

# Connecting digital literacy between home and school



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## About this report

This report is the result of a seven-month research project into the connections and discontinuities between children's digital literacy practices at home and in school. It formed one strand of a larger project exploring children's digital participation.

This report provides a brief introduction to the research project, setting out the key ideas underpinning the research, and describes the research project and methods used. It then presents and explores findings from the research, drawing out some common themes and discussing challenges and opportunities for connecting children's digital literacy between home and school.

This report aims to provide evidence of children's current digital literacy practices, where there are opportunities for connections to be developed or established between home and school, and where there are disconnections that may need to be addressed. This report is likely to be of interest to researchers and primary and secondary teachers interested in the field of digital literacy.

# Introduction

This introduction provides a brief overview of the key ideas informing this research. It does not constitute a full review of the theoretical and empirical literature, though it does point towards some of the more significant work in the field.<sup>1</sup>

## Digital literacy and digital participation

The term 'digital literacy' is contested, and understood in different ways by different people. The working definition that has been used throughout this project is: "digital literacy is the way in which people understand, make and share meaning with digital media and technologies".

The focus on meaning here is important. This definition emphasises the ways in which people make sense of the content and artefacts of digital media and understand what it means to use digital media and technologies, how they express their own meanings, and how they interpret and understand the meanings represented by others using digital media. The concept of digital literacy used in this project, therefore, is distinct from the basic ability to use and operate digital technologies and media. It is also different to the use of digital technologies as a technological tool with which to facilitate teaching and learning.

In a world that is increasingly mediated by digital technologies, the skills, competences and knowledge underpinning digital literacy are ever more important for young people to be able to participate and flourish in learning, work, civic life and leisure, in ways that are described by

some as 'participatory cultures'.<sup>2</sup> Being digitally literate therefore is an important attribute for all young people in an increasingly digital culture.

In order to unpick this overarching concept of digital literacy, a previous phase of the Digital Participation project defined a number of components of digital literacy, which, while not exhaustive, can be used to plan for and map digital literacy practices<sup>3</sup>:

**Creativity:** Thinking creatively and imaginatively, and to use technology to create outputs and represent knowledge in different formats and modes.

**Critical thinking and evaluation.** Being able to question, analyse, scrutinise and evaluate digital media, interpreting meaning in order to understand the world.

**Cultural and social understanding.** Being aware of the social and cultural contexts in which digital media is created and used.

**Collaboration.** Working successfully with others to collaboratively create and share meaning and understanding.

**The ability to find and select information.** Defining the information needed for a task, finding relevant information, critically engaging with sources to select relevant, valuable and reliable information.

**Effective communication.** Expressing ideas and feelings, understanding the different modes in which meaning can be represented and being aware of audiences.

1 An in-depth discussion of the literature around digital literacy and digital participation can be found in one of the related reports from the Digital Participation project: Hague, C., and B. Williamson (2009). Digital participation, digital literacy, and school subjects. Bristol: Futurelab. [www.futurelab.org.uk/projects/digital-participation](http://www.futurelab.org.uk/projects/digital-participation) and Gillen, J., and D. Barton (2009) Digital Literacies: A Research Briefing by the Technology Enhanced Learning phase of the Teaching and Learning Research Programme. London. TLRP. [www.tlrp.org/docs/DigitalLiteracies.pdf](http://www.tlrp.org/docs/DigitalLiteracies.pdf).

2 Jenkins, H., Purushotma, R., Clinton, K., Weigel, M., and Robinson, A. (2006). Confronting the challenges of participatory culture: media education for the 21st century. Chicago: MacArthur Foundation. Available from: [http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS\\_WHITE\\_PAPER.PDF](http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF)  
3 See Hague, C. and S. Payton (2010) Digital literacy across the curriculum. Bristol: Futurelab. [www.futurelab.org.uk/resources/documents/handbooks/digital\\_literacy.pdf](http://www.futurelab.org.uk/resources/documents/handbooks/digital_literacy.pdf)

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**E-safety:** Staying safe when using digital technologies and understanding what constitutes appropriate use and content.

**Functional skills:** Knowing how to use a range of different technologies competently and applying this knowledge to new technologies.

