



coliblite

COLIBLITE National Report
United Kingdom

August 2018



Erasmus+



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PART 1 - State of the art of digital citizenship and 21st century skills of youth in England

Chapter 1 - Reference frameworks and definitions of digital citizenship in the UK

1.1 Introduction and Definitions

While digital citizenship as a term is increasingly recognized as important – akin to traditionally defined “citizenship”, different terms have been adopted by different bodies to describe the importance of the topic we are looking to address in this chapter. Digital literacy, digital competency, digital inclusion, digital citizenship, are often used to refer to similar things and are often used interchangeably. Furthermore, as yet, there is no agreed definition of what is understood by basic digital literacy/skills/competency in the context of 21st century citizenship.

This chapter attempts to present some initial findings around the general understanding of what digital citizenship consists of. It will also seek to highlight discrepancies particularly between the understanding promoted among schools, libraries and communities.

1.2 Brief Context on Digital Skills in the UK

A report published by the Digital Skills Committee in 2015 highlighted that around 9.5 million people in the UK lack a minimum level of digital skills¹. It highlighted significant concerns for persons with a disability, those over 75, those with no formal qualifications and those in social housing. Despite increasing access to the internet in the household among adults (86% in 2016), and internet on the go (75% of adults in 2016), 10% of the adult population had never used the Internet.

In 2016, 87% of children aged 5-15 went online². Since then, there has been an increase in the use of the internet by children between the ages of 3-11, owing largely to the increased use of tablets³. Over 2016, the online time of 3-4 year olds last year increased from 6 hours 48 minutes to 8 hours 18 minutes a week, and 12-15 year olds were spending more than 20 hours a week online⁴.

¹ Select Committee on Digital Skills (2015). *Make or Break: The UK's Digital Future*. London: The Stationery Office Limited, p.31. [online] Available at: <https://publications.parliament.uk/pa/ld201415/ldselect/lddigital/111/111.pdf> [Accessed 2 Mar. 2018].

² Department for Digital, Culture, Media & Sport (n.d.). *Dashboard Digital inclusion*. [online] Available at: <https://www.gov.uk/performance/digital-inclusion> [Accessed 2 Mar. 2018].

³ Ofcom (2017). *Children and Parents: Media Use and Attitudes Report*. [online] Available at: https://www.ofcom.org.uk/data/assets/pdf_file/0020/108182/children-parents-media-use-attitudes-2017.pdf [Accessed 2 Mar. 2018].

⁴ Children's Commissioner (2017). *Growing Up Digital. A report of the Growing Up Digital Taskforce*. [online] Available at: https://www.childrenscommissioner.gov.uk/wp-content/uploads/2017/06/Growing-Up-Digital-Taskforce-Report-January-2017_0.pdf [Accessed 2 Mar. 2018].

The picture for particular groups such as disadvantaged youths is not as encouraging. A detailed comparative report by the Prince's Trust, a leading youth organisation in the UK, reveals that there are significant discrepancies in: access to digital devices and internet, "netiquette"⁵ skills, safe online use and positive behaviour management online, and softer digital skills such as self-presentation and communication⁶. When managing negative online experiences online, youths from disadvantaged backgrounds use more passive or disruptive coping strategies such as "offlining" (refraining from using particular social media platforms or online resources) or "fatalistic" tactics (using statements such as "toughen up" "ignore it" or "nothing to be done"). 50% of young people not in education or training were distrustful whilst online, compared to 38% of other employed young people or young students. Disadvantaged young people have less wide networks of expert support. Young people who are economically disadvantaged arguably need a wider use of the internet (as a way to improve their financial situation), however tend to experience more frustration online, and therefore report lower outcomes from their online use of the internet, particularly for economic, employment or educational outcomes.

Problems exist also among graduates. For example, computer science graduates have a 10% unemployment rate, higher than any other degree course, 6 months following graduation – partly due to the mismatch between skills taught and skills needed by employers⁷.

Among teachers, research available suggests extensive problems in secondary schools, where only 35% of ICT teachers have relevant qualifications and resources are often ineffective⁸. Such evidence prompted the change from the ICT curriculum to a Computing curriculum in September 2014, designed at addressing shortcomings in the delivery and reception of digital skills education at all four key stages (primary and secondary, ages 5-16). The change in curriculum was met with some resistance from teachers. Government initiatives to upskill teachers in order to be ready to deliver this curriculum, such as the Network of Excellence⁹ (NoE) established in 2012, are not mandatory¹⁰.

1.3 Basic Digital Skills Framework

In 2015, Go ON UK set out the Basic Digital Skills Framework¹¹ which identifies five main areas of digital capability as minimum standards for individuals and organisations. The 5 areas identified are:

⁵ Defined as 'the rules of etiquette that apply when communicating over computer networks, especially the Internet.'
<https://www.dictionary.com/browse/netiquette>

⁶ The Prince's Trust (2016). *Slipping through the Net. Are disadvantaged young people being left further behind in the digital era?*, London.

⁷ Department for Digital, Culture, Media & Sport (2017). *Digital skills and inclusion - giving everyone access to the digital skills they need*. [online] Available at: <https://www.gov.uk/government/publications/uk-digital-strategy/2-digital-skills-and-inclusion-giving-everyone-access-to-the-digital-skills-they-need> [Accessed 2 Mar. 2018].

⁸ The Science and Technology Committee (2016). *Digital Skills Crisis*. Available at: <https://publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/27006.htm> [Accessed 2 Mar. 2018].

⁹ Computing At School (2018). *Network of Excellence*. [online] Available at: http://www.computingschool.org.uk/custom_pages/35-noe [Accessed 2 Mar. 2018].

¹⁰ The Science and Technology Committee (2016). *Digital Skills Crisis*. Available at: <https://publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/27006.htm> [Accessed 2 Mar. 2018].

¹¹ The Tech Partnership. (2018). *Basic Digital Skills Framework 2015*, The Tech Partnership. [online] Available at: <https://www.thetechpartnership.com/basic-digital-skills/basic-digital-skills-framework/basic-digital-skills-framework-2015/> [Accessed 29 Aug. 2018].

- Managing Information
- Communicating
- Transacting
- Problem solving
- Creating

The themes of Safety and Security run across all 5 categories.

Below is a detailed description of the five skills identified in the 2015 framework:

Table 1: Get Digital basic skills framework

Basic Digital Skills Definition For Individuals and Organisations					
Skills	Managing Information	Communicating	Transacting	Problem-Solving	Creating
Description	Find, manage and store digital information and content	Communicate, interact, collaborate, share and connect with others	Purchase and sell goods and services; organise your finances; register for and use digital government services	Increase independence and confidence by solving problems and finding solutions using digital tools	Create basic digital content in order to engage with digital communities and organisations
Safety	Identify and assess accurate sources of information; use security tools when browsing the web; regularly update and run virus checking software; manage parental controls	Understand how to manage your identities, protect yourself from scams; use the right security settings (including parental controls); protect your customer data	Use secure websites for financial transactions; protect your personal data; respect the privacy of others/third parties	Use accurate sources of support; avoid malicious websites, scams and popup windows	Be aware of copyright law; protect your personal data; respect the privacy of others
Actions for Individuals	<ul style="list-style-type: none"> Use a search engine to find the information you need Search for deals on comparison websites Bookmark useful websites and services Store data on a device or in the cloud 	<ul style="list-style-type: none"> Keep in touch using email, instant messaging, video calls and social media Post on forums to connect with communities Communicate with organisations about their products and services 	<ul style="list-style-type: none"> Understand and use marketplaces to buy and sell Order your shopping Book your travel Manage your bank account Set up and manage a Universal Credit account 	<ul style="list-style-type: none"> Teach yourself simple tasks using tutorials Use feedback from other internet users to solve common problems Access support services 	<ul style="list-style-type: none"> Create a social media post Create a text document such as a CV Create and share a photo album Create and share feedback about products and services
Actions for Organisations	<ul style="list-style-type: none"> Store digital information on suppliers and customers Search for new suppliers to find the best deals Understand who uses your website Discover potential growth opportunities for your business 	<ul style="list-style-type: none"> Maintain customer and client relationships Use social media to promote your business and connect with new customers Improve your customer service by providing accessible product information and answers to frequently asked questions 	<ul style="list-style-type: none"> Maximise your selling potential through a website Save time by applying for government business permits and licences Receive payments or donations Protect yourself from fraud or scams 	<ul style="list-style-type: none"> Save on business travel and be more efficient by using video conferencing Use business support websites and basic how to guides Quickly understand which products and services work based on online feedback Interpret simple analytics to improve website performance Get solutions to problems from safe, accurate sources 	<ul style="list-style-type: none"> Create an informational or e-commerce website Create content (pictures, logos, text) to promote your organisation and reach customers Use social media and create communities to engage with customers Create resources to improved employee skill levels

Source: The Tech Partnership¹²

¹² The Tech Partnership. (2018). *Basic Digital Skills Framework 2015*, The Tech Partnership. [online] Available at: <https://www.thetechpartnership.com/basic-digital-skills/basic-digital-skills-framework/basic-digital-skills-framework-2015/> [Accessed 29 Aug. 2018].

The framework has recently been put out for consultation. The new framework seems to have been revised to include only four of the five skills identified as basic digital skills.

Table 2 and Table 2 below provide description of the skills falling under these competencies for life, and for work respectively.

Table 2: Basic Digital Skills Framework for Life

Basic Digital Skills Framework: Basic Digital Skills for Life

LIFE	Managing information	Communicating	Transacting	Problem solving
Description	Find, manage and store digital information and content securely.	Communicate, interact, collaborate, share and connect with others demonstrating secure practices.	Purchase and sell goods and services, organise your finances, register for and use digital government services, whilst protecting personal data and respecting others' privacy.	Increase independence and confidence by solving problems and finding solutions using digital tools; identify malicious websites, links, pop-up windows and associated scams.
Skills	Use a range of different search engines effectively to find information online Recognise that while online content may seem to be real, this does not make it either true or reliable Find and use apps and bookmark/use websites that allow you to find the information you need Store and retrieve information on your own device or remotely in the cloud. Recognise the use of cookies on websites, how they track your activity and direct advertising.	Communicate with others directly using email and other messaging systems, on your computer and mobile devices. Post messages, photos, videos or blogs using appropriate social media applications and forums. Complete online forms in order to communicate with organisations about their products and services. Be able to make use of accessibility tools on devices to make them easier to use	Use online retailers to purchase goods and services. Set up and manage an online account for buying goods and services. Transact online with Government and other public services including health providers. Use different payment systems for online payment, including credit/debit card, direct bank transfer, PayPal, phone account etc. ensuring they are trustworthy.	Find help and information through search engines Find help through dedicated sources of online support such as tutorials or frequently asked questions (FAQs) or through support offered via video sharing and other websites or apps, and chat facilities. Access support services on Government and other public-sector websites by using correct links on the site.
Safety and security	Keep systems, access and personal information secure. Apply copyright requirements when using digital photos, images and documents.	Identify emails that contain untrusted links and be able to identify where different communications methods may not be encrypted.	Operate online transactions safely and securely.	Seek only trusted sources of online help and support. Identify where websites may contain malicious links and pop-ups that should be avoided.
Examples	<i>Search for products and prices. Use photo gallery websites to share images with friends or family. Search for the best deal on comparison websites and compare between websites to optimise the outcomes.</i>	<i>Post a new discussion on social media according to their rules of etiquette and ethics. Type and print a letter using a word processing package. Post a review of a product or service on a retailer's website or app. Change display or input settings on mobile phones to improve access</i>	<i>Set up online accounts for services with banks or the government. Set up retail accounts to purchase goods online (stores, eBay etc.). Use online travel websites and apps safely to book tickets and make reservations. Set up an account with your GP to book appointments or order repeat prescriptions</i>	<i>Identify the licensing requirements of your own software applications you are interested in using.</i>

Source: *The Tech Partnership*¹³

¹³ The Tech Partnership. (2018). *Basic Digital Skills Framework: Basic Digital Skills for Life*, The Tech Partnership. [online] Available at: https://www.thetechpartnership.com/wp-content/uploads/2018/01/BasicDigitalSkillsforLife_Consultation_22Jan18.pdf [Accessed 29 Aug. 2018].

Table 3: Basic Digital Skills Framework for Work

Basic Digital Skills Framework: Basic Digital Skills for Work

WORK	Managing Information	Communicating	Transacting	Problem-solving
Description	Find, manage, store and present digital information and content relating to employment securely.	Communicate, interact, collaborate, share and connect with others securely in a business context.	Purchase and sell goods and services, and interact with financial systems whilst protecting personal and company data and respecting others' privacy.	Increase independence and confidence by solving business-related problems and finding solutions using digital tools; identify malicious websites, links, pop-up windows and associated scams.
Skills	Apply search terms to generate better results whilst searching for information. Gather and organise information from different digital sources. Organise information using files and folders. Use storage, including the cloud, to store files, photos and other data. Qualify information sources, evaluating their reliability and suitability for a purpose. Synchronise information across different devices. Make use of standard analytical tools in applications to better interpret information.	Use a range of contemporary digital media to communicate with others in business. Set up and use email address books and contact lists. Use online video conferencing or direct messaging applications to communicate with others. Select communication modes for different business interactions. Contribute to online networks and communities. Use business etiquette when communicating. Share information securely with colleagues through the cloud	Create and maintain a secure online identity, recognising own digital footprint and the long term impact of all online activity. Make use of online learning resources (e.g. tutorials or videos). Apply the requirements of copyright and intellectual property rights when using online content. Use shared and cloud-based online digital applications. Follow licensing guidelines, using only approved and licensed software applications.	Can contact a helpdesk or seek online help to solve a problem. Plan learning in basic digital skills by making use of available resources including online tutorials, FAQs and advice forums. Keep up to date with digital developments in the work environment adopting new techniques to improve productivity in business. Make use of online gallery sites to store and share images and video. Use different multimedia formats according to purpose.
Safety and security	Follow business privacy and security policies when accessing systems and handling business information.	Adopt professional approaches to using digital communications and social media.	Conduct business transactions safely and securely.	Seek support from approved sources and escalate security related issues.
Possible examples	Use a spreadsheet to perform standard calculations. Create and print a poster or leaflet. Use open source applications and digital resources. Build a basic webpage using standard tools.	Use calendars and organisers to set up meetings, and manage time and task competition demands. Use different document formats such as PDF to make it easier to store and share documents.	Complete business transactions securely when purchasing goods for business. Process invoices and payments as required. Review own pay slip and salary payments when received digitally .	Explore the functions and features of common software applications to optimise their use and output. Customise settings in software packages to make them easier to use. Use multimedia for photos, video, audio and animation.

