Chapter 7

Towards digital literacy for the active participation and engagement of young people in a digital world

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INTRODUCTION

Variously identified as the "Google Generation" (Nicholas and Rowlands 2008), "Net Geners" (Tapscott 1998) and "digital natives" (Prenksy 2001), young people today have grown up in a world dominated by the internet, with new opportunities for participation and engagement. The prevailing research discourse has tended to report that young people inherently possess digital skills. Despite this, some evidence points towards a disparity between young people's perception of their digital skills and their ability to navigate this complex landscape in a safe and meaningful way (Christophides et al. 2009). Because the internet is largely regulated by a generic approach to "users", namely adults, policy often fails to consider the rights of children and young people (Livingstone et al. 2016). It has also been argued that focusing on the discourse of digital natives obscures the need for support in developing young people's digital skills (ECDL 2014). This may result in essential skills being omitted from the education agenda.

The original digital divide of physical access to the internet has evolved into a skills divide (Van Deursen and Van Dijk 2011). Responding to the skills divide will increase the opportunities for young people to participate in a meaningful way in the digital world. Young people require additional skills to meet their informational needs, and to better understand the norms of the online environment. The provision of education in the context of technology is often associated with functional-level skills – using software packages; browsing and searching for skills; and the ability to discern the quality of information found online. Meaningful digital literacy education should encompass a broader suite of skills reflecting young people's social and cultural engagement in a networked society, their self-expression, identity formation and participation in the online world.

This chapter will explore the digital literacy of young people in the European context, investigating where and how digital skills can support the inclusion, engagement and participation of young people in the digital world. The research will draw on examples of mechanisms for digital literacy education, from both formal and informal education. The case of Ireland will be examined for illustrative purposes. The chapter will reframe issues of youth participation in a digital world in the context of digital literacy, contributing to theory development and the body of knowledge and providing policy-related insights and recommendations for best practice.

WHAT DOES IT MEAN TO BE LITERATE IN THE 21ST CENTURY?

The definition of digital literacy, the focus of our chapter, is situated within the broader discourse surrounding the evolution of literacy and literate practices in the 21st century. Implicit in emerging articulations of 21st-century literacies are, firstly, an acceptance of the transformative impact of digital and social media technologies on virtually all areas of life (the "digital"), and secondly, an understanding that the knowledge, skills, abilities and aptitudes that individuals need in order to effectively navigate these changes are continually evolving. Multiple, overlapping terms, definitions and frameworks exist, which attempt to capture the essence of literacy in a world where information and communication practices are in a constant state of flux (Anstey and Bull 2006; Jones and Hafner 2012; Belshaw 2012; Meyers et al. 2013; JISC 2014; National Forum for the Enhancement of Teaching and Learning 2015a). Much like the debate about the meaning of information literacy at the end of the last century, a universal conceptualisation of 21st-century literacy has proved elusive, and the discourse reflects this (Meyers et al. 2013). Many of the existing frameworks present an aspirational state, gained through the acquisition of knowledge, skills and attitudes, and demonstrated in the performance of context-specific tasks to a prescribed level of competence. For example, the EU's Digital Competence Framework (Ferrari 2013) is structured dimensionally as a series of five broad "areas of digital competence" (information, communication, content creation, safety, problem solving), under which specific competences are identified (for example "Browsing, searching and filtering information" and "Managing digital identity"). An accompanying self-assessment grid enables users to rate their own perceived proficiency levels with regard to the different areas of competence. Other articulations seek to unpack the elements that constitute the whole; for instance, a JISC[41] visual map (2014) identified seven core elements of digital literacy, reflecting different, but interrelated dimensions of awareness, practice and competence. This has been superseded by a more refined iteration which refers to six elements of "digital capability", including information, data and media literacies; digital creation, innovation and scholarship; digital identity and well-being; communication, collaboration and participation; digital learning and self-development; and information and communication technology (ICT) proficiencies (JISC 2015).

41. Formerly the Joint Information Systems Committee.

Digital literacy is also often described in terms of the social, educational or economic benefits it may afford to those who attain it; for example, this definition in the Irish Digital Strategy for Schools (DES 2015: 5) articulates digital literacy as a tool of empowerment and active participation in society the aim of which is to:

> Realise the potential of digital technologies to enhance teaching, learning and assessment so that Ireland's young people become engaged thinkers, active learners, knowledge constructors and global citizens to participate fully in society and the economy.