## Multiple digital literacy practices

The concept of digital literacy that we are using in this project places digital literacy in the context of other theories that see literacy as a social practice, whereby we make use of the shared symbols of our culture to create and exchange messages with meaning<sup>4</sup>. The ways that we appropriate and adapt these symbols to express ourselves, and the ways that we understand and interpret representations of meaning, are therefore influenced by the social and cultural resources that we bring to the task. When two people from different cultures look at the same image, or gesture, or text, they may understand different things by it because the cultural symbols and resources they draw on are different. Literacy is therefore situated in a social and cultural context, and even within one language, such as English, there are multiple literacies, and multiple digital literacy practices. This suggests that there may be multiple digital literacy practices as people develop and bring to the task of making meaning with digital technologies different cultural expectations and interpretations.

## Connecting digital literacy practices at home and school

The way children learn, the knowledge they draw upon, the range of literacy practices (including digital literacy practices) with which they are familiar is bound up with the social and cultural practices of their families and communities. Such knowledge, acquired through participation in the daily life of families and communities, has been

described as 'funds of knowledge'.<sup>5</sup> For some children, the funds of knowledge they draw on from their home cultures are quite different from the way that knowledge and learning is framed in school cultures.

Children from more middle class backgrounds whose home cultures align more closely with school have an easier time making the transition between home and school, benefiting from the mutual reinforcement of values.<sup>6</sup> Where there is more discontinuity between these two cultures, children have a greater cultural 'distance to travel' and have to work harder to adapt and make the transitions between these two spheres of their lives. Bringing these different funds of knowledge into 'conversation' with one another may allow children to more easily navigate between these different spheres of their lives and enable children to draw on all the resources and opportunities they experience in any context, rather than limiting themselves to the funds of knowledge from one particular domain. This study drew on previous research that explored connections between children's funds of knowledge from home and school in literacy and numeracy<sup>7</sup>, and aims to build on it by looking specifically at connections between digital literacy practices.

<sup>4</sup> Street, B. (1984) *Literacy in theory and practice*. Cambridge: Cambridge University Press.

<sup>5</sup> Moll, L., Amanti, C., Neff, D. & Gonzalez, N. (1992) Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms, *Theory into Practice*, XXXI(2), 132-141

<sup>6</sup> Lam MS, Pollard A. (2006) A conceptual framework for understanding children as agents in the transition from home to kindergarten. *Early Years: An International Journal of Research and Development*. 26(2):123-141.

<sup>7</sup> Hughes M, Pollard A. (2006). Home-school knowledge exchange in context. *Educational Review* 58(4):385-395.

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## The study

### Aims

The aims of this study were to explore the connections and differences between children and young people's digital literacy practices in and out of school, with a view to developing an understanding of how schools and teachers could respond in light of these connections and differences. This includes both how schools and teachers could recognise, understand and build on children's out of school digital literacy practices (the home to school direction) and how schools and teachers could support children's digital literacy practices out of school (the school to home direction).

### Sample

Four groups of children and staff from four different schools participated in the project over the Summer and Autumn terms in 2010 (therefore children went up by one school year during the period of the project).

#### School A: Class teacher and six children in year 1-2

A medium-sized Church of England (VC) Nursery and Infant school in the suburbs of a small city, with two-form entry for Infants classes. The proportions of pupils from minority ethnic backgrounds or with English as an additional language are below average.

#### School B: Class teacher, teaching assistant, head teacher and six children in Year 5-6

A slightly smaller-than average rural primary school with 90% of children drawn from armed service families. While the majority of children here are White British, there are a wide range of other ethnic groups represented, and nearly a quarter of children speak English as an additional language.

#### School C: ICT teacher, Science teacher/tutor, English teacher/tutor and eight children in Year 7-8

A small 11-16 National Challenge secondary school in the outskirts of a small city with specialist status for mathematics and computing. The proportions of students eligible for free school meals and with special educational needs and/or disabilities are above average and 12% of students speaking English as an additional language.

#### School D: Geography teacher / tutor, English teacher / tutor and ten children in Year 8-9

An 11-19 average-sized secondary school on the edge of a large city, from which 80% of students travel. Most students are of White British heritage and the proportion of students with English as a second language is well below the national average. The percentage of students eligible for free school meals is just below average and the proportion of students with learning difficulties and/or disabilities is well above the national average<sup>8</sup>.

This range of schools was chosen to give examples of different practices, approaches and issues across different schools and different age ranges. Schools were recruited by asking for volunteers via social media networks and existing Futurelab contacts. Schools and teachers who were interested in developing approaches to digital literacy, home-school connections or both were preferred to enable discussion to start from a more advanced position.