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For consultation

Source: *The Tech Partnership*¹⁴

The Tech Partnership and Lloyds Bank have opened this framework up for consultation until the 20th of March 2018, promising that “*The Department for Education (DfE) and the Department for Digital, Culture, Media and Sport (DCMS) plan to use the updated Framework as the basis for developing new national standards for basic digital skills*¹⁵.”

The updated framework following the consultation period and revisions has now been published. It has been rebranded as the Essential Digital Skills Framework and is the product of careful research and wide consultation. The diagram below sums up the framework.

¹⁴ The Tech Partnership. (2018). *Basic Digital Skills Framework: Basic Digital Skills for Work* [online] Available at: https://www.thetechpartnership.com/wp-content/uploads/2018/01/BasicDigitalSkillsforWork_Consultation_22Jan18.pdf [Accessed 29 Aug. 2018].

¹⁵ The Tech Partnership. (2018). *The Tech Partnership and Lloyds Banking Group take the lead to set the UK up for digital success* [online] Available at: <https://www.thetechpartnership.com/news/tech-partnership-lloyds-banking-group-take-lead-set-uk-digital-success/> [Accessed 29 Aug. 2018].



Figure 1 Essential Digital Skills Framework¹⁶

1.4 National Digital Strategy

The UK Government’s Digital Strategy¹⁷, published in March 2017 will be implemented by the Department for Digital, Culture, Media and Sport and is primarily driven by the need for digital skills to increase employability in this digital age. No clear dates for when the goals outlined are expected to be achieved, although some specific targets are aimed at completion by 2020. The Strategy outlines seven priorities, out of which 2 are most relevant to the COLIBLITE priorities:

1. **‘Giving everyone access to the digital skills they need’¹⁸**

This strategy suggests that free basic digital skills training should be available for those who do not have core digital skills. The proposed Digital Skills Partnership that will address this strand, will be made up of close ties between technology companies, businesses, local government and other organisations to help people build their digital skills to be able to move

¹⁶ The Tech Partnership. (2018). *Essential Digital Skills Framework* (2018) Available at: <https://www.thetechpartnership.com/basic-digital-skills/basic-digital-skills-framework/> [Accessed 31 Aug. 2018].

¹⁷ Department for Digital, Culture, Media & Sport (2017). *UK Digital Strategy*. Available at: <https://www.gov.uk/government/publications/uk-digital-strategy>

¹⁸ Department for Digital, Culture, Media & Sport (2017). *UK Digital Strategy*. Available at: <https://www.gov.uk/government/publications/uk-digital-strategy>

into work, or adapt to an increasingly digital workplace. Interestingly, schools and libraries do not feature specifically within this partnership which has a strong focus on employment rather than education. The strategy will continue to address the impact of education on the future workforce by:

- Delivering coding skills as part of the National Curriculum, from Key Stage One onwards. (These skills have been incorporated into the curriculum in 2014, however there have been notable shortages in teacher's skills that may have impacted actual delivery).
- Providing skills to computer science students that are up-to-date and that reflect needs in the digital economy.
- Making changes to the education of computer science students in higher education.
- Piloting new ways to *'help more young people from a wider range of backgrounds consider a career in tech¹⁹*, through the work of the National Citizen Service (NCS), aimed at youths.

2. ***'Making the UK the safest place in the world to live and work online²⁰***

This strategy seeks to *'ensure that the UK has a pipeline of cyber skills that meets its current and future needs²¹*. It proposes running *'a national after-school programme for the most talented students, cyber as well as apprenticeships, and adult retraining²²*.'

'To stop children's exposure to harmful sexualised content online, we will continue to support companies to roll-out family-friendly filters to all broadband customers and introduce age verification controls for access to online pornographic material provided on a commercial basis in the UK²³.'

1.5 What is Digital Citizenship?

This report has covered some ground in understanding the definition of digital skills and frameworks developed or adopted in the UK. The definition of citizenship is less clear. Generally, the concept covers 'rights' and 'privileges' on the one hand, and 'duties' and 'responsibilities' on the other. Aristotle describes the citizen as 'one who has a share in both the ruling and being ruled'. Citizenship can be taught as it applies to the United Kingdom, or as it applies globally.

We can also look at a definition of essential citizenship skills of the UK Institute for Citizenship. "Citizenship life skills are about a person's ability to understand and participate in the institutions, economics, politics, laws, rights and responsibilities of civic and civil society. Citizenship education, taught successfully, aims to give people the knowledge, confidence and skills to become active citizens, acquiring the skills that enable us to participate in the decisions that shape our future".

Therefore if we combine the two concepts one can argue that "Digital citizenship involves applying digital skills in order to maximise the rights of belonging to communities and wider society, whilst fulfilling the responsibilities of such membership."

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Ibid.

²³ Ibid.

1.6 Definitions of Digital Citizenship in Schools

An understanding of what competent ‘digital skills’ provision in schools is not clear or straight forward, from what we can observe so far. Overall, it seems that the understanding is that the definition for schools is increasingly defined by employers concerned about the skills mismatch in the future workforce²⁴. The Basic Digital Skills Framework is perhaps the most comprehensive approach so far to define digital skills both in a life and work setting. It is not yet clear whether and how this framework will be adopted in schools.

1.7 Definitions of Digital Citizenship adopted in Libraries

Interestingly, libraries in London have their own benchmarks to follow when it comes to the provision of digital skills services, that is independent from Government strategy. Guidance on what an excellent library should offer comes primarily from the Society of Chief Librarians. The Society of Chief Librarians identifies five Universal Offers which are considered ‘*integral to a 21st century library service*²⁵.’ This includes the:

- Learning Offer
- Information Offer
- Reading Offer
- Digital Offer
- Health Offer

As yet, the digital offer is identified individually, rather than incorporated into the other offers and services of the library. In practice however, one often finds that the different offers come together. For example, when a library offers a coding club for young children and teens, they are achieving both a ‘learning offer’ and a ‘digital offer’ simultaneously.

According to the Society of Chief Librarians’ guidelines²⁶, as part of the digital offer, libraries should be able to offer at least:

- free access to the internet,
- information about the library services available online
- trained staff to support library users in accessing digital information

Although these definitions may seem fairly simple to implement, there is no uniform definition for what ‘digital staff competency’ is in this context, that is used across libraries. Understandably, libraries need to cater for a very wide range of users, from children, to parents and families, to teen students and more advanced learners. They also need to move along quickly with technological developments – for example a library designed 10 years ago may not have been designed with the extensive digital

²⁴ Department for Digital, Culture, Media & Sport (2017). *UK Digital Strategy*. Available at: <https://www.gov.uk/government/publications/uk-digital-strategy>

²⁵ Society of Chief Librarians. (2018). *Home*. [online] Available at: <http://goscl.com/> [Accessed 29 Aug. 2018].

²⁶ Elford, E. (2018). *Digital Offer*. [online] Society of Chief Librarians. Available at: <http://goscl.com/universal-offers/digital-offer/> [Accessed 29 Aug. 2018].

needs of today's visitors. People may come in with two or three devices that need to be plugged in simultaneously. Infrastructure is the primary concern and may be challenging.