Recently, increased attention has been paid to the social contexts in which literate practices exist, and that imbue them with meaning. In their discussion of "multiliteracies", Anstey and Bull (2006: 20) suggest that many definitions of literacy do not adequately:

> address what a literate person needs to know, and be able to do to operate successfully in the contexts in which literacy is used [including] using literacy for work and leisure; active citizenship; participation in social, cultural, and community activities; and personal growth.

Similarly, Jones and Hafner (2012: 12) frame digital literacy in terms of socially constructed identity and practice, stating that:

> using media is a rather complicated affair, that influences not just how we do things, but also the kinds of social relationships we can have with other people, the kinds of social identities we can assume, and even the kinds of thoughts we can think. When we talk about being able to use the media in this broader sense, not just as the ability to operate a machine, or decipher a particular language or code, but the ability to creatively engage in particular *social practices*, to assume appropriate *social identities*, and to form or maintain various *social relationships*, we use the term "literacies".

Belshaw's in-depth work on digital literacies (2012) concurs with this contextual framing of the term; he suggests that rather than constituting a binary state (literate or not literate), digital literacy exists instead on a continuum, and is reflected in "eight essential elements" that represent different ways of thinking about the term, within different domains of meaning, practice and engagement. These elements are identified as cultural; cognitive; constructive; communicative; confident; creative; critical; and civic. Belshaw supports a fluid approach to defining the term, stating that "digital literacies are plural, context-dependent, and should be co-created" (Panke 2015). Many of the emerging definitions, therefore, tend to emphasise context, suggesting that an overarching awareness of the competences, tools and practices that are required in any specific circumstances, as well as a metacognitive appreciation of one's own information and learning behaviours, are at the core of being digitally literate. So digital literacy means:

> being able to communicate and represent knowledge in different contexts and to different audiences (for example, in visual, audio or textual modes). This involves finding and selecting relevant information, critically evaluating and re-contextualising knowledge and is underpinned by an understanding of the cultural and social contexts in which this takes place. (Hague and Payton 2010: 3)

Meyers, Erickson and Small (2013: 360) highlight the principle of participation that underpins digital literacy conceptions that are based on socially constructed and situated practices, and are:

> expressed in terms of the general capabilities individuals have for living, learning and working in a digital society, which recognizes the constantly changing nature of technology, and the evolving expectations we have of digital citizens.

They note that the route to successfully building digital capacity in young people, therefore, lies in finding "new avenues of participation in digital culture" (ibid.) that would support this form of learning. It is clear that the first step towards a framework that will support young people's growth as digital citizens must be an understanding of how they authentically experience and engage with digital media, and how they perceive their current and future role in the digital society and economy. To date, a true picture of digital youth, and therefore a genuine appreciation of their needs, has been partially obscured by the narrative surrounding the so-called "digital native", which posits a model of engagement that is not reflected in actual experience. These issues are discussed below.

THE MYTH OF THE DIGITAL NATIVE

Young people in Europe are living and engaging in an increasingly digital world, often referred to as the network society (Castells 2011: 11). Such a society, as imagined by Castells, is characterised by social structures and social organisation around information networks and technology. This has a unique impact on the lives of young people, with technology and, increasingly, mobile technology, ubiquitous in their day-to-day lives. By 2014, 81% of households in the EU-28 had internet access, with broadband used by 78% of households (European Commission 2014a). Mobile technology is pervasive, with smartphones the devices that children are most likely to own or use to go online (Mascheroni et al. 2013). Similarly, the age of first internet use is dropping, as is the age at which children are using their first smartphone. In addition, computers are increasingly popular in the school environment, with the EU average at between three and seven students per computer (Holloway, Green and Livingstone 2013). The ubiquity of technology represents a new condition of social life for young people. Digital media affords young people new opportunities for self-expression, networking, collaboration and participation. User-generated content and information sharing dominates the internet. Social network sites depend and thrive on user-generated content. In April 2016, after Google, YouTube ranked as the second most popular website globally, with Facebook the third most popular; Twitter, Wikipedia and LinkedIn also rank among the top 20 sites globally (Alexa 2016). Young users are actively sharing, adding and building content. Facebook, for example, has 9.8 million users in the 13- to 17-year-old age bracket, with a further 42 million in the 18- to 24-year-old age bracket (Pew Research Center 2016).

