A National Literacy Trust research report

Teachers' use of technology to support literacy in 2018

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April 2019

Introduction

Technology has been used to support learning for centuries, from the invention of print to whiteboards and touchscreens. In recent decades, the presence of electronic devices in homes and workplaces has become near universal, and many schools use computers, laptops and tablets to support children's learning in the classroom. However, enthusiasm for bringing technology into the school setting has been tempered by inconsistent findings in studies exploring the impact of technology on educational outcomes (e.g. OECDa, 2015; OECDb, 2015), calling into question the degree to which technology may be said to have lived up to its early promise for education.

Closer observations have suggested that inconclusive results may in part be due to ineffective or inefficient use of technology to support learning outcomes, as suggested in influential works such as *Oversold and Underused: Computers in the Classroom* (Cuban, 2003). More recently, OECD Director for Education and Skills Andreas Schleicher proposed that school systems should find more effective ways to integrate technology "…to provide educators with the learning environments that …provide children with the 21st-century skills they need to succeed in tomorrow's world" (OECDc, 2015). Furthermore, in 2018, the Education Secretary called upon the technology industry to demonstrate support for "innovative teaching practices …backed up by evidence of the impact they are having on schools, colleges and universities" (Department for Education, 2018).

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Technology and learning

Commentators have noted a variety of ways in which technology can be used to support learning. Several note its benefits for pupil engagement, for example, Price-Dennis et al. (2015) observed how digital tools can make the curriculum accessible to pupils of different abilities while inspiring children by linking academic goals with real-world platforms. Other teachers have described how digital technology can facilitate differentiated learning, and how it can "improve grades, retain students' focus and even build the confidence of many children" (Williams, 2018).

Alongside the potential for increasing children's engagement with learning, a UK meta-analysis of studies on how technology can support the educational outcomes of 5 to 18-year-olds found that "overall, the research evidence …about the impact of digital technologies on learning consistently identifies positive benefits" (Higgins et al., 2012). However, the researchers cautioned that the wide range of impact found across studies suggested that positive findings were less related to the use of technology itself, and more to how well it was employed, concluding "there is no doubt that technology …motivates [but] …this benefit is only an advantage if the activity is effectively aligned with what is to be learned".

This survey of UK teachers

There are many factors at play when using technology to support learning. Alongside providing access to hardware and software, schools need to consider evidence of its positive impact on learning, and issues such as teacher training and confidence. This report combines insights from research relating to the impact of technology on literacy teaching and learning in the school environment with new information gathered from a survey of UK teachers that we conducted in late 2018.

Our survey, funded and supported by Crick Software[1], received 219 responses from 166 schools. Just over half (53.9%) were from teachers based in primary schools, and almost 2 in 5 (37.9%) were from secondary schools. The remainder (8.2%) were from a range of educational settings, including Pupil Referral Units and special schools.

We hope that our findings will contribute to the evidence base around teachers' experiences of using technology to support literacy, and the challenges and opportunities technology has to offer literacy teaching and learning.

[1] A provider of literacy support software: https://www.cricksoft.com/uk

Key findings

Our survey of 219 teachers from 166 schools in the UK found:

Access to, and use of, hardware

- Pupils had access to a variety of hardware in the classroom, but levels of access were low overall. For example, while respondents were most likely to say pupils had access to laptops and iPads, **less than half** (48.4%) had these available, and only 2 in 5 (39.3%) said pupils had access to desktop computers.
- Two-fifths (43.8%) of teachers said they used technology to support literacy on a regular basis, with 22.8% using it daily and 21.5% a few times a week. However, a fifth (20.1%) of respondents said they rarely or never used technology for this purpose.

Perceived benefits of technology

- Regardless of the hardware they had access to, most teachers thought positively about the potential for technology to support children's learning. The majority considered the ability to **engage** (86.8%) **and enable** (66.7%) pupils to be the principal benefits of using technology in the classroom.
- Technology was seen by most respondents to have a positive impact on **reluctant readers** (68.5%) and **boys** (64.8%), followed by **reluctant writers** and **less able readers and writers**.
- Popular platforms, programmes and apps used to support literacy in the classroom included Accelerated Reader, Clicker and Kahoot. Teachers frequently mentioned that such platforms facilitated literacy learning for pupils by **increasing motivation and confidence**, and **removing barriers to learning**.
- Pupils typically used technology to watch on-screen content (64.4%) or to complete on-screen exercises (63.5%). However, many also used it to demonstrate their knowledge, record their ideas or create content, indicating that devices are being used almost as much for **creative tasks and purposes** as for viewing or taking tests.
- More than half of teachers felt personalised learning (61.6%) and assessment (53.9%) were among the key benefits of using technology, and 47.9% felt it saved time by supporting children to learn independently. However, just 2 in 5 (42.0%) felt it saved time in planning and creating content, suggesting more could be done to fulfil the potential of technology for helping teachers make effective use of their time.