Children were invited to participate by teachers, and in secondary schools were chosen to be children that staff participants had contact with through subject teaching or tutorial systems or both.

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## Methods

In each school, two group interviews with children involving discussion and written and drawn responses were held to explore:

- \_ children's digital literacy practices in school
- \_ children's digital literacy practices outside school
- \_ how children thought what they did outside school informed what they did inside school
- \_ how children thought what they did inside school informed what they did outside school.

In each school, interviews with staff were held to explore:

- \_ teachers' accounts of children's digital literacy practices in school
- \_ teachers' perceptions of the connections and discontinuities between children's digital literacy practices at home and at school
- \_ how teachers and schools can respond children's digital literacy outside school.

Finally, a workshop was held with staff from three of the four participating schools to develop ideas for activities to support exchange of knowledge about digital participation between children's homes and schools.

All sessions were audio recorded and transcribed, and written and drawn outputs collated. Outputs were thematically analysed, using pre-determined categories developed from the research aims.

# Findings

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## School A: Year 1-2

### Digital literacy in school

In discussing their use of digital technologies in school, children enthused about playing games on computers. They described how this usually took place at defined times of the school day: Be and Do or Discovery Time, when children had some freedom to choose their own activities. The games children described playing were games designed for education: Word Shark and Number Shark. When they described what they liked about these games they talked about the game play rather than the 'educational' elements, for example: "I have to jump on the dragon's neck, they get squashed and they get trapped and you win the flags".

Children talked about e-safety in the context of using computers at school, pointing out the 'e-safety dolphin' icon that they could click on to hide the screen and attract a teacher's attention if they saw something they didn't like. The teacher was also keen to talk about how e-safety was a priority in teaching digital literacy practices, and how teachers modelled this to children.

Children also described the use of the interactive whiteboard and visualiser, and digital cameras. These were also elements that the teacher was keen to discuss, particularly in terms of children being able to physically move around and interact with the interactive whiteboard, in contrast to sitting at a computer screen.

In terms of the teacher's aims for developing children's digital literacy, she emphasised the need to develop e-safety and basic functional skills that form the foundation of later use of technologies in school. However, she felt that schools could be "forced into using it [technology] an awful lot" and was concerned that digital technologies could stop children developing communication skills and being creative, and so when children used computers in class they normally did so in groups or pairs so that they could discuss what they were doing. Children did describe working in pairs at the computer, with one child describing how he lost his turn to his partner, who won the game for him.

### Digital literacy out of school

Children were familiar with a wide range of digital technologies, and were keen to display their familiarity and knowledge in talking about technology, with their teacher recognising how well "they know their way around digital objects".

As with inside school, children were very keen to talk about games they played, though they used the term 'games' very broadly to include drawing programmes on mobile phones and handheld consoles.

Several children described the involvement of family members in their game play. For example, one child described playing on the PlayStation 3 with his mum, another playing games on her parents' phones and laptops, and another playing on the Nintendo Wii with her dad. One boy gave a detailed description of how he and his mum work together when playing Club Penguin to tackle the difficult missions together:

Child: [My mum] sits next to me and helps me.

Interviewer: How does she help you?

Child: On some missions you get trophies and you buy quite a lot of things, you get quite a lot of things and she helps me because there's some hard things on it.

Interviewer: Are there? What's hard?

Child: There's signs and it says the letter next to it, like a hundred letters, and you have to figure it out on the internet, what do they mean.

Interviewer: Oh right, and how do you do that?

Child: You just type in what does this mean on Club Penguin and put the letter in and it says what it's called next to it but you don't know what it looks like, you have to spell it to find out what it is.



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Interviewer: That sounds quite difficult.

Child: It is.

From talking to children and parents, the teacher had deduced that children spend a lot of time at home playing computer games alone, and was concerned that children were “sat there with the controller and zoned in”, and as a consequence there was little conversation between children and adults. This example shows that for at least some children some of the time, in-depth conversations with parents took place around computer game play. She was also concerned whether parents “have those skills to make it [children’s learning with technologies] creative and innovative”.

One girl’s out-of-school technology use was very clearly bound up with her personal interests and how she expressed her (gendered) identity, describing how she played fairy games, princess games, wanted to meet a princess and to have a pink iPod.