Beyond infrastructure, the definition of what a digitally competent librarian is likely to range vastly in practice. We know that often for more advanced digital skills, such as coding, libraries often rely on volunteers or external partners to deliver such expertise within libraries, however as more millennials join the library workforce, we may start to notice changes to the range of digital staff competencies available among library staff.

1.8 Conclusion

In conclusion, universal or shared definitions of digital competency are still largely lacking. This is unsurprising, as 'definitions' are always written by *someone* for a *purpose*. In this case – the authors are numerous (individual citizens, schools, libraries, governments, businesses and communities). The purpose is also very wide-ranging and variable. Each institution will seek to adapt a definition that fits with the purposes of the services that it offers and its mission. This will be different in schools, in libraries, in communities, and in all other settings.

The aim of the COLIBLITE project is to approach this diversity with a horizontal approach – one that understands the intricacies and links between the definitions used by schools, libraries and communities. In order to achieve such a definition, one has to consider the breadth of functions that the definition is intended to cover. There are many ways this can be done.

The broadest form of definition needs to capture the needs of the individual citizen, the needs of the family, the needs of the community as a whole, as well as needs at a global level such as for instance the ethics of peace keeping and global development via digital media.

From an education perspective, it needs to encapsulate; a) the formative process of educating children and adults to create and participate ethically and pro-actively in a digital world, b) the formal educational process of preparing the workforce for the digital economy and labour market needs of the future.

At base, this discussion is simultaneously philosophical, sociological, psychological, cultural and industrial – and needs to incorporate all of these disciplines as best as possible.

Chapter 2 - Skills of children and youngsters concerning digital citizenship 21st century skills

In the first chapter we have looked at the UK context with regards to digital citizenship, and more specifically at the definitions adopted in the various domains that this project works in. This chapter will look more closely at the skills of young people and children and how these intersect with their digital capabilities today.

2.1 Children’s Perceptions of their Digital Citizenship Skills & Competencies

We will start by presenting the findings from our activity with 12 children aged 9-14. We used the Digital Compass²⁷ – an activity involving online role play to explore decision-making in children’s digital lives, as well as a follow-up discussion and writing activities to tease out any further concerns and ideas among the children participating. Below is a table suggesting skills and competencies associated with topics that the children mentioned as being important to their and their peers’ digital citizenship development:

Table 4: Basic Digital Skills Framework for Work

Theme 1: Peer Pressure & Cyber Bullying	
Resilience	Children seemed to be aware of the importance of choosing their own personal identity, and not succumbing to peer pressure.
Critical awareness	Some apps do more harm than good (ex. apps that enable you to judge others based on their appearance) – This is not good practice and better controls should be in place.
Theme 2: Online Posting	
Sharing	Seemed to be aware of the responsibility they bear in an environment that is shared with others (ex. Online posting) (when posting things online and how they affect others)
Theme 3: Online Risks	
Knowledge about online risks	Someone asked what is “grooming” – indicating a lack of awareness and understanding among younger children Mentioned sexting, scams & hacking, over-exposure Being safe online and mindful of who you talk to.

²⁷ Digital Compass is an online game which uses cartoon characters to exemplify real-life ethical choices young people have to make in the digital world. Young people can choose a character and have to make decisions on behalf of the character. The decisions they take lead them down particular pathways. Students have the opportunity to reflect on these pathways and re-attempt the game to improve their score by making better choices. This game can be found at <https://www.brainpop.com/games/digitalcompass/> (last accessed, 28th August 2018).

	Hacking - This topic is not mentioned in school. Students want to know more about it, because there isn't enough information and they know it's wrong. They also want to know what to do if someone hacks you – how do you fix it. (Suggests subjects such as ethical hacking)
Theme 4: Gaming & Use of Apps	
Knowledge of gaming & associated risks	Seemed to be aware of the cost of in-app purchasing
Theme 5: Dealing with Ethical Dilemmas Online	
Ethical Decision-making skills & Moral Judgement	<p>Talked about the importance of reflecting and weighing the pros and cons when making decisions about ethical dilemmas.</p> <p>However, agreed that it is easier said than done (ex. not joining in the fun when an app is expensive or unethical). – Suggests the need to move away from knowledge-based learning and focus instead on building strength & resilience in real life scenarios (ex. using role plays, case studies, role modelling...)</p> <p>Lying & Trusting – ex. should you help your friends when they lie or not?</p>
Theme 6: Social Media	
Self-Esteem, Self-Confidence	<p>Attention-seeking behaviour online</p> <p>Spreading rumours and arguing</p>
Theme 7: Openness	
Emotional Intelligence, Self-Regulation,	One student said that it is good to be aware of what is happening and what is around. Suggests that restrictive measures are not always the best solutions to improve students' learning.
Openness to Learning, Self-Efficacy	There seems to be awareness that downloading an app does not mean you have to go along with everything in it. You can always unsubscribe, uninstall, you don't have to engage in behaviour that is not appropriate. – Indicates the benefits of a positive explorative attitude when coupled with suitable education. Children can be open to learning but simultaneously cautious about the existing risks and dangers around them.
Theme 8: Impulsivity, Lack of Control & Addictions	
Self-Regulation	One student mentioned impulsivity and lack of control – ex. compulsion to go online (addiction) and difficulty making connections between one's actions in the online world, and its consequences in the offline world. Inability to consider the real-life consequences of actions taken in games.
Theme 9: Fast-paced Development	
Innovation	The fast pace of development (rate at which new apps are adopted) means that those using older apps are unable to find help. No one is using the old apps.
Theme 10: Loneliness, Jealousy	

Emotional Intelligence; Skills to deal with emotions associated with use of digital devices and internet	Loneliness - Being left out; Difficulty with friends and making friends. Feeling left out and ignored in conversations. Jealousy and overcoming it.
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Our findings show that children can identify a broad range of issues that they feel are important to develop. There is also an indication that some children have already developed skills and techniques to navigate the digital world and sometimes feel ready for a less restrictive approach that acknowledges their agency in dealing with negative or risky digital environments.

2.2 Parents’ Perceptions of their Children’s Digital Citizenship Skills

According to a recent study²⁸, parents overestimate the digital competency of children because they were born in the digital world and therefore have had greater access to it. Parents also tend to associate the importance of digital citizenship with older children and teens and diminish its importance and relevance for younger children (0-8). This despite the fact that the study has shown that younger children are also exposed to inappropriate content and situations that require good digital skills. Furthermore, younger children have limited cognitive development capacity to deal with this indicating that digital citizenship skills may be more important and relevant to them.

2.3 Children’s Cognitive Development

Children and young people’s cognitive development is restricted by their biopsychosocial development. Although all children develop differently, psychologists have identified stages that broadly allow us to understand different cognitive abilities seen in different age groups. Jean Piaget²⁹ identified four stages of development. According to his theory, as early as age two children develop ‘object permanence’ – they learn that objects continue to exist even when they cannot be seen, and they realise that their actions have consequences in the real world around them. This is called the sensorimotor stage. Between ages 2-7 children may still struggle to see the world from the perspective of others and may judge things at face value – sometimes incorrectly. This is called the preoperational stage. Between ages 7 and 11, children are starting to think more logically. For instance, they can now understand that 100 coins of 1p each cost the same as a single £1 coin, or that a long and thin glass may contain the same amount as a shorter but wider one. Children also develop empathy and are able to consider what something might look like from another person’s perspective. At this age, children also start to understand that others may not feel, think, perceive things in the same way as they do.