Attitudes towards technology

- Almost **9 in 10** (88.1%) teachers agreed that children should be prepared for a digital workplace. However, **more than half** (56.2%) also believed non-technology-based teaching was better than or just as good as technology-based methods.
- Barriers to using technology to support literacy were **more resource than attitude-related**. Most teachers cited lack of hardware, software and wifi (58.4%), finances (51.6%) and outdated or insufficient hardware (45.2%) as the top three barriers to using technology to support literacy in the classroom.
- **Almost a quarter** (23.3%) of respondents to our survey said they had no training (neither initial nor ongoing) in the area of using technology to support literacy learning. **More than a fifth** (22.8%) said while they did not hold any educational technology-related qualifications, they would like to.

- Teachers had a stronger sense of self-efficacy when using technology for personal rather than professional use. They were **almost twice as likely** to describe themselves as 'very' confident at using technology at home than in the classroom (47.4% vs. 27.4%).

Our findings indicate that investment in hardware should be followed by an investment in the research and training needed to ensure technology is used effectively to support learning outcomes for all children. This requires support from policymakers and the technology sector, in consultation with academics, educationalists and young learners.

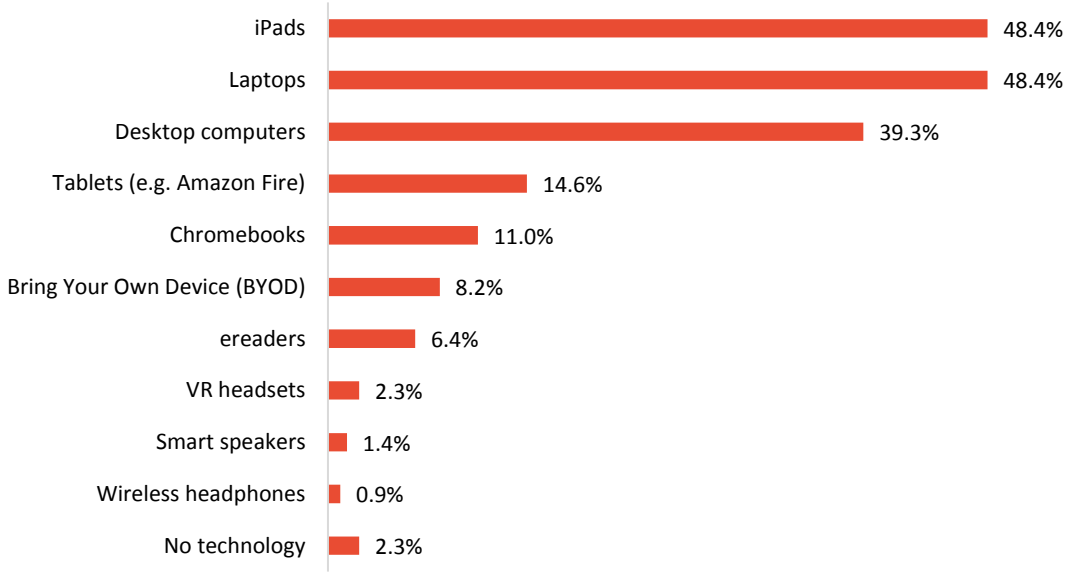
Technology and literacy

The widespread availability of devices, such as smartphones and tablets, the wealth of reading material available on them and their affordances for writing, speaking and listening has been reflected in a growing number of studies exploring the interplay of technology and literacy over recent decades. Often studies may be seen to reflect narratives in which technology is variously seen as a challenge to what has long been understood as literacy (that is, reading or writing on paper); as a tool to support these traditional concepts of literacy; or as a way to facilitate newer forms or definitions of literacy. It is, therefore, useful to consider not only how technology may be seen to support more traditional formats of reading and writing in the classroom but to anticipate further debates as the affordances of technology support both newer concepts and definitions of literacy.

Access to technology

So, how many teachers say that they have technology available to support their pupils' literacy? While responses to our survey indicated that pupils had access to a variety of hardware in the classroom (see Figure 1), levels of access to hardware were low overall, with less than half (48.4%) of teachers saying their pupils had access to iPads and laptops.

Figure 1: Which of the following do your pupils have access to in the classroom? (Tick all that apply)



Only 2 in 5 (39.3%) teachers said they had access to desktop computers, and far fewer to tablets such as Amazon Fire (14.6%), Chromebooks (11.0%) and ereaders (6.4%). Almost none had Virtual Reality headsets (2.3%), smart speakers (1.4%) or wireless headphones (0.9%). 2.3% of respondents said their school had no access to technology at all.

Primary vs. secondary settings

Teachers from primary schools were four times as likely to say they had access to iPads (69.5% vs. 15.7%) and twice as likely to have laptops (60.2% vs. 26.5%) as those from secondary schools.

A 2017 report by BESA (British Educational Suppliers Association) found that an average secondary school had 431 computers and an average primary school had 70 computers[2], so we might have expected to see a higher number of secondary respondents reporting access to computers; however 44.6% did so, compared with 34.7% of primary respondents. This may be explained by the wording of the question, which asked about *access* rather than *availability*; indeed, several comments mentioned the difficulties of booking hardware even when it was theoretically available, for example:

> "As a teacher I would like to use technology more, however our school budget does not allow for this. We currently have 10 iPads in a school of 250 children."