We also know that young people are encountering unwanted content online. A study by Pew Internet found that 95% of those surveyed had witnessed cruel behaviour online and 41% reported a negative outcome of information disclosure online (Lenhart and Madden 2007). A European Commission study found that 22% of children in

Ireland have experienced bullying, with 13% of 13- to 14-year-olds reporting being bullied on a social networking site (O'Neill and Dinh 2014).This transformation in young people's lives requires new competences and a new skills orientation, through navigating, processing and evaluating information (Buckingham and Willett 2013). A recent symposium organised by the EU–Council of Europe youth partnership explored youth participation in the digitalised world, reflecting on the opportunities and risks that young people face (EU–Council of Europe youth partnership 2015).

While the term "digital native" is often associated with an assumed level of knowledge and skills among young people to navigate the digital world, the accuracy of the term has been disputed. It has been found that young people's engagement with technology can be varied and even unspectacular and that a misplaced determinism often underpins current portrayals of children, young people and digital technology (Selwyn 2009). Research has also highlighted the disparity between young people's perception of their digital skills and their ability to negotiate the landscape safely (Christofides et al. 2009). Protecting privacy and reputations online is of increasing importance in the context of user-generated content and information sharing. Risks may arise from young people's willing self-display of personal information, their confidence in their online relationships, or confusing or poorly designed site settings (Livingstone 2008).

Emerging as a key public concern in young people's rights online is the protection of privacy and information privacy. As young people participate in the digital world, through the creation of content or the sharing of personal information or media, efforts to safeguard young people in digital spaces have become complicated (Berson and Berson 2006). There is a latent ambiguity surrounding the concept of privacy and this is reflected in how it is protected. Privacy as a valuable social interest has been recognised since the 19th century, when Warren and Brandeis wrote *The right to privacy* (1890). Today, privacy is protected at various levels, through human rights legislation, constitutions and data protection legislation. There is some agreement on information privacy and the right to determine what information about you is made available to others, and to whom (Belotti 1997: 66). Parent (1983: 269) describes this as "the condition of privacy", wherein "a person's privacy is diminished exactly to the degree that others possess this kind of knowledge about him". In an information society, this lattice of information networking can result in individual digital dossiers that have profound implications, where seemingly innocuous information can be turned into a personal biography (Solove 2004). The problem is that this biography is "only partially true and very reductive" (ibid.: 46). From the perspective of information-gathering practice and personal information privacy, issues of trust permeate human–computer interaction. Surveillance and data collection are commonplace in our everyday lives and at the same time, young people actively choose to disclose information for personal gain. In reality, "privacy is a value that must often be traded off against some other desirable social value or good" (National Research Council 2007: 318). For younger users, this process is particularly complex.

Nosko, Wood and Molema (2010) studied a cross-section of Facebook users and found that younger people tend to disclose more online while older users are more cautious about privacy. As age increases, the amount of personal information in profiles decreases. Christophides et al. (2009) explored the predictors of information

disclosure in social media, finding that youths are likely to disclose more information. They also found that adults are more likely to control their information and that this may be accounted for by differences in knowledge about privacy settings. Younger users are also making active choices not to use privacy settings. Hugl (2010) found that adults are more concerned about potential privacy threats than younger users and policy makers should be alarmed by the large proportion of users who underestimate the risks to their information privacy on social networks. For both youth and adults, the strongest predictor of information control on Facebook is a greater awareness of the consequences of sharing information (Christophides et al. 2009). A nationally commissioned representative telephone survey of 18- to 24-year-olds in the US (Hoofnagle et al. 2010) found that young adults, despite this evidence of disclosure, share beliefs with older adults that online privacy deserves protection.