Siblings also played an important role in children’s out-of-school technology use, both in introducing children to new games and websites, and as children differentiate their technology use by age, rejecting websites such as CBeebies that their younger siblings enjoy as “for younger people”.

Children talked about Club Penguin, and a similar game, Moshi Monsters, in which they take on an avatar in a virtual world, talking to other players and playing games, collecting in-game money with which to buy virtual items.

#### Connections and discontinuities

##### School to home

Children said they did not tell their parents much about their technology use at school, but some children did use the same games and programmes at home as they did at school (Word Shark and Revelation Natural Art, a drawing programme). Children generally enjoyed playing

computer games at home and at school, though the games they played at school were chosen for their educational content. There were however similarities; in both Club Penguin which children played at home, and some of the Number Shark games, winning the games meant that children collected virtual ‘money’, a fact that particularly interested one keen Club Penguin player.

Providing e-safety information to parents was also a priority for the teacher, who sent home informational DVDs, but she recognised that she there was a limit to the influence the school could have in “how much of that sticks”, and was concerned about children playing age-inappropriate games and going on chat rooms on games like Moshi Monsters.

##### Home to school

The teacher was keen to “keep up with the times” in her use of technologies in the classroom and saw how children with experience of using computers at home were proficient in their functional skills at school, saying “I want them to have the basic skills of being able to turn on a computer, turn off a computer, save work, retrieve work, to be able to type, change the font, change the colour, text, size [...] mouse control, [...] being able to take photos, video”. She was more cautious about any other benefits that children’s out-of-school digital literacies might contribute: “the key skills are great because they will need them [...] But anything other than that it’s quite hard to see anything more than that”. She was concerned that time spent playing computer games had a negative impact on children’s communication skills and the amount of physical activity they engaged in. However, some of the descriptions children gave of their game play showed how parents were closely involved at least some of the time.

One girl had brought in her Nintendo DS to school, and was very proud of it, and showed it to friends, though this was something she wasn’t supposed to do.

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## School B: Year 5-6

### Digital literacy in school

Children firstly associated 'ICT' in school with using computers, the internet and search engines. Children saw knowledge of the web and search engines as particularly important for using computers in school, because "you can hardly go on anything without going on a search engine", reflecting a focus on finding information. Children also discussed the relative merits of knowing about different search engines, including Yahoo and Google, with one child using criteria of safety and quality of results to make a preference: "I think Google's best out of all of them, it's more safe and stuff, you get more good answers", and another child described how it was easier to find information on a computer than going to a library. Teachers described children's confidence with searching: "they [...] already jump straight onto the computer and straight away go to search for information which I think is brilliant" but also expressed some reticence that children were not also using non-technological resources for information. Teachers were also concerned about the extent to which children understood and critically evaluated information they found on the internet, with one saying, "they'll copy and paste it, they don't think about it for themselves to put that down, whereas if you read a book you have to write it", though the extent to which books promote critical understanding could also be questioned.

Children enjoyed using a range of technologies at school including computers, cameras, programmable robots and webcam conversations with other schools. They described how they would need to know about technologies for future jobs, "like be in an office, and stuff like that, and that's covered because we have the ICT suite", and teachers described how it was important that children learned to use word processing programmes. Free use of computers were also available in 'golden time' and "sometimes at lunch we're allowed to go in the ICT suite". Children's enthusiasm for digital technologies in the classroom raised some issues for teachers, who questioned whether children were in a position to choose appropriate technologies (or a non-technological tool) for the task at hand.

Teachers described how they used technology to enhance teaching, modelling writing and editing on a large screen and showing larger numbers, "those good literacy and numeracy skills can be really quite heavily taught through media", pointing out that literacy and numeracy skills are essential for most uses of technology.

### Digital literacy out of school

In discussing digital practices outside school, children focused primarily on games and music. Children described a range of strategies for finding, playing and downloading music from the internet, and playing it back on laptops, iPods and phones, learning these strategies either through trial and error ("I just sort of picked it up") or in several cases, from watching parents or being directly taught by them. As with Year 1-2 children, family members were heavily implicated in children's technology use, with children describing how they taught information search skills to parents and grandparents, and often played games with parents (usually fathers) and siblings.