Frequency of technology use

Those with access to technology were most likely to say it was used to support literacy either daily or a few times a week. However, this was still a relatively low percentage, with less than a quarter using technology daily (22.8%) or a few times a week (21.5%), and 16.4% weekly. A fifth reported using technology less frequently (19.2% using it a few times a month and 20.1% rarely or never).

On average, pupils were estimated to use technology to support their literacy for just under half an hour on a typical day (M = 27.5 minutes, Mdn = 20 minutes). However, teachers estimated that pupils with special needs spent on average almost twice as long using technology to support their literacy, at almost an hour in a typical day (M = 51.5 minutes, Mdn = 30 minutes).

[2] https://www.besa.org.uk/key-uk-education-statistics/

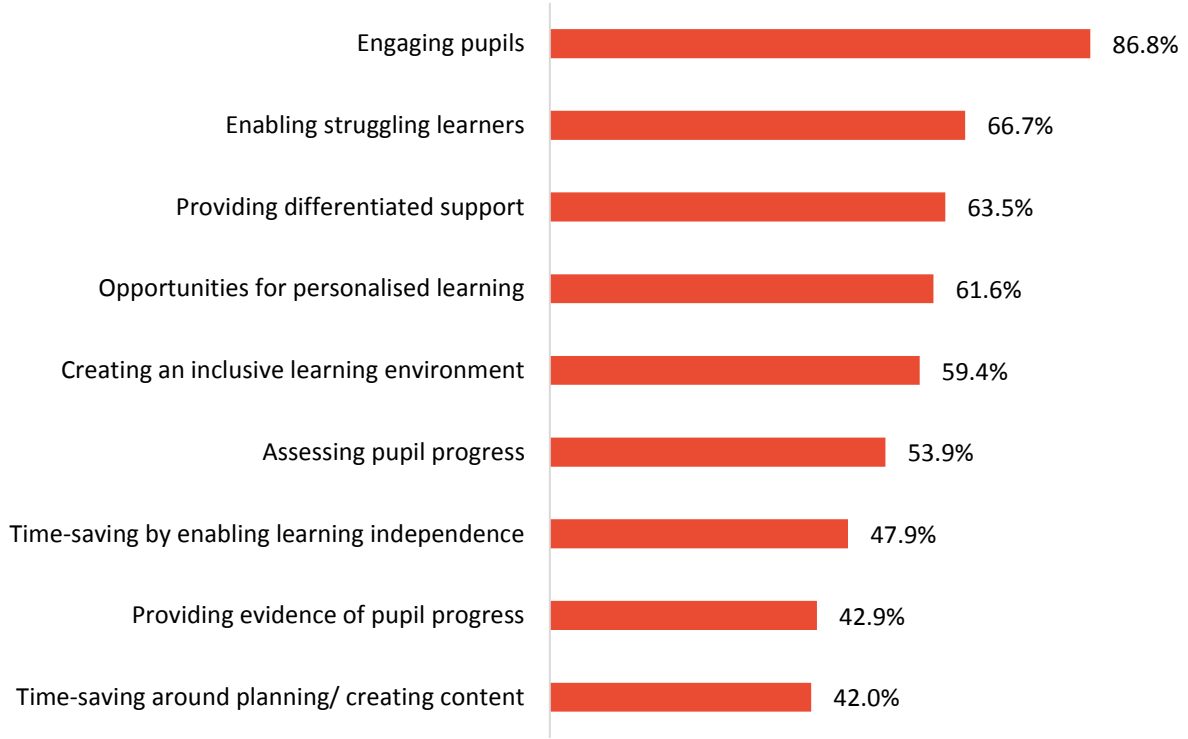
Primary vs. secondary settings

As well as reporting higher levels of access to portable devices and wifi, respondents from primary schools were twice as likely to say they used technology to support literacy frequently (daily or a few times a week) than those from secondary schools (54.2% vs. 26.5%). Similarly, while just over 1 in 10 (11.0%) primary school-based respondents used technology rarely or never, this rose to more than a third (34.9%) of those based in secondary schools.

Teachers' perceptions of aspects of the main benefits of using platforms, programmes and apps to support literacy learning

Much of the existing research indicates that one of the primary benefits of technology is its power to engage children in learning. Almost 9 in 10 teachers in our survey agreed (see Figure 2), with the majority of respondents considering technology to be effective in engaging children in literacy, and its ability to support and enable struggling learners was further noted by more than two-thirds of teachers. Similarly, 3 in 5 teachers felt technology helped their pupils to overcome barriers to learning by creating a more inclusive learning environment, and almost half felt it could save time by facilitating independent learning.

Figure 2: Main benefits of using technology to support literacy



Teachers reporting more frequent use of technology were more likely to believe it to be effective in engaging pupils. Almost half (46.8%) of those who used technology daily or a few times a week, and more than a third (36.3%) who used it weekly or a few times a month, felt

pupil engagement to be one of the main benefits of using technology, compared with just 16.8% who rarely or never used it.