In fact, though the evidence shows that users value privacy in online environments, it has also been found that they tend to avoid control settings such as privacy settings if they are too complex or too ambiguous (Karahasanovic et al. 2009). It has also been found that "the Google generation is impatient and has zero tolerance for delay; information and entertainment needs must be fulfilled immediately" (Nicholas and Rowlands 2008: 164). It has been reported that young people tend to overestimate their skills, are not always aware of their skills gaps, are spending more time engaged in digital lifestyle skills than workplace skills, and do not have access to formal, structured digital literacy education (ECDL 2014). In this sense, they may compromise their privacy, not because it is of no value to them, but because they do not possess the knowledge and skills to navigate the online environment. In newer social media environments, users may find that effort expended in ensuring privacy outweighs any perceived costs. It has also been found that younger users believe incorrectly that the law protects their privacy more than it actually does (Hoofnagle et al. 2010).

The original meaning of the term "digital native" differs from the popular understanding of it. Prensky (2001) argued that changes in the way students accessed and processed information necessitated changes in the learning environment. In this context digital natives required a media-rich learning environment. Prensky has since argued that the question to ponder is no longer whether to use the technologies of our time but how to use them to become better, wiser people. Prensky (2012) calls this "digital wisdom", exploring the role of technology in teaching in the classroom and new types of learning. This is reflected in research that highlights the potential for media literacy skills to support online learning and participation, and protect young people from risks online (Livingstone 2008). Studies have shown that enhanced knowledge can support the capacity to use digital media competently and exercise rights in and with digital media (UNICEF 2014). In addition, it is acknowledged that enhanced user knowledge has strong predictive powers regarding privacy control behaviour (Park 2011). Specifically, interventions targeted at increasing specific skills may also enhance the take-up of online opportunities (Livingstone and Helsper 2009).

There is a need for increased privacy literacy education for young people on issues of participation, information disclosure, reputation and information security. It is necessary to provide this education at a member state level, advocating for privacy literacy awareness across the youth demographic. There is the potential, for example, for short

courses in digital literacy to be designed and introduced. Education is vital to agency in participation in the online world and providing for this at secondary level would facilitate individual vigilance in privacy protection. Capacity building towards digital literacy education will support young people who are digitally literate in thinking carefully about what they are participating in. Ultimately, they will be able to exercise choice in how they participate in the digital world (Hague and Payton 2010).

THE DIGITAL SKILLS POLICY AGENDA

The need to develop digital skills is reflected in a range of policies across Europe. For example, the European Commission Digital Agenda for Europe emphasises the need for digital skills "to participate fully in society" (European Commission 2014b: 3). The Agenda has a focus on the digital divide, and has also introduced the Safer Internet Programme, a set of actions to be undertaken by the Commission, the member states and industry. The Agenda recognises the need for recognition of digital competences in formal education and training systems. Digital competence has been acknowledged as one of the eight key competences for lifelong learning as part of the European Commission's Lifelong Learning Programme. Defined as "the confident, critical and creative use of ICT to achieve goals related to work, employability, learning, leisure, inclusion and/or participation in society", digital competence is considered a skill that should be acquired by all citizens to support their "active participation in society and the economy" (Ferrari 2013). In addition, the European Commission Communication "A renewed EU Strategy 2011-14 for corporate social responsibility" calls on enterprises to take responsibility for their impact on society. It highlights the importance of responsible behaviour with respect to society at large and the enterprise itself. The ICT4Society online platform, meanwhile, creates a space for ideas, experiences and recommendations. Digital literacy is the topic of an ongoing discussion (European Commission 2016).

The EU's Digital Competence Framework (DigComp) was launched by the Information Society Unit of the Joint Research Centre (JRC) in 2013 with the aim of contributing to the better understanding and development of digital competence in Europe. A range of activities were undertaken towards a roadmap for a digital competence framework and descriptors of digital competences. The roadmap identifies and details all the competences necessary to be proficient in digital environments, and describes them in terms of knowledge, skills and attitudes. As mentioned above, it also provides a self-assessment grid, including assessment of information, communication, content creation, safety and problem solving (Ferrari 2013).