Many of the children's parents were in the armed services. This community context was reflected in some of the boys' focus on playing war games and detailed knowledge of weapons, giving detailed descriptions of war game strategy: "what you do is you can make a base and you get some reinforcements and you go attack like with some men and here's the part that I like doing, you walk into their base with just a couple of soldiers and then behind the hills I see tanks rolling up". The motivation for playing these games, and the knowledge developed through such game play, often with parents, seems likely to be closely related to children's immediate family and community concerns.

Children also evaluated games they found on the internet, as one child said, "I play games like, I find a game, play it, see if it's a little bit good and then I try to find some cheats for it". In this instance, finding cheats for games was a way of developing and extending game play, and not something that this child would bother with for games that weren't good. As with Year 1-2, children were keen on playing virtual games such as Club Penguin, but again were involved in evaluating this game against other similar games: "I go on Bearville because on Club Penguin

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and Moshi Monsters you have to pay for it and on Bearville you can get a house and everything and go everywhere for free". Teachers, were, however, concerned that children might not be 'technologically savvy' enough in their evaluation of digital technologies.

Digital communication channels were also very important for these children, using email, facebook and chat, and for some of these children who moved schools frequently, using email, text (and in one case sending digital recordings of songs) was a particularly significant and meaningful medium for maintaining contact with friends.

#### Connections and discontinuities

##### School to home

School was a place where children were introduced to new ideas and technologies, some of which they took home, with one child being introduced to games on marvel.com which he then played at home, and another seeing her teacher using spotify (an online music library and player) which she wanted to get at home. These examples both connect with children's expressed digital interests of games and music.

As with Year 1-2, e-safety was another area where children's digital literacy practices were transferred to the home environment, and specifically related to homework, with one girl saying: "At my old school in Year 4 we done about being safe and there was a website if you were doing homework what websites were safe and stuff". Functional skills, including typing, were also developed at school and applied at home: "Like typing because most people our age, they type with one hand but now we can type with two hands".

##### Home to school

There were fewer instances of children's home digital literacy practices coming into the school environment, with one child summing up: "we do different stuff in school like new documents", emphasising the functional skills and more 'work-focused' technology use at school.

Teachers did talk about how one of the reasons for using technologies in school was because children had developed these expectations from their extensive uses of technology outside school: "from a teaching angle you've got to put a bit more, what I call the whizz bang factor into it. They don't just want textbooks, worksheets, presented to them this way..." But they also wanted to extend children's digital experience beyond what they knew from home: "that's the experience they've had before, or basically the experience they come in with, isn't it, and we as teachers I think need to train them".

Teachers acknowledged how it was difficult to know enough about children's out of school digital literacy practices to be able to "tap into" within the classroom, with one indicating that this tended to happen spontaneously rather than something that could be planned for: "those instances are more the kind that you stumble upon when you're doing something, or whether you're working with it, and one of the children will suddenly say, oh when I was at so, [...] it's one of those spontaneous moments that something just gels and they bring it out." Part of the issue here is that, with particular classroom objectives and curriculum to follow, locating experiences from children's out-of-school lives that fit into these plans can be challenging.

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## School C: Year 7-8

### Digital literacy in school

As with Year 5-6, students focused on internet research and presentation skills, backed up by one teacher describing this process as “the classic one is find out about a certain topic and produce a PowerPoint of it”. Students felt that the access to information provided by technologies was essential to their education, and that without them “half your knowledge would be taken away from you”. Despite the familiarity with this method of working, teachers were concerned about students’ abilities to find and select appropriate information and to critically evaluate it, especially in subjects like science where many websites are very technical and difficult for school-level students to understand.

This concern was borne out by a discussion amongst students who described Wikipedia as “like a dictionary in a computer, it tells you everything” in contrast to Wikianswers where “anybody can go on there and just put their own ideas on it”. One teacher thought that part of the issue here was that rather than considering what they were learning, students did what was necessary “to just get the work done”.

Teachers also commented that students “were very visual” and would switch off with text books but “if you give them the same information package as a video they’re more than happy to give it a go”. The accessibility of information through internet and video prompted one teacher to question the extent to which students needed to be able to remember significant amounts of subject content knowledge, instead focusing on the necessity to have the skills to be able to find and select information when it is needed.

Teachers and students also described how they were beginning to use the school’s own ‘social network’ – an elgg<sup>9</sup> platform that was used to upload presentations, with teachers asking students to comment on and assess each others’ work, and discuss their learning. While teachers were enthusiastic about using this platform to encourage social

learning, they also acknowledged that the ability to see other students’ work (and potentially copy it without understanding) could be a flaw.