The potential to provide differentiated support, personalised learning and assessment would seem to be an area of particular promise for educational technology. Indeed, a speech by the Education Secretary described observing it "…helping children take virtual trips through the Amazon and control robots, while also slashing the time their teachers are spending on burdensome administrative tasks" (Department for Education, 2018).

Our survey indicated that more than half of teachers agreed that personalised learning (61.6%) and assessment (53.9%) were among the key benefits of using technology to support learning, and just under half felt it saved time by supporting children to learn independently (47.9%). However, fewer (42.9%) felt that it was useful for providing evidence of pupil progress.

Primary vs. secondary settings

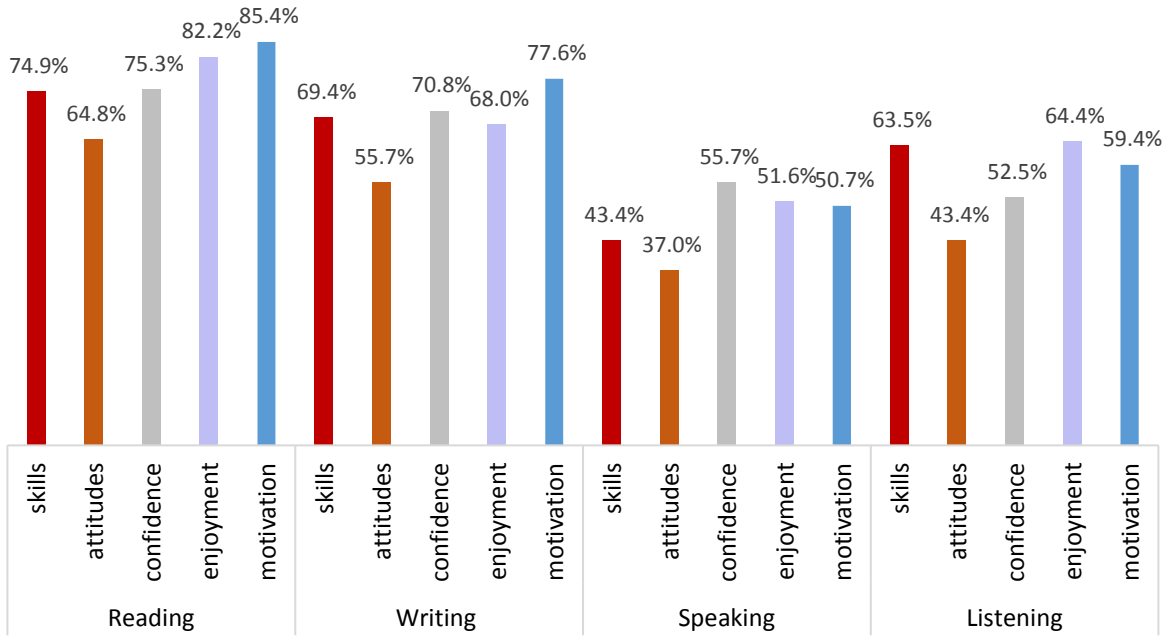
Secondary teachers were more likely to say they found technology useful both for assessing (69.9% vs. 44.1%) and for providing evidence of pupil progress (57.8% vs. 31.4%) than primary teachers. They were also more likely to feel time saved planning or creating content was a benefit of using technology (54.2% vs. 33.9%). However, just 2 in 5 (42.0%) felt technology saved time in this area overall, suggesting more could be done to fulfil the potential of technology for helping teachers make effective use of their time.

Teachers' perceptions of aspects of literacy most positively impacted by technology

For many of us, a high proportion of what we read and write every day is accessed using technology, from websites, ebooks, blogs and news to social media and messaging. In addition, research shows that reading on screen is popular with young people, with more UK children and young people saying they read on screen rather than on paper outside school (Clark, 2012, cited in Picton, 2014). Children and young people also enjoy writing a range of material on screens, including fiction, blogs and song lyrics (Clark, 2018). A 2012 review of studies exploring the use of technology to support learning found that positive gains in attainment tended to be more visible in maths and science subjects, and noted that "…in literacy the impact tends to be greater in writing interventions compared with reading or spelling" (Higgins et al., 2012).