A number of examples at a national level highlight how digital skills are increasingly part of the policy agenda:

- in the United Kingdom, the Digital Skills Committee has emphasised the need to make digital literacy a core school subject, alongside English and Maths. The Digital Inclusion Strategy (2014) recognises the importance of the skills needed for digital inclusion, and the need for enhanced media literacy;
- in Ireland, the ICT Skills Action Plan (2014) and the National Skills Strategy 2025 (2016) set out a vision and a number of practical actions and steps to support more citizens to get online. Such policy developments support the

use of digital media in education. The Department of Education and Skills (DES) oversaw the development of a series of successful Switch On workshops, inspiring second-level schools to do more with digital media in the classroom;

- the Digital Italy Agency (Agenzia per l'Italia Digitale) promotes digital skills, to which a section is dedicated in the Strategy for Digital Growth (2015). The Coalition for Digital Skills is the primary instrument of the Strategy to promote digital literacy initiatives. The Digital Italy Agency ran a contest on Actions for Digital Culture to promote digital literacy and inclusion. The 10 award-winning applications (out of a total of 101) range from digital inclusion projects to working digital skills projects and digital culture projects;
- the French Digital Plan for Education (2015) aims to mainstream digital technology in schools. In order to succeed in transforming teaching and learning practices with digital technology, four pillars have been identified: training, equipment, resources and innovation. Teachers will receive training in computer science, digital project management, digital applications and digital literacy;
- in Norway, the Programme for Digital Literacy 2004-2008 (2004) supported the integration of digital literacy in all levels of education. The Knowledge Promotion Reform was a comprehensive curriculum reform introduced in 2006 (Erstad 2007). Five basic skills are now integrated and adapted for each subject of the curricula as part of the reform. These skills are: the ability to express oneself orally, the ability to read, the ability to work with numbers, the ability to express oneself in writing, and the ability to use digital tools;
- while Turkey has rolled out an ambitious educational technology project incorporating interactive whiteboards and tablet computers, it has been reported that insufficient attention has been paid to teachers' skills and competences in using the technology (Hobbs and Tuzel 2017). Middle school students in Turkey have the option of undertaking elective courses in ICT literacy and media literacy (ibid.).

The range of initiatives at a national level is broad, incorporating strategic developments and policy, in addition to upskilling and training. Key to realising the strategic direction of the digital skills agenda is to consider in more detail what effective implementation should look like. In practice, this necessitates an understanding of the complexity of digital literacy as a subject but also the diversity in young people's lives and experiences of technology.

SUPPORTING DIGITAL LITERACY DEVELOPMENT IN YOUNG PEOPLE

The emphasis on social context, participation and meaning in emerging articulations of literacy (and cognate terms) is of particular importance for the engagement of children and youth, as it points to the need for learning experiences that are immersive, authentic and relevant when it comes to digital literacy and the use of digital technologies in formal educational settings. The urgent need for such experiences

has been discussed above, since – contrary to the accepted narrative of the digital native – young people may in fact struggle with issues of privacy, risk and identity in particular, despite their prolific use of digital technologies. Significantly, it has been suggested that there is a disconnect between young people's experience of technologies at home and in everyday life, and that which they experience in school:

> the use of technology [young people] experience in schools often bears little relevance to the ways in which they are communicating and discovering information outside of school … Young people's own knowledge, ideas and values are not reflected in the education system and school learning can have little or no bearing on their lives, concerns, interests and perceived or aspirant futures. (Hague and Payton 2010: 11)

This is further illustrated by the results from the 2009 Programme for International Student Assessment (PISA) survey, which showed that "the frequency of computer use at home, particularly computer use for leisure, is positively associated with navigation skills and digital reading performance, while the frequency of computer use at school is not" (OECD 2011: 21), suggesting that young people are developing digital competence primarily through activities at home, rather than at school.

Meaningful integration of digital technologies into learning for children and youth calls for a flexible, constructivist approach, which reflects real-life authentic experiences and activates prior knowledge, provides opportunities for peer collaboration and sharing, and fosters an inquiring, independent mindset. This is acknowledged in Ireland's Digital Strategy for Schools 2015-2020 (DES 2015), where it is stated that a significant barrier to the effective integration of digital technologies in the curriculum has been the traditional "teacher-directed practices" still used in classroom settings, despite the student-oriented, constructivist teaching philosophy to which the majority of teachers aspire. The provision of education in the context of technology is often associated with functional-level skills; for example, using software packages, browsing and searching skills, and the ability to discern the quality of information found online. By contrast, JISC (2014) asserts that digital literacy education should rather look "beyond functional IT skills to describe a richer set of digital behaviours, practices and identities." However, the discussion around digital literacy in the formal educational setting is often dominated by a focus on the need for students to develop particular skill-sets, linked to future employability and marketplace requirements, such as coding, information architecture, and so forth. In Ireland, major strategy documents such as the ICT Skills Action Plan (2014) and the National Skills Strategy 2025 (2016) highlight skills shortages in areas such as ICTs and Science, Technology, Engineering and Medicine (STEM), noting that "enterprise policy in Ireland is strongly oriented towards knowledge-intensive industries and there will be an increasing demand for people with STEM related skills and qualifications, at a range of levels across different sectors of the economy" (DES 2016: 74). The European Computer Driving Licence (ECDL), however, separates "digital literacy skills" from skills classified as "computer science" (including coding), and expresses concern about the prioritisation of the latter in educational agendas. They insist that a standardised approach to instruction should be applied across nations, to "encompass both computing and digital literacy as two substantial areas of digital skills" (ECDL Foundation 2015: 8).