### Digital literacy out of school

Most students played games outside school, describing how they learnt to play by trial and error. Teachers also said that many students played online multiplayer games, on the Xbox Live or World of Warcraft in which students would join with other players they didn’t know offline to carry out complex missions over long periods of time.

The social and communicative element of students’ digital practices outside of school was clear. As well as the social aspect in much game play, social networking, and constant communication through phone calls and text messages was common.

Students were also engaged in creative digital literacy practices. Two boys described how they created online videos and tutorials. One boy had his own channel on YouTube and created and uploaded videos, receiving and replying to positive and constructive comments from his ‘fans’ and removing any inappropriate comments. Another boy described how he created online tutorials to teach other people how to use software and online tools.

Students were also reflecting on what it meant to use digital technologies in the context of the global economy, having seen a TV documentary about how digital technologies were manufactured using child labour in China. Students also saw they could use social digital media to mount a campaign against these unfair trade practices and boycott technologies produced through unfair trade, but also recognised the tensions in using digital technologies to campaign against digital trade. Students were thus developing some cultural and social understanding as well as critical reflection in the context of their own digital literacy practices.

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### Connections and discontinuities

#### School to home

As with the younger children, parents and relatives featured heavily in students' out-of-school digital literacy practices, and they described teaching grandparents and parents how to use digital technologies, in one case actually repeating the lessons from school with parents in the evening. Students also learnt further functional and operational skills from parents.

#### Home to school

In some lessons at school, students were frustrated about not being able to suggest different or better ways of using technologies, saying they got told off. Students also said that some teachers did not welcome students' out-of-school knowledge more generally into the classroom: "if you try to link it [out of school activities] with something in lessons, it's always wrong and they've got to be always right." Other teachers, however, suggested that in such instances teachers could invite students to share their knowledge with the rest of the class and that "you can go on and make a whole lesson out of something they've asked you". Bringing in out-of-school knowledge into the classroom can be seen as undermining teachers' authority when it is framed as a question of who is 'right', or which knowledge is 'legitimate', but for other teachers it is simply a case of working with whatever students bring to a particular task.

Teachers were also consciously trying to bring in some of students' out-of-school digital practices into the classroom. One of the boys who made online tutorials was applying these skills to creating resources for staff teaching them how to use new software in the school, and even presenting CPD sessions to them, having his expertise acknowledged and valued within the school context. The school social network platform was also an attempt to use some of the practices that students engaged in outside school, but was used in very different ways to students' own social networking tools, focusing on school content. Teachers noted, however, that students were often more willing to comment on each other's work and on their own learning using the school social

network than they were to speak aloud in class, and that conversations would continue far longer than they otherwise might be expected to. Teachers also suggested that students had different expectations for how they learnt, and some teachers were trying to respond to students' willingness to feed back, to comment and to question teachers, habits and expectations they saw as fuelled by the way in which students were used to interacting with digital technologies. The challenges teachers described in bringing students' out of school practices into the classroom were about using them "to focus on learning [...] as opposed to just social" uses. One of the challenges that teachers tried to address was "how do we use it to aid the curriculum, how do we use it in lessons?" The examples here suggest that there may be some opportunities to bring in some of students' digital practices into school to support the curriculum, but bringing in students' out of school knowledge may be more challenging, as it does not necessarily fit in with the planned curriculum.

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## School D: Year 8-9

### Digital literacy in school

Students described a range of digital technologies that they used in school, particularly the interactive whiteboards that were used in maths, which they described as making the lesson “less boring” as they could get more involved and learn interactively. They also made use of other standard packages such as PowerPoint and Word as well as describing more creative activities with using Google SketchUp to create 2D and 3D designs, and programming in Scratch. The school had recently installed a VLE (virtual learning environment), but unlike the social network being used in the Year 7-8 group, some students had been told off for chatting on it, and it was not being extensively used.

Access to technologies in school was one issue, with students saying that they would go to the computer room no more than once per week, and so digital literacy practices within lessons were limited. Students had their own mobile phones with them, but were required to turn them off during lessons.

