><b>Copyright and ownership</b></p> <p>This strand explores the concept of ownership of online content. It explores strategies for protecting personal content and crediting the rights of others as well as addressing potential consequences of illegal access, download and distribution.</p>



Image 9 from Ofcom (2021) Ofcom's Approach to Online Media Literacy



Image 10, 11, and 12 are from Demos (Reynolds and Scott, 2016: 58-60)

Image 10 Interactive conversation thread on online extremism

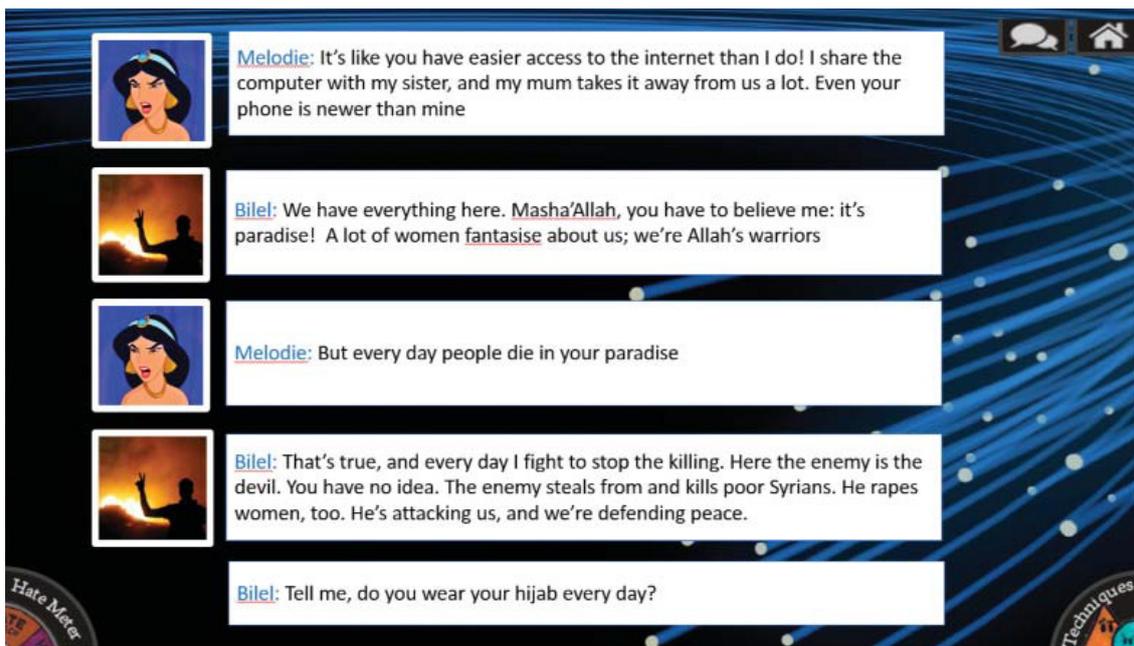


Image11 The hate-o-meter, part of the digital resource

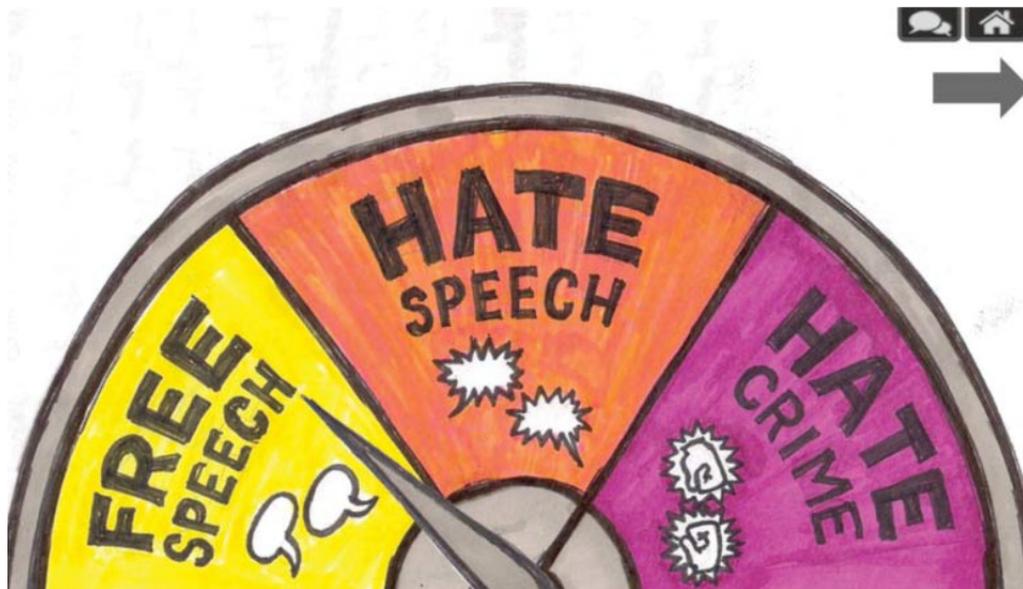


Image 12 illustrating echo chambers, a key concept





## DigiGen

### Project background

The DigiGen project develops significant knowledge about how children and young people use and are affected by the technological transformations in their everyday lives. The project is uncovering both harmful and beneficial effects of technology in the everyday lives of children and young people. This includes a focus on the family, educational institutions, leisure time and children and young people's civic participation.

DigiGen is providing new knowledge about the barriers and opportunities that children and young people from a variety of backgrounds experience in relation to technology. The project is developing effective social, educational, health and online safety policies and practices in collaboration with national and international stakeholders.

The project combines various research methods to develop new robust participatory methodologies for including children and young people as co-researchers, co-creators and co-designers. The diverse and innovative data collection methods include a mixed-methods study design and methodological triangulation, multisite and comparative ethnographic studies, multimodal approach, interviews and diaries. The interdisciplinary research team for this Horizon 2020 project comes from nine European countries.

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This project has received funding from the European Union's Horizon 2020 research and innovation program under the grant agreement No. 870548. Neither the European Union nor any person acting on behalf of the Commission is responsible for how the information in this policy brief is used. The views expressed in this publication are the sole responsibility of the authors and do not necessarily reflect the views of the European Commission.