Ideally, effective digital literacy education for youth would encompass a broad suite of skills reflecting their social and cultural engagement in a networked society, their self-expression, identity formation and participation in the online world. Research into this demographic, variously known as the Millennials, Net Gen, Google Generation and digital natives, has begun to shed light on the preferences, expectations and learning behaviours of young people, particularly around the use of digital technologies and e-learning, although this is constantly shifting as new technologies, tools and practices emerge. Generally, although it varies across national and socio-economic boundaries (OECD 2011), the use of digital and social media technologies among this demographic in daily life is pervasive, and they have high expectations in terms of how these technologies should blend with and enhance their lives. Constant connectivity and access to Wi-Fi, rapid retrieval of information, mobility, and tools for all types of social interaction and entertainment are important considerations that define young people's engagement with digital technologies. However, despite this apparently intensive use of digital and social media in informal settings, "many learners do not have a clear understanding of how courses could or should use technology to support their learning" (Knight 2011). One of the common myths associated with this generation is that they are inherently well-disposed towards the idea of technology-enhanced learning, and unequivocally welcome the digitisation of their learning spaces; often, however, "students separate social and formal digital usage, and technology use for entertainment does not necessarily imply readiness to learn through digital systems" (National Forum for the Enhancement of Teaching and Learning in Higher Education 2015a: 7). Meyers, Erickson and Small (2013: 359) note that while digital literacy is often perceived as a competency that must be primarily instilled in formal educational settings, the reality is that it is also developed in less formal, unstructured spaces such as the home, online communities, museums, libraries, public amenities, etc. In this context, they assert that these informal spaces should be harnessed to increase motivation and engagement, by providing "an alternate venue for skills instruction, overcoming some of the motivational challenges, often by re-contextualizing skills in terms of learner interests or providing different incentives to practice and attain mastery".

The influence of digital media on youth work is also recognised, both as an innovative mode of youth work delivery, but also as a legitimate alternative space for digital literacy development outside of formal education structures. A meta-analysis of studies investigating youth work and digital media use across different countries revealed varied use of digital technologies, from basic e-mail and texting to social media apps, digital photography, film making and gaming. The purposes served by these technologies included communication, the provision of advice and guidance to young people, "learning a new skillset; training and education; animation; film making; photography and creative writing" (National Youth Council of Ireland 2016: 12), in addition to citizenship-focused activities such as lobbying and campaigning, which resonate strongly with the emerging conceptions of digital literacy outlined above. In 2016, a National Youth Council of Ireland report on ICT, digital and social media in youth work emphasised that "[y]outh work has the opportunity to fill the gaps that sometimes occur within the home and school in supporting young people to understand technology and the risks that might be involved" (2016: 13). Findings reported in the study underline the opportunities afforded by digital and social media technologies in "supporting citizenship, life skills and thinking skills, and

participation and advocacy" in the context of youth work, in addition to acknowledging the potential of these channels for forging genuine, authentic connections with youth, whose lives are "entrenched" in technology (ibid.).

The idea of participation is further reflected in the "All Aboard" programme in Ireland that is focused on "building digital capacity to enhance teaching and learning" in higher education (National Forum for the Enhancement of Teaching and Learning in Higher Education: 2015b). A key principle underpinning the project aim is that of the "engagement of students as partners", which acknowledges the critical importance of including the student voice in the implementation of technology-enhanced learning. Recognising and reflecting on their own role and engagement as active participants and creators in relation to digital technologies and tools is at the heart of young people's development as digitally literate citizens; in the words of Meyers et al. (2013: 362), "a digitally literate citizen must be an active and ever-vigilant participant, constantly evaluating those opportunities for their benefits and their downsides". Learning activities should therefore give students the opportunity to see themselves as active and powerful agents in the creation of a digital society and economy.