²⁸ Chaudron, S. (2015). *Young Children (0-8) and Digital Technology. A qualitative exploratory study across seven countries*. JRC Science and Policy Reports. Luxembourg: European Union.

²⁹ Cherry, K. (2018). *The 4 Stages of Cognitive Development. Background and Key Concepts of Piaget’s Theory*. [online] Verywell Mind. Available at: <https://www.verywellmind.com/piagets-stages-of-cognitive-development-2795457> [Accessed 29 Aug. 2018].

This is called the concrete operational stage. Abstract thinking only emerges in the formal operational stage (from age 12 upwards). At this stage children can consider hypothetical situations and able to grasp subjects such as morality, ethics and politics and their ability to plan for the future is heightened.

2.4 Children's Moral Development

We have seen in recent events³⁰ that what is right and wrong in the digital world is not always clear and straightforward. As a relatively new mode of living, individuals, corporations and governments are often just trying to implement ways to monitor and control behaviour online in order to ensure that a justice system is implemented in the same way it has been established in the offline world.

Kohlberg's³¹ stages of moral development describe the ability of young children to reason out ethical dilemmas and the reasons they use for them. According to Kohlberg, before the age of 10 children operate at the pre-conventional level of morality. They determine what behaviour is right or wrong based on the punishments or rewards associated with it. Therefore, they would behave well or be obedient in order to avoid punishment, although later on in this stage they do realise that different views of what is right and wrong may be held by different authorities.

According to a study by Stephane Chaudron³², parents of children under 8 "*set rules to limit children's access to digital technology mainly through time limits and restrictive condition of use (a short selection of games or videos, strictly off-line, passwords).*" In accordance with Kohlberg's model of cognitive development, "*most children [at this age] integrate and respect the rules quite easily although in 9 some cases rules seem unclear and arbitrary especially for younger children that do not have the cognitive maturity to grasp the concept and duration of time.*" Nevertheless, parents still seemed to have a poor actual knowledge of the activities their children were undertaking online and were sometimes unaware that the children were easily able to bypass certain safeguards such as passwords and filters.

Most adolescents and adults operate at the conventional morality. This means that their behaviour is largely motivated by the need to maintain good interpersonal relationships and social order. Authority is therefore internalised, but not questioned and one's views on morality are often congruent with those of the norm. In view of the development of older children's cognitive and moral development, Chaudron found that older siblings '*play the role of tutor or controller when tailoring tools or settings of use adapted to their younger siblings*³³', thereby buffering online and digital risks for their younger siblings.

Only about 10%-15% of people achieve a post-conventional morality that is characterised by a questioning of existing principles and an understanding that rules and laws might benefit some and

³⁰ Freedland, J. (2018). Zuckerberg got off lightly. Why are politicians so bad at asking questions?. *The Guardian*. [online] Available at: <https://www.theguardian.com/commentisfree/2018/apr/11/mark-zuckerberg-facebook-congress-senate> [Accessed 29 Aug. 2018].

³¹ McLeod, S. (2013). *Kohlberg's Stages of Moral Development*. [online] Simplypsychology.org. Available at: <https://www.simplypsychology.org/kohlberg.html> [Accessed 29 Aug. 2018].

³² Chaudron, S. (2015). *Young Children (0-8) and Digital Technology. A qualitative exploratory study across seven countries*. JRC Science and Policy Reports. Luxembourg: European Union.

³³ Ibid.

not others, and that rules and laws may be overruled in favour of other principles. At the highest level, persons operating at this level have developed their own moral guidelines that apply to everyone (ex. justice, human rights, equality principles) that may or may not be congruent with existing rules and laws, and may be prepared to act on them even if they are unpopular and can cause the rest of society to punish them (ex. disapproval or imprisonment)

Given that the boundaries of morality in the digital world are not yet always clearly established, understood and recognised – and may also be difficult to monitor – we need more young people developing at the highest level of morality – who can critique and help build the principles that will govern ethical behaviour online in the coming decades.

2.5 Digital Citizenship Skills and Competencies among Young Children (0-8)

Parents perceive potential risks for their children under 8 in the form of unwilling economic consequences (such as unnecessary in-app purchases), incidental inappropriate content as well as the health and social impacts of time spent using digital technologies.

A cross-national analysis (Chaudron, 2015)³⁴ has suggested that although children are digital natives and may be quick to grasp basic operational skills and sometimes more advanced online competencies, few children use digital technologies in an actively creative way rather than passive consumers. *“In general children this age have limited or no perception of online risks, despite the fact that some of them have already encountered inappropriate age content or problematic experiences with pop ups and in-app purchases.”*

It seems that in this age group, the emphasis required in developing their competencies should be focused on active creation (to counter the easily acquired passive receptive competencies), and a strengthening of their abilities to recognize, understand and deal with risks online.

2.6 Digital Citizenship Skills and Competencies among Older Children and Adolescents (8-18)

In 2017, OFCOM³⁵ carried out an in-depth study with a sample of 18 children aged 8-18. OFCOM indicate a number of skills that children seemed to have and others that they were lacking in their everyday media lives. This section provides an overview of these and corroborates them with our findings from our activities with children ages 9-14.

Time Management is an important skill that needs to be nurtured further. This is particularly important given that the design of media platforms such as YouTube plays consecutive videos

³⁴ Chaudron, S. (2015). *Young Children (0-8) and Digital Technology. A qualitative exploratory study across seven countries.* JRC Science and Policy Reports. Luxembourg: European Union.

³⁵ Waldie, A., Foylan, A., Wootton, R., Holland, J. and De Ionno, D. (2017). *Ofcom Children’s Media Lives – Year 4 Findings.* London: Revealing Reality.

automatically, making it more difficult to employ time management strategies and often leads to children watching more than they intended, or even watching inappropriate content.

Ability to differentiate between appropriate and inappropriate content: In line with Kohlberg's morality development theory, younger children were less likely to identify content as inappropriate when compared with their older peers.

Ability to filter news: The patterns in the research indicated that young people:

- a) trust "bigger" news stories that they have heard about in several places
- b) are exposed to and tend to passively absorb a great deal of news – made available to them through feeds when they did not necessarily seek it out
- c) In line with Kohlberg's morality development theory, younger respondents found it hard to understand why people might want to make new stories up (fake news), whereas older respondents had a more nuanced understanding and expressed less naive views.

Trust and Advertising: While children are generally able to distinguish adverts from non-commercial content, they find it harder to spot more subtle forms of advertising that blend in with the hosting website. However, children had also developed techniques to assess the trustworthiness of adverts. Children also felt that advertising was more trustworthy than the news because they felt that they could rely on product reviews for honest reporting about any product.

While children seem to use logical skills to deduce which information and sources to trust, there may be some lack of awareness about existing power structures and their ability to influence both commercial reviews and news content.

Risky behaviours and online safety: We know that children only start to fully develop empathetic skills between the ages of 7-11, and most adolescents and even adults derive their moral judgements from a need or interest in maintaining good interpersonal relationships and social order. In accordance with this, Ofcom found that children "*explained that their peers did not always see how passing an image on might be considered hurtful to the person in the image*" – possibly demonstrating a lack of empathetic skills and moral judgement. In contrast to this however, according to Young Minds³⁶ other recent studies have demonstrated that young people have developed implicit codes of conduct online to deal with such situations and generally reject practices of 'forwarding' photographs without consent. These contradictory findings suggest that even similarly-aged children cannot always be grouped into a single entity, and that clearly some are more at risk of digital incompetence than others.