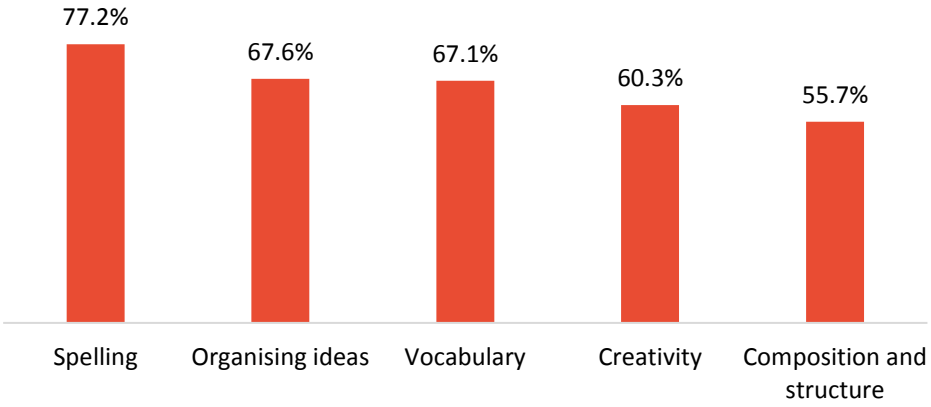
When we asked teachers to consider the aspects of literacy most positively impacted by technology, most noted positive benefits for pupils' confidence, enjoyment and motivation for reading, writing, speaking and listening (see Figure 3). Three-quarters (74.9%) felt technology had a positive impact on children's reading skills and 7 in 10 (69.4%) on their writing skills.

Figure 3: Teachers' perceptions of aspects of literacy most positively impacted by technology



Looking specifically at aspects of writing supported by technology, over three-quarters of teachers believed it could provide effective support with spelling, while two-thirds felt it helped children organise their writing ideas and support vocabulary learning. In addition, 2 in 5 teachers felt technology supported pupils' creativity and just over half thought it helped pupils with writing composition and structure (see Figure 4).

Figure 4: Teachers' perceptions of aspects of writing best supported by technology



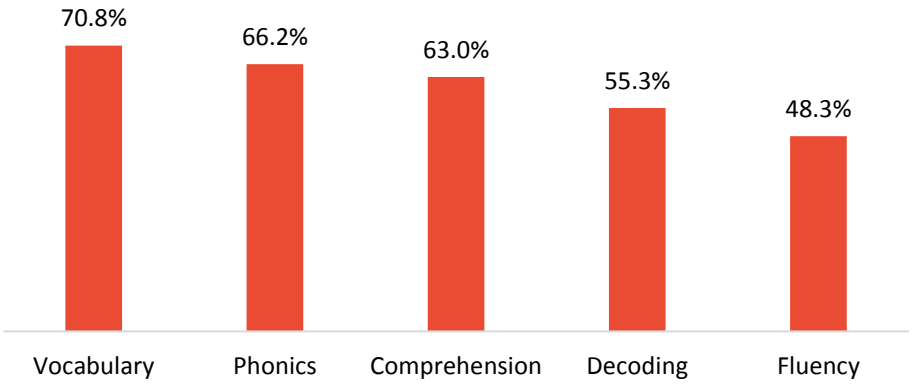
These findings echo those of a number of studies that have found technology can make a positive contribution to writing in the classroom, across a range of age groups and in relation to both writing skills and attitudes. For example, Neumann (2016) found positive associations between frequency of writing with tablets and print awareness, print knowledge and sound knowledge, concluding, "…tablet writing may be a key activity for early literacy learning". A 2003 review (Goldberg et al.) of studies comparing primary-aged children's writing on screen and paper found significantly improved quantity and quality of writing when students used computers to support their writing. It also noted that pupils were more engaged and

motivated by this format, and the process was often "more collaborative, iterative and social" than pen and paper writing.

Other research has considered the impact of technology on less able writers. A 2012 meta-analysis of 27 studies looking at the impact of word-processing in weaker writers found positive impacts on writing quality and length, organisation and motivation, with particularly powerful effects associated with platforms that supported planning and revising (Morphy and Graham). In a 2018 article, Professor Bekkering of Radboud University observed that apps could be beneficial for teaching the technical aspects of writing, "particularly for boys, [who] are on average less good in fine motor skills [and] often spend their entire elementary school time learning to write neatly" (cited in Renckens, 2018). He further theorised that early struggles in this area might contribute to negative associations with literacy that could further affect boys' later literacy development.

Returning to reading, more than three-quarters of teachers responding to our survey felt technology had a positive impact on children's motivation to read (85.4%), as well as their reading enjoyment (82.2%) and confidence (74.3%). A number of small studies looking at how technology can support wider reading behaviours support such observations. For example, Stover et al. (2016) have explored the benefits of using blogs to help children share and discuss their reading; Yuill et al. (2009) have highlighted the benefits of using technology to encourage peer collaboration and discussion; and Gomez et al. (2010) have described how working in a collaborative online context enabled young people to improve their critical literacy. In addition, three-quarters (74.9%) of respondents to our survey felt technology had a positive impact on their pupils' reading skills. When asked to focus further on specific elements of reading, most felt it best supported vocabulary learning (see Figure 5).

Figure 5: Teachers' perceptions of aspects of reading best supported by technology



However, two-thirds felt technology was helpful in supporting phonics learning, and more than 3 in 5 believed it could support reading comprehension (63.0%). Just over half believed technology could support pupils with decoding, and although nearly half of respondents felt it could support reading fluency, this was the aspect of literacy fewest teachers felt could be positively impacted by technology.

Primary vs. secondary settings

While primary-based respondents were more likely to feel that technology was effective in supporting phonics learning than those in secondary settings (84.5% vs. 47.1%), this may simply reflect that phonics are most often taught at primary level.