Creating learning environments that support these activities, however, requires a fundamental transformation of the traditional pedagogical culture of educational institutions, and in Ireland, for example, there is a significant gap between research and practice in terms of digital literacy education. Research on a sample of Irish primary school teachers found that "digital literacy in Irish classrooms often remains synonymous with the technical skills needed to operate computers" (McCarthy and Murphy 2014: 23), and that the prevalent approach to literacy teaching in the classroom is based on print literacy, rather than the multi-modality required in digital literacy learning. A significant policy focus remains the technical infrastructure required to support technology-enhanced learning – for example broadband, availability of Wi-Fi, supply of devices and tools – rather than the pedagogical change required to transform learning. McCarthy and Murphy's study found that the greatest classroom change in recent years has been the introduction of interactive whiteboards to the primary school classroom; however, their results showed that the majority of teachers use them primarily to support traditional print-literacy focused lessons, or as a replacement for whiteboards.

Despite the barriers that exist, there are signs of progress, and new initiatives have emerged that point to a deeper, more transformative shift in practice when it comes to digital literacy. In 2013, a secondary school in the Dublin region introduced a short course on digital literacy at Junior Certificate level (students aged 14 to 15), including a module on the "digital citizen" with a focus on safe and responsible online behaviours, and reflection on one's identity in the online world. The programme also involved the students in the design and creation of a dedicated "21st century learning space", with movable seating and technological tools to support collaborative learning (Keating 2015). A more general Junior Certificate level short course on digital media literacy, in which "students learn to use digital technology, communication tools and the internet to engage in self-directed enquiry", is also available to roll out to schools. This course encourages students to consider their attitudes, rights and responsibilities in relation to the online world and social media, and to reflect on how and where they "fit in" with

the digital environment (NCCA 2014). At primary school level, the Digital Schools of Distinction programme aims "to promote, recognise and encourage excellence in the use of technology in primary schools" (Digital Schools of Distinction 2016). To gain this status, schools are evaluated against five criteria, including: leadership and vision; ICT integration in the curriculum; school ICT culture; continuing professional development (for teachers); and resources and infrastructure. To date, 283 Irish primary schools have been awarded Digital School of Distinction status. In higher education, the theme of partnership and responsibility through digital literacy is supported by the recently launched Student Digital Ambassadors project at University College Dublin (UCD), which has a dual purpose; first, to provide training for student recruits "to develop and enhance their digital skills in a number of relevant areas, for example social media, educational technologies (including apps), digital identity and digital research skills," and second, for the student ambassadors to then promote digital skills to the wider UCD community and provide peer support for other students in the context of digital skills development, through sharing their skills and expertise (UCD Teaching and Learning 2016). This initiative is a part of UCD's involvement in the All Aboard Digital Skills in Higher Education project (National Forum for the Enhancement of Teaching and Learning 2015b), and represents an innovative approach to skills development, moving outside the classroom model and into the real lives of students, where peers can relate to each other on their own terms. It is hoped that the project will result in a more engaging and embedded digital culture in the university at large, and will contribute to the overall All Aboard project goal of building digital capacity in higher education nationwide.

CONCLUDING REMARKS

Effectively supporting digital literacy development in young people means first understanding who they are, how they engage with digital and social media on a day-to-day basis, and the gaps that exist in their awareness of the risks and opportunities that new technologies afford. The myth of the "digital native", born with the innate ability to expertly harness new technology, has led to unhelpful assumptions about the digital capability of youth, and the implementation of practical, skills-based learning frameworks that fail to adequately address more abstract concerns such as privacy, ethics, online identity and risk. Emerging articulations of digital literacy focus to a greater extent on the contextual and social aspects of the term, pointing to a need for models that are immersive, meaningful and linked to young people's lived experience. Participation in digital culture, social responsibility, ethical awareness and digital citizenship are lenses through which the state of being digitally literate can be viewed; learning opportunities that focus on these elements can offer engaging and authentic experiences for young people, in addition to the traditional classroom model.

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