2.7 Children's positive use of the internet

The Ofcom report also revealed ways in which children were able to use the internet positively. Of particular importance were 'fact and information finding' skills that created

³⁶ Bush, M. and Russell, L. (2016). *Resilience for the Digital World. A Positioning Paper*. YoungMinds and Ecorys.

opportunities for self-learning and self-development. These skills were helpful in their homework and in enabling them to learn new skills such as playing an instrument.

2.8 Implications for Education and Training of Children for better Digital Citizenship

This detailed analysis of existing and lacking skills among young children when using digital devices and navigating the internet point to many future avenues for education. A study by Jones and Mitchell (2015)³⁷ has honed in to suggest a narrower focus to improve education in this field. Jones and Mitchell suggest a focus on (1) respectful behaviour online and (2) online civic engagement. *'Both online respect and civic engagement were negatively related to online harassment perpetration and positively related to helpful bystander behaviours, after controlling for other variables³⁸.'* However, it is also expected that both these educational goals can lead to an increased active and creative participation by children and young persons in the digital world as well as risk reduction.

Another approach that supports our analysis of children's needs in this area is the concept of 'digital resilience', as an active and participative way of a) acknowledging children's efforts and capabilities in this field and the importance of children being involved in the creation of any efforts to develop digital citizenship, and b) building upon them to create a more resilient generation, who have the *'social and emotional literacy and digital competency to positively respond to and deal with any risks they might be exposed to when they are using social media or going online³⁹.'*

Young Minds have already noted the importance of *'embedding the promotion and acquisition of digital resilience in school curricula and shaping it so that it is appropriate for the age and learning style of the child⁴⁰.'* Their initial suggestions for a digital resilience programme cover:

- a. creating positive content (as part of wider digital literacy),
- b. learning how to stay safe, and protect yourselves and others online,
- c. building empathy and responsibility on and offline,
- d. identifying, understanding and dealing with challenging content, and finally,
- e. exploring how best to balance lives and identities on and offline.

In line with the objectives of the COLIBLITE project, Young Minds⁴¹ also emphasise the importance of better links between schools, local community and parents, and the capacity building of professionals working with children. Finally, *'Young Minds believes that these activities will only be successful if they are created in collaboration with children and young people. We need to harness their experience of social media and digital worlds and build on their own experiences of navigating the online space in order to develop resilience for all, and to prevent crisis⁴².'*

³⁷ Jones, Lisa & Mitchell, Kimberly. (2015). *Defining and measuring youth digital citizenship*. New Media & Society. Volume: 18, issue: 9.

³⁸ Ibid.

³⁹ Bush, M. and Russell, L. (2016). *Resilience for the Digital World. A Positioning Paper*. YoungMinds and Ecorys.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

2.9 Conclusion

The research and findings on children's digital citizenship skills today indicate that there is a broad range of competencies that can be beneficially developed. There is also an acknowledgement that different children may benefit from different training and interventions depending on their age, development, social circumstances and cultural capital. Perhaps a one-size-fits-all approach may not work as well as a tailored or individualised approach. We also recognize that there are a number of actors that can be involved in the process of educating children around digital citizenship, including: older siblings, parents, teachers and communities.

PART 2 - Initiatives on the theme by broad domains/actors from the national to local level

Chapter 3 - Initiatives in education / schools

The most permeating initiative was the compulsory introduction of the Computing Curriculum in all schools at all four key stages^{43,44}. The curriculum acknowledges the links between computing and other subjects studied in school such as maths, science and design and technology. It aims to develop pupils' digital literacy as well as principles and applications of information, computation, and digital systems. The purpose is to attain education 'suitable for the future workplace' and to be 'active participants in a digital world'. The full curriculum is available in the footnotes. Additionally, to the Computing Curriculum, the Government is currently delivering '*an extra-curricular Cyber Schools programme for 14-18-year olds to provide specialist cyber security education for highly motivated students*⁴⁵'.

The computing curriculum is taught by both primary and secondary school teachers, however when it was introduced in 2014, a lot of feedback suggested that teachers were not prepared to deliver it. For example, a survey by MyKindaCrowd found that '*54% of secondary teachers believed their students knew more about ICT and computing than they did*⁴⁶.' Career and Professional Development opportunities are available for teachers, however the teachers we have spoken to seem to take up training relevant to other areas of teaching during CPD training hours. Therefore, training in computing and digital skills is considered 'additional' for established teachers even though they are required to deliver the curriculum. In response, a number of other government initiatives, reviewed below, have been put in place to provide opportunities for teachers to upskill themselves in this area. It is not clear what the overall take up has been.

As mentioned earlier, the Government also intends to invest more money in the Network of Teaching Excellence in Computer Science. This Network helps teachers and school leaders improve their digital skills. It is part of 'Computing at School' initiative, which is funded by the Department of Education. This initiative aims to bring together communities of people interested in the computing education of children and consists of hundreds of member-initiated activities across the UK. The Government invests in other programmes to incentivize excellent teaching broadly such as 'Master Teachers'. Master Teachers can teach any subject, and a network of 'Master Teachers' who teach

⁴³ Department for Education (2013). *Computing programmes of study: key stages 1 and 2*. Available at: https://www.computingatschool.org.uk/data/uploads/primary_national_curriculum_-_computing.pdf [Accessed 29 Aug. 2018].

⁴⁴ Department for Education (2013). *Computing programmes of study: key stages 3 and 4*. Available at: https://www.computingatschool.org.uk/data/uploads/secondary_national_curriculum_-_computing.pdf [Accessed 29 Aug. 2018].

⁴⁵ Department for Digital, Culture, Media & Sport (2017). *Digital skills and inclusion - giving everyone access to the digital skills they need*. [online] Available at: <https://www.gov.uk/government/publications/uk-digital-strategy/2-digital-skills-and-inclusion-giving-everyone-access-to-the-digital-skills-they-need> [Accessed 5 Mar. 2018].

⁴⁶ Bateman, K. (2014). *The UK's new computing curriculum is here: Are teachers ready?* [online] ComputerWeekly.com. Available at: <https://www.computerweekly.com/feature/The-UKs-new-computing-curriculum-is-here-Are-teachers-ready> [Accessed 29 Aug. 2018].

computing does exist. In fact, the network of 'Master Teachers' developed by Computing at School, is supporting the implementation of the computing curriculum⁴⁷.

The Children's Commissioner is also calling for the implementation of a compulsory digital citizenship programme in all schools, for students aged 4 – 14, to equip children with resilience, information and power to become digital and cyber citizens. In her own words, this will “*open up the internet to them [children] as a place where they can be citizens not just users, creative but not addicted, open yet not vulnerable to having their personal information captured and monetised by companies*⁴⁸.”

Moreover, as stated in the Industrial Strategy green paper⁴⁹, the government aims at reaching the young people who do not go to university in order to ensure that they still acquire the digital skills they need in their professional life. The reform of technical education falls under this logic by including digital skills, alongside with English and maths, in the 15 high-quality routes which will be implemented.

⁴⁷ The Science and Technology Committee (2016). *Digital Skills Crisis*. Available at:

<https://publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/27006.htm> [Accessed 5 Mar. 2018].