Perhaps unsurprisingly, those using technology to support literacy most frequently were also more likely to believe it had a positive impact on a range of aspects of reading and writing compared with those who rarely or never use it. Around half of respondents using technology daily or a few times a week believed it had a positive impact on reading fluency (56.5%, vs. 12.3% of infrequent users), decoding (52.1% vs. 14.7%), comprehension (50.7% vs. 13.8%) and skills (48.4% vs. 15.2%). Similarly, most frequent users were more likely to believe technology was effective in supporting writing composition (52.5% vs. 15.6%) and skills (48.7% vs. 14.5%).

Findings from existing research in this area are mixed, with studies noting a variety of positive and negative impacts of technology on different aspects of reading and pupil groups. For example, Wild (2009) noted that computer-aided instruction could improve new readers' phonological awareness; Roseberry et al. (2014) found Skype could support young children's language learning; and Bakker et al. (2016) observed that pupils who practised technical reading skills using a particular software platform performed better than those who worked only with books.

However, several studies have found minimal or negative impacts related to using technology to support traditional reading skills. For example, a study investigating the impact of a range of software platforms on reading outcomes in 40 US primary schools found almost no significant differences between treatment and control groups (Campuzano et al., 2009; Dynarski et al., 2007). A later review suggested that, rather than technology per se, findings may have reflected poor-quality software, and further, that aggregate findings masked variance across studies indicating software was "more effective for some students and less effective for others" (Connor et al., 2014).

A uniting feature of studies in this area is the observation that digital reading offers "both promises and perils to different types of readers", with the influence of digital affordances "often dependent on the child's skill level and the technology itself" (Barzillai et al., 2017). Indeed, this has been found in international studies and reviews. For example, while Programme for International Student Assessment (PISA) results found that the 'gender gap' in reading performance (with girls outperforming boys) narrowed significantly in every participating country when reading tests were computer-based (OECDa, 2015), another OECD study found that students' reading performance declined, on average, in countries where internet use for schoolwork was greater (OECDb, 2015).

Similarly, while Delgado et al. (2018) concluded that paper-based reading better enabled comprehension, they noted that the literature suggested, "media effects were inconsistent", with important moderating factors affecting results. These included time-constrained versus self-paced reading; informational versus narrative texts; digital texts that required scrolling

(the effect was “marginal and numerically smaller” otherwise); and the type of technology used, with the print advantage more pronounced in relation to stationary computers[3] than hand-held devices[4]. Furthermore, the authors noted that the majority (63.79%) of studies meeting their criteria for review were conducted with undergraduate students. These last points would seem important areas for further study. Portable touchscreens may not only provide a fairer comparison to printed books than desktop computers, but may also be more relevant to many schools, as teachers responding to our survey reported more access to portable devices such as iPads and laptops than desktop computers (see ‘Access to technology’). In addition, pending further studies of much younger children’s reading on screen, the question of newer generations’ digital reading comprehension remains somewhat open.

These findings also highlight some of the most debated points in relation to the use of technology to support literacy. Some researchers have suggested that the typical on-screen interactions between individuals and screens may cause users to associate devices more with leisure than learning (Krcmar and Cingel, 2014). Commentators have further proposed the “shallowing” (Carr, 2010) or “superficial hypothesis” to describe an “inclination toward shallow work in digital-based environments” (Delgado et al., 2018; Wolf and Barzillai, 2009). E-READ, a European COST[5] Action exploring “reading in the age of digitisation”, involved researchers from across Europe in evaluating the cognitive and experiential differences between print and screen-based reading. E-READ co-chair Adriaan van der Weel observed that while you might expect “today’s children …raised with screens” to take them more seriously than older generations, in fact, “…all people - including young people - increasingly associate screens with fast and superficial” (as cited by Renckens, 2018).

Indeed, a significant body of research considers the extent to which technology invites browsing and scanning rather than consideration and reflection, and how such behaviour (while it may be the most rational approach to the ever-greater volume of reading material in the digital age) may change the nature of reading. One approach, proposed by developmental psychologist and cognitive scientist Maryanne Wolf, is to create ‘biliterate’ children, taught to balance technology-based and ‘deep’ reading (see Richardson, 2014). Another perspective, put forward by those advocating for new literacies and the need to redefine literacy for the digital age, is to consider developing “the ability to read in order to learn with online information” as a primary goal of using new technologies in the classroom (Leu et al., 2015). Other researchers have recommended that “…more work must be done to train pupils on performing reading tasks in digital media, as well as to understand how to develop effective digital learning environments” (Delgado et al., 2018).