The majority of students’ digital practices in school were therefore limited to their ICT lessons, which students seemed to find unengaging, saying they only learnt about databases and PowerPoint. When asked what they would rather be doing, one student said he would rather “be just doing what we like, that’s what ICT is” and learning about facebook. A teacher present at this conversation interpreted students’ dissatisfaction with ICT as beginning to critique and pick apart the ICT curriculum’s focus on office skills, and felt that a critical focus on topics such as social networking, Microsoft and the blogosphere would be valuable.

The critical element of digital literacy was particularly important to one teacher, who felt that when students’ used technology “they’re not critical in any way, shape or form, they just imbibe, it’s probably their age”, and students weren’t always thinking about the appropriateness of the technology for the task at hand. This linked to his foregrounding of the importance of criticality in all teaching and learning, supported by

another teacher who felt that the components of ‘digital literacy’ (critical evaluation, collaboration, effective communication, etc) should be embedded in all good teaching, whether it involved digital media or not.

### Digital literacy out of school

Out of school, students’ digital literacy practices were strongly characterised by the amount of communication they engaged in. Girls were adept at multiple channels of digital communication, talking about their use of mobile phones, MSN, and social networking to keep in touch with friends, often communicating via all three of these methods at the same time. Digital communication practices were embedded within family life too, with mobile phones seen as essential for parents to keep in touch with children when they were out and about, and were sometimes even used for communication in the house when parents were downstairs and children upstairs. Boys’ digital communication practices were more focused on their use of games, playing multiplayer games with friends and making new friends through online play. Social networking and television were also important digital media activities for these students, who discussed the relative merits of facebook and Bebo in terms of their design capabilities and how their usefulness was related to their popularity amongst your own circle of friends.

Teachers felt that they did not have extensive knowledge of children’s out of school digital literacy practices, but were concerned that they were not taking advantage of the opportunities afforded by the internet and TV to find out about world news and current affairs, feeling that students only accessed a very niche range of media content and were not widely informed. The kind of knowledge that is valued in school is not necessarily valued in the home, and teachers suggested that students were not interested in using digital technologies to access this knowledge because it was not valued by their parents, and they did not have a support network that encouraged them to engage with this kind of knowledge. Teachers were also concerned that the ‘dominance’ of technology in young people’s lives was displacing other valuable skills, such as reading books.

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## Connections and discontinuities

### School to home

There were few examples of students taking school digital literacy practices out of the classroom. In discussing the importance of their learning with digital technologies in school for their wider lives, students focused on the importance of being able to make use of technologies for the world of work.

### Home to school

When students were asked for examples of using digital technologies to communicate, all of their examples were from outside school, and they could not think of ways in which they engaged in digital communication in school; indeed some students had been told off for chatting on the school VLE. Some students do of course communicate using their mobile phones either at break time or without teachers knowing, but this was something they were not supposed to do.

One teacher thought that students' textual digital communication had a negative impact on their writing within school, using lower case 'i' instead of 'I' and generally mixing up lower and upper case letters. However, she also recognised the fluidity of language and that potentially these changes would become normal in the future, however the current English curriculum does not recognise students' out-of-school digital communication practices.

When students could draw on their out-of-school experience, they enjoyed it, saying, for example, "it's easier to write about what you know". Teachers also welcomed students' contributions and the blurring of boundaries between home and school knowledge, for example when introducing animation to a group, and a student responded that she already knew how to do animation, the teacher asked her to share this with others in the group. Students complained that some teachers however did not get to know them or invite their contributions to the subject, and teachers also said they knew little about students' out of school digital literacy practices. Students suggested that teachers could directly ask them for any relevant experience when introducing new subjects; teachers were also aware of the need for such direct knowledge and warned against making assumptions about what young people were interested in or had experience in as there was so much variation between students.

## Discussion and conclusions

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Children participated in a wide range of digital literacy practices both within and outside school. There were examples of connections, such as one taking home e-safety messages from school and using some of the digital literacy practices familiar to students from social networking in support of the school curriculum. On the whole, however, the number of significant meaningful connections between children's out-of-school and in school digital literacy practices were limited. While teachers were interested in and keen to make stronger connections, they encountered a number of issues and challenges in thinking about forging such connections. The more significant of these are briefly discussed below.