⁴⁸ Children's Commissioner (2017). *Growing Up Digital. A report of the Growing Up Digital Taskforce*. [online] p.3. Available at: https://www.childrenscommissioner.gov.uk/wp-content/uploads/2017/06/Growing-Up-Digital-Taskforce-Report-January-2017_0.pdf [Accessed 5 Mar. 2018].

⁴⁹ Department for Business, Energy and Industrial Strategy (2017). *Building our Industrial Strategy*. [online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/611705/building-our-industrial-strategy-green-paper.pdf [Accessed 2 Mar. 2018].

Chapter 4 - Initiatives by libraries

In a policy paper published in March 2017, the Department for Digital Culture, Media and Sport acknowledges the central role libraries play in promoting digital skills and digital inclusion among the wider community⁵⁰. Libraries help overcome barriers to access via their provision of WiFi and are open and accessible to everyone including those from disadvantaged backgrounds. In fact, all libraries in England now have access to WiFi.

The government sponsors the 'Future Digital Skills' and the 'Future Digital Inclusion' programmes. These programmes operate through a network of online centres that deliver online digital skills training programme. Possibly the most popular is the Learn My Way Platform, which covers functional digital skills to enable persons to fulfil daily tasks digitally, such as shopping, banking, and finding work. Although the Learn My Way Programme is not designed with speakers of other languages in mind, it does offer an 'audio option', which means that those with low literacy skills can still benefit from it. This programme is sponsored by the Department of Education and run by the Good Things Foundation. The Government intends to support over 15,000 more people through this and other similar programmes oriented at supporting people with their digital health-care⁵¹.

We are also aware that the Good Things Foundation is working on developing a digital skills framework for ESOL (English for Speakers of Other Languages) learners. In August 2018, Good Things Foundation held a co-creation session whereby a number of partners who work with ESOL learners were invited to feed into the development of this tool. Migrants Resource Centre was also present. It is early days; however, it was suggested that the first version of the tool can be expected in a matter of months. There was a strong emphasis on developing a tool that does not rely on language (either written or spoken) to explain concepts relevant to the use of digital technologies. In the co-creation session there was a strong emphasis on lower-level skills such as operating digital devices, rather than more complex and abstract concepts also relevant to digital citizenship. It will be interesting to see how far this tool can go to reach migrant audiences with different levels of digital literacy, or whether it will be primarily suitable for pre-entry level ESOL learners.

There are other charity initiatives such as the e3 partnership⁵² that have created their own ESOL material via the use of videos on a digital platform. They encourage the use of digital devices by providing their own tablets for use or encouraging a fuller use of smartphones. These initiatives are useful in that they combine the expertise of ESOL teachers with the use of digital devices for pre-entry level ESOL learners. They simultaneously address ESOL needs as well as digital skills development and social isolation. Nevertheless, the reliance on pieces of technology that are often cheap enough to distribute widely, as well as specifically-developed (rather than mainstream) apps often may mean

⁵⁰ Department for Digital, Culture, Media & Sport (2017). *Digital skills and inclusion - giving everyone access to the digital skills they need*. [online] Available at: <https://www.gov.uk/government/publications/uk-digital-strategy/2-digital-skills-and-inclusion-giving-everyone-access-to-the-digital-skills-they-need> [Accessed 5 Mar. 2018].

⁵¹ Department for Digital, Culture, Media & Sport (2017). *Digital skills and inclusion - giving everyone access to the digital skills they need*. [online] Available at: <https://www.gov.uk/government/publications/uk-digital-strategy/2-digital-skills-and-inclusion-giving-everyone-access-to-the-digital-skills-they-need> [Accessed 5 Mar. 2018].

⁵² Bass, L. (2018). *We are E3. The E3 Project*. [online] Wearee3.com. Available at: <http://wearee3.com/> [Accessed 30 Aug. 2018].

that the need for troubleshooting is high. Where the use of digital devices is impractical, digital skills learning may be altogether over-ridden. In practice, it may be easier to fall back on traditional class-based ESOL teaching techniques, and perhaps use projectors to project digital content and save time in troubleshooting. Some organisations overcome this by providing their own devices, however this means that a team is available to maintain the devices used so that they function effectively with minimal troubleshooting required.

Libraries also host a great number of spaces where people can develop innovative, creative skills such as coding clubs. Although there is no comprehensive list of which coding clubs are offered in libraries, we often see coding clubs offered within libraries. Initiatives include Code Club, as well as STEMNET, Girls Can Code, and Techmums geared towards attracting more girls and mums⁵³.

⁵³ The Science and Technology Committee (2016). *Digital Skills Crisis*. Available at: <https://publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/27006.htm> [Accessed 5 Mar. 2018].

Chapter 5 - Initiatives in youth work and third sector organisations

The work of third sector organisations in London is often focused on boosting digital skills among adults, particularly those who are unemployed or underemployed. Some organisations have also been created as resources for children and parents experiencing online risks. Below are some of the main ones outlined:

UK Council for Child Internet Safety⁵⁴ (UKCCIS)

The UK Council for Child Internet Safety (UKCCIS) is a group of more than 200 organisations drawn from across government, industry, law, academia and charity sectors that work in partnership to help keep children safe online.

UKCCIS work so far includes:

- implementing an unavoidable choice for home broadband customers about whether to turn on parental control filters, as well as considering potential problems around overblocking.
- working with the Registered Digital Institute to design a Friendly WiFi logo, to allow parents and families to easily identify places where they can be sure that the public WiFi has filtered inappropriate websites.
- creating summaries of a large body of internet safety research
- developing a series of guidance documents for industry, including on social networking, moderation, search, chat; and advice for industry on effective internet safety messages peer-education initiatives, seminars with teachers and parents (involving 216 primary and secondary schools)

Child Internet Safety

<http://www.childinternetsafety.co.uk/>

UKCCIS in conjunction with Friendly Wifi, have produced this website about children staying safe on the internet.

NCA's CEOP Command⁵⁵ (formerly the Child Exploitation and Online Protection Centre)

CEOP Command works with child protection partners across the UK and overseas to identify the main threats to children and coordinates activity against these threats to bring offenders to account.

CEOP Command's Safety Centre provides advice, assistance and a facility to report crimes relating to inappropriate behaviour directed at children online.

Internet Watch Foundation⁵⁶ (IWF)

⁵⁴ GOV.UK. (2018). *UK Council for Child Internet Safety (UKCCIS)*. [online] Available at:

<https://www.gov.uk/government/groups/uk-council-for-child-internet-safety-ukccis> [Accessed 30 Aug. 2018].

⁵⁵ Ceop.police.uk. (2018). [online] Available at: <https://www.ceop.police.uk/safety-centre/> [Accessed 30 Aug. 2018].

⁵⁶ IWF. (2018). *Homepage*. [online] Available at: <http://www.iwf.org.uk/> [Accessed 30 Aug. 2018].

The IWF works in partnership with the police, government, the online industry and the public to combat illegal online content including images of child sexual abuse, criminally obscene material or anything that incites racial hatred.

ChildLine⁵⁷

ChildLine is a private and confidential helpline service for children and young people up to the age of 19.

National Society for the Prevention of Cruelty to Children⁵⁸ (NSPCC)

NSPCC provides helpful advice and tools for parents and guardians to help keep children safe online.