In relation to the first point, one Norwegian study found a positive correlation between reading print books and digital reading skills, as 10-year-olds who chose to read print books in their free time performed better in digital text comprehension tests than those who did not (Støle and Schwippert, 2017). This suggests that in an increasingly digital future, children

[3] Used for 74.13% of studies featured, Hedges' $g = -0.23$, $p < .001$

[4] Hedges' $g = -0.12$, $p = .11$

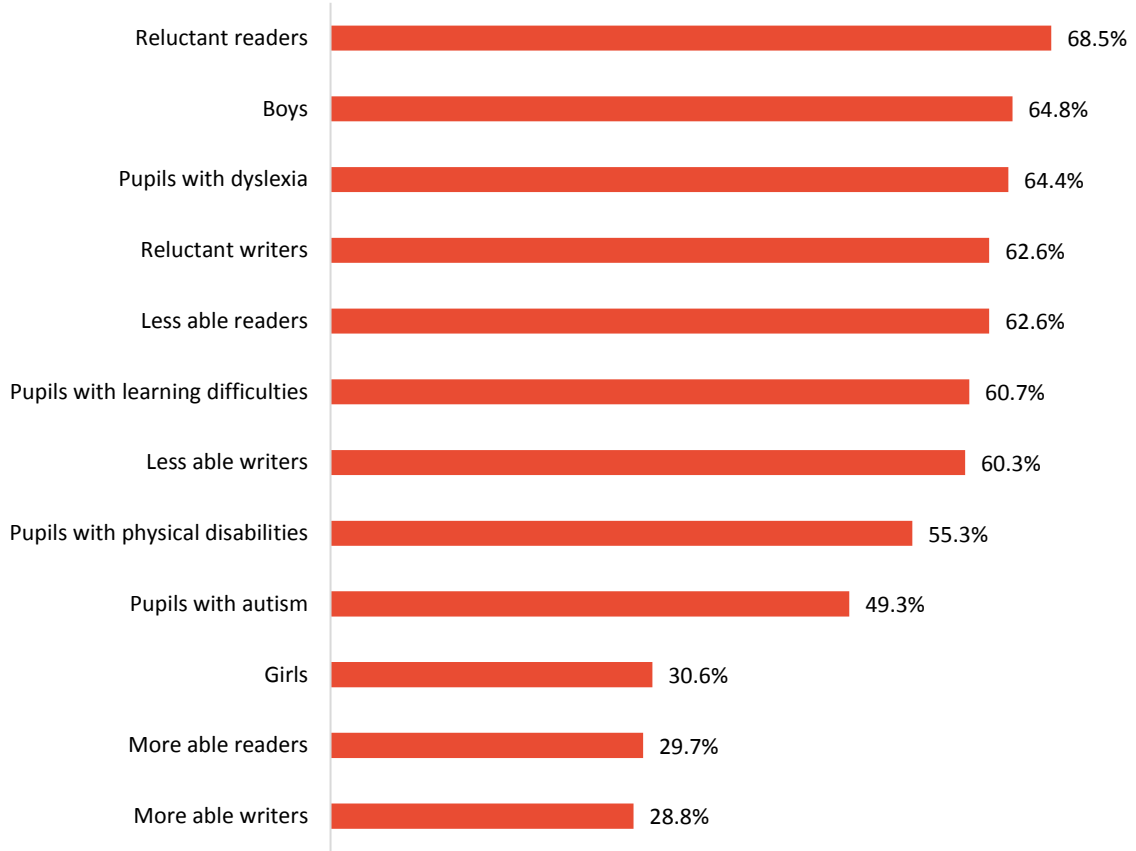
[5] COST (European Cooperation in Science and Technology) is a pan-European intergovernmental framework: www.cost.eu

and young people who read print books for enjoyment will have an advantage across all formats, as "ultimately, book readers are also better screen readers" (Renckens, 2018). On the latter, where learning software has been designed with principles based on cognitive science, it has been found to be more effective than printed revision guides (Feddern et al., 2018). This demonstrates some of the nuances of the potential of educational technology to support literacy, and it would seem the art is to align both the intervention and the tools to the individual needs and existing skills of the student.

Teachers' perceptions of the impact of technology on particular pupils or groups of pupils

Echoing the findings indicating that the majority of teachers considered the ability to engage and enable pupils to be the principal benefits of using technology for literacy learning in the classroom, respondents to our survey were most likely to say they thought technology could have a more positive impact on reluctant readers than other learners (see Figure 6).

Figure 6: I feel technology can have a more positive impact on…



In addition, almost two-thirds also felt technology could have a more positive impact on boys' literacy learning. This finding recalls a 2015 evaluation by the National Literacy Trust of an ebook platform, which found that the opportunity to read ebooks had a predominantly positive impact on less engaged boys' reading skills, enjoyment and confidence (Picton and Clark). It is also interesting in light of aforementioned research that found the gender gap in

reading assessment narrowed from 38 points (the equivalent of nearly one year of schooling) to 26 points when assessments took place on screen rather than paper (OECDa, 2015).

With regard to less able readers and writers, reviews have indicated that technology can support "lower attaining pupils (Lou et al., 2001), those with special educational needs (e.g. Li and Ma, 2010) or those from disadvantaged backgrounds (e.g. Cheung and Slavin, 2011) to catch up with their peers" (Higgins et al., 2012). Other studies have found that using iPads for digital text production supported the least confident and able writers to produce blogs evidencing marked improvements in vocabulary, spelling and punctuation (Mills and Levido, 2011). Another interesting line of research, based on a 2016 study of 565 five-year-olds, found that children who carried a specific allele (a variant form of a gene) that made them susceptible to environmental influences were "more able to focus, learn and even outperform their peers" when exposed to particular types of multimodal ebook formats (Plak et al., 2016, cited in Barzillai et al., 2017).