#### Curriculum

Space for including children's out-of-school knowledge and skills is not necessarily available within the school curriculum. The curriculum sets out a body of knowledge and skills that children are expected to achieve and on which they are tested, and so when looking at the potential for connections to be made between children's out-of-school experience, teachers are constrained by the extent to which it aligns with the subject matter set out in the curriculum. This frames the value of children's out-of-school knowledge, skills and digital literacy practices in terms of the extent to which they can support the established aims of the curriculum, and means that students' practices that do not fit into these aims cannot be integrated and are likely to be passed over.

#### Technologies or practices?

In discussing connections between children's digital literacy practices in and out of schools, teachers often focused on the technologies that children were using outside school. So when it emerged that children's digital literacy practices centred around social networking sites, computer games or music, the question became framed in terms of what social networks, games or music could offer the curriculum or how popular technologies could be used to deliver the curricular knowledge. This approach also framed the way that some teachers analysed the educational value (or otherwise) of the technologies that children were using outside school, as teachers looked for ways in which popular technologies could be integrated within the curriculum. It was more difficult to focus on the digital literacy practices that children were

engaging in during their use and to consider whether some of these practices, if not the exact technologies themselves, could be brought into conversation with some of the practices of school.

#### Diversity of out-of-school practices

A further challenge for teachers considering how to bring children's interests and experiences into the classroom is the diversity of children's out-of-school lives combined with the necessity of planning a lesson for a group of children. The fear of some teachers was that privileging one child's interests would discriminate against the rest of the group if they did not share those interests. Teachers' knowledge about what children's out-of-school digital literacy practices was also in many cases limited and both teachers and older children were wary about the extent to which they wanted to share information about their lives outside school.

#### Compensating or complementing

For some teachers, children's out-of-school uses of digital technology presented more problems than opportunities. They were concerned that children's digital literacy practices were displacing other practices that might better support their progress at school, such as reading books or communicating with peers and adults through face to face speech. Some teachers were also concerned that children's uses of digital technologies out of school were not as digitally literate as they might have wished, particularly focusing on a lack of criticality when assessing information found online and on whether they were able to critically evaluate the appropriateness of particular digital technologies (or alternative tools) for the task at hand. The question then became one of how schools could foster particular skills and components of digital literacy rather than how they could build connections between home and school digital literacy practices.

Building connections between diverse practices in and out of school raises many issues for schools and teachers. Some of these issues relate to fundamental questions of curriculum and how we place relative value on different forms of knowledge associated with different social and cultural groups. It can seem impossible to completely bridge this gap, and it may not be desirable to completely erode the boundaries



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between knowledge and digital literacy practices at home and at school. However there are also existing connections and synergies that could be further developed. This would entail going beyond trying to bring popular technologies within the classroom, instead looking in more depth at the complex and diverse reality of children's digital literacy practices to better understand the skills, knowledge and understanding they are developing. Starting from a point of valuing children's out-of-school digital literacy practices, and working to develop existing synergies may provide new opportunities that support children to draw on a wide range of digital literacies at both home and school.

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## About Futurelab

Futurelab is an independent not-for-profit organisation that is dedicated to transforming teaching and learning, making it more relevant and engaging to 21<sup>st</sup> century learners through the use of innovative practice and technology.

We have a long track record of researching and demonstrating innovative uses of technology and aim to support systemic change in education – and we are uniquely placed to bring together those with an interest in improving education from the policy, industry, research and practice communities to do this. Futurelab cannot do this work on its own.

We rely on funding and partners from across the education community – policy, practice, local government, research and industry - to realise the full potential of our ideas, and so continue to create systemic change in education to benefit all learners.

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## Key to Themes

Futurelab understands that you may have specific areas of interest and so, in order to help you to determine the relevance of each project or publication to you, we have developed a series of themes (illustrated by icons). These themes are not intended to cover every aspect of innovation and education and, as such, you should not base your decision on whether or not to read this publication on the themes alone. The themes that relate to this publication appear on the front cover, but a key to all of the current themes that we are using can be found below:



Digital Inclusion – How the design and use of digital technologies can promote educational equality



Teachers and Innovations – Innovative practices and resources that enhance learning and teaching



Learning Spaces – Creating transformed physical and virtual environments



Mobile Learning – Learning on the move, with or without handheld technology



Learner Voice – Listening and acting upon the voices of learners



Games and Learning – Using games for learning, with or without gaming technology



Informal Learning – Learning that occurs when, how and where the learner chooses, supported by digital technologies



Learning in Families – Children, parents and the extended family learning with and from one another