ChildNet International⁵⁹ and Digizen⁶⁰

Childnet International provides workshops on internet safety to schools including a parents' evening session. These are available to schools across the UK. In November 2014 Childnet also published its 'Parents: Supporting Young People Online' in 12 different languages in addition to English. The leaflets in Arabic, Bengali, French, Hindi, Polish, Punjabi, Somali, Spanish, Turkish, Urdu, Vietnamese and Welsh can be found at <http://www.childnet.com/resources/supporting-young-people-online>

Childnet has also produced a website for parents, carers, educators and young people on 'digital citizenship', encouraging awareness of technology use and responsibility when using the internet.

Childnet has also produced a website for parents, carers, educators and young people called digizen on 'digital citizenship', encouraging awareness of technology use and responsibility when using the internet.

UK Safer Internet Centre

UK Safer Internet Centre runs training workshops for parents in schools, but will also offer it to other groups. This is a paid-for service.

ThinkUknow

A website aimed at parents to inform them about child internet safety issues.

⁵⁷ Childline.org.uk. (2018). *Childline*. [online] Available at: <http://www.childline.org.uk> [Accessed 30 Aug. 2018].

⁵⁸ NSPCC. (2018). *NSPCC*. [online] Available at: <http://www.nspcc.org.uk/> [Accessed 30 Aug. 2018].

⁵⁹ Childnet. (2018). *Home*. [online] Available at: <https://www.childnet.com/> [Accessed 30 Aug. 2018].

⁶⁰ Childnet (2018). [online] Digizen.org. Available at: <http://www.digizen.org/> [Accessed 30 Aug. 2018].

BBC Education

The BBC has made the following short films available, aimed at primary and secondary school children:

- Cyber stalking <http://www.bbc.co.uk/education/clips/zvm9jxs>
- Copyright infringement <http://www.bbc.co.uk/education/clips/zrhwmp3>
- Buying and selling online <http://www.bbc.co.uk/education/clips/zm9fgk7>
- Keeping your personal information safe online
<http://www.bbc.co.uk/education/clips/zmcn34j>
- Freedom of Speech on the internet <http://www.bbc.co.uk/education/clips/zfbhyrd>
- Cyber bullying – impact and prevention <http://www.bbc.co.uk/education/clips/zj36sbk>

Chapter 6 - Other initiatives

The government is also supporting the initiatives of the National Citizen Service⁶¹ (NCS), in partnership with the Raspberry Pi Foundation, aiming at preparing young people (aged 16-17) for the workplace. In fact, although young people tend to be familiar with technology, things are different when it comes to applying their digital skills for work purposes. Therefore, the NCS and the Raspberry Pi Foundation will focus on developing new ways of including digital skills and careers in NCS programmes such as coding, digital making and entrepreneurship. The objective is also to promote careers in the technology sector among young people.

The private sector is also active in the promotion of digital skills among the population. Many corporate companies including Microsoft, Google, Amazon Web Services, Lloyds, Barclays, BT, HP, The Accenture Skills to Succeed Academy, Cisco, O2, Apple, Samsung, Digital Academies, Sky Academy Skills Studios, and Sky Academy Careers deliver myriad initiatives to build digital skills across the board, as well as to train the workforce⁶².

The government sees a role to play in *'in convening and providing coherence to all those active in this area⁶³.'* The government has published a commitment to ***'establish a new Digital Skills Partnership, working together with partners who are passionate about closing the digital skills gap. The Partnership will bring together technology companies, local businesses, local government, charities and other organisations⁶⁴.'***

⁶¹ National Citizen Service is a programme running in the spring, summer and autumn helping young people aged 16 and 17 develop confidence, responsibility and communication by involving them in a social action project away from their home. <https://www.gov.uk/government/get-involved/take-part/national-citizen-service>

⁶² Department for Digital, Culture, Media & Sport (2017). *Digital skills and inclusion - giving everyone access to the digital skills they need*. [online] Available at: <https://www.gov.uk/government/publications/uk-digital-strategy/2-digital-skills-and-inclusion-giving-everyone-access-to-the-digital-skills-they-need> [Accessed 5 Mar. 2018].

⁶³ Ibid.

⁶⁴ Ibid.

Chapter 7 – The COLIBLITE neighbourhood

The COLIBLITE project intends to start with a partnership in the neighbourhood of Dalston in North London. From the feedback we have received at a local level in this neighborhood, teachers and librarians are only aware of some of the opportunities for learning and development identified in this national report. A good start may be to disseminate this report more widely to ensure that those teachers and librarians can avail themselves.

There is a willingness on the part of the library and the school Dalston to work more closely together, however they are restricted in the resources they have available to make collaborations happen. In order for the partnership to be effective, our local action plan needs to recognize this need and offer a programme that is responsive to the needs of their communities without relying heavily on the effort of library and school staff to develop and deliver it. This is the first challenge that we are seeking to address.

The second challenge is that the range of needs identified among migrant communities in Dalston is very vast and ranges from individual to individual. Given that the COLIBLITE project also has its' own resource limitations, we are currently concentrated on building an action plan that either:

- a) can be easily tailored to beneficiaries with very different levels of digital literacy through 1:1 support
- b) or is highly targeted at a particular and homogenous 'digital profile'

Chapter 8 – Conclusion

The aim of this report was to provide an overview of the state of the art of digital citizenship and 21st century skills of youth in England. In the first part, we have demonstrated that there was no universal definition of digital citizenship due to the variety of groups using and being impacted by this concept (individual citizens, schools, libraries, governments, businesses and communities). The main challenge COLIBLITE needs to address is to produce an inclusive definition which considers the diversity of conceptions as well as the links between them. Such definition will thus have to encompass the needs of the individual, the family, the community and needs at a global level. From an educational perspective, digital citizenship implies providing children and adults with the skills enabling them to ethically participate and contribute to an increasingly digitalised society as well as to integrate in the digital economy. In order to identify gaps in the transmission of such competencies, this report also aimed to assess the digital skills of children and youngsters. The research demonstrates that some children already have developed skills enabling them to act, at least partially, as digital citizens. However, levels of competencies among children differ greatly depending on their age, development, social circumstances and cultural capital. These differences will need to be taken into account by those involved in their education, such as family members, teachers and communities.

The second part of the report focused on the initiatives led by different entities in society to promote and nurture digital citizenship. Regarding the initiatives in schools and regarding education, the Government invests in several programmes such as ‘Computing at School’. In addition to the current national computing curriculum, the Children’s Commissioner is calling for the development of a compulsory digital citizenship programme for students aged 4-14. Thus, the focus is not only to enable children to use information and communications technology, but also to teach them to use it in an ethical and responsible manner. It is not yet clear how effective the implementation of the Computing Curriculum has been in achieving these goals. Moreover, libraries also appear to have a central role in promoting digital citizenship and inclusion among the community through their provision of WIFI and their accessibility to everyone regardless of their background. With regard to initiatives led by third sector organisations, the focus is mainly on enhancing digital skills of unemployed adults as well as providing resources for children and parents regarding online safety. Finally, the private sector is also an important player in the promotion of digital skills, with many companies developing digital training programmes.

The complexity of the concept of digital citizenship as well as the diversity among the groups involved reinforce the need to create links between the different segments of the community (schools, libraries, parents, children, etc.), thus justifying the approach adopted by COLIBLITE.

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