Echoing such findings, just under two-thirds of teachers responding to our survey believed pupils with dyslexia could benefit from technology, while 3 in 5 believed reluctant writers, less able readers and writers, and pupils with learning difficulties benefited in particular from opportunities to use technology. More than half of respondents also felt technology was beneficial for pupils with physical disabilities or autism. Teachers were least likely to believe girls and their most able readers and writers benefited when technology was used to support literacy learning.

Case study: Using technology to enable pupils

Without technology, we're not preparing children for life. They are comfortable around it, and software can do so much, for example, helping children to speak or express themselves. There are children with physical disabilities who couldn't write with a pencil, but might be able to use a mouse to produce work. There are really no reasons why children shouldn't be able to take part or fit in with their peers.

In mainstream, some classes use programmes like Clicker for sentence matching activities or to support longer pieces of writing. They can use the internet for research, or programmes like [Discovery Education] Espresso, which are child friendly and can also be used at home. Our problem is having the hardware to be able to run the most up-to-date software, and to have enough equipment to allow all pupils to do the same task as a group. It can also take time and training to get the best out of new software, and to set it all up at first, so some teachers need to be encouraged to see the long-term benefits.

SENCO, primary school, South West England

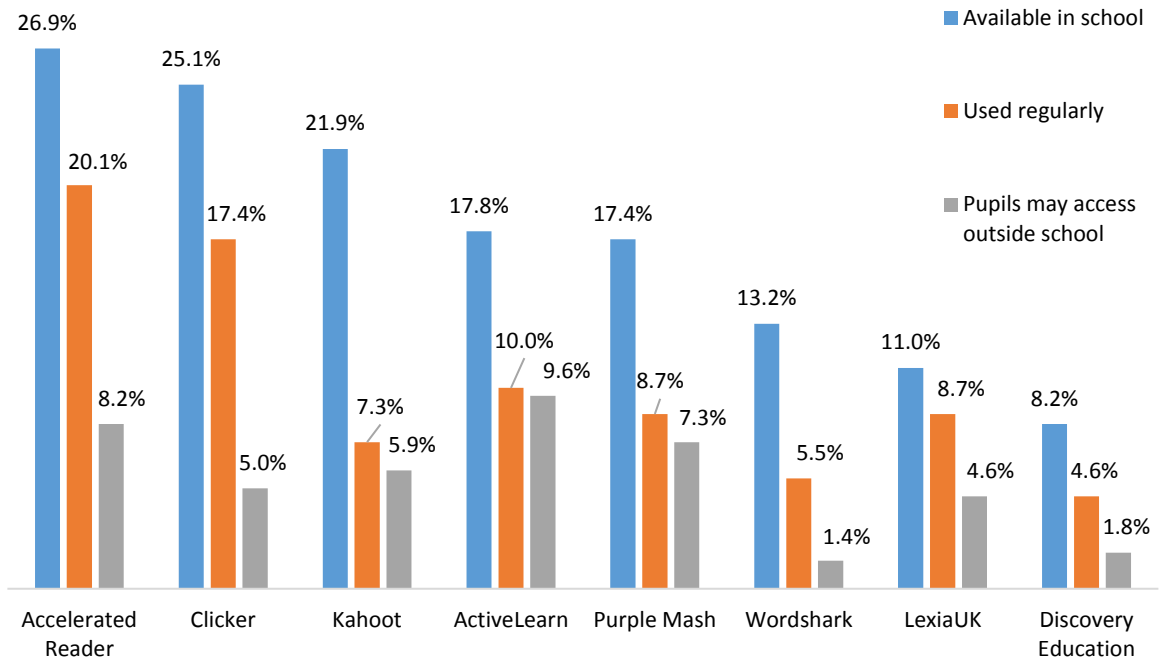
When compared with those using technology less often, those using technology daily or a few times a week were more likely to feel it had a positive impact on both more and less able writers. Almost 3 in 5 (58.7%) of frequent users felt technology supported more able writers, as did a third (33.3%) of those using it weekly or a few times a month, but just 7.9% of those

using it rarely or never thought it was beneficial for this group of children. Half (50.0%) of the most frequent users thought it supported less able writers, compared with 37.9% of medium frequency users, and 12.1% of those using it least. The most frequent users were also more likely to say they felt technology had a positive impact on girls and pupils with autism.

Popular platforms, programmes and apps used to support literacy in the classroom

A considerable range of software is available to schools seeking to use technology to support literacy teaching and learning. In order to obtain an overview of commonly used platforms, programmes and apps, we asked teachers which they had available in school, used regularly (at least weekly), and could be accessed by pupils at home (see Figure 7).

Figure 7: Popular platforms, programmes and apps used to support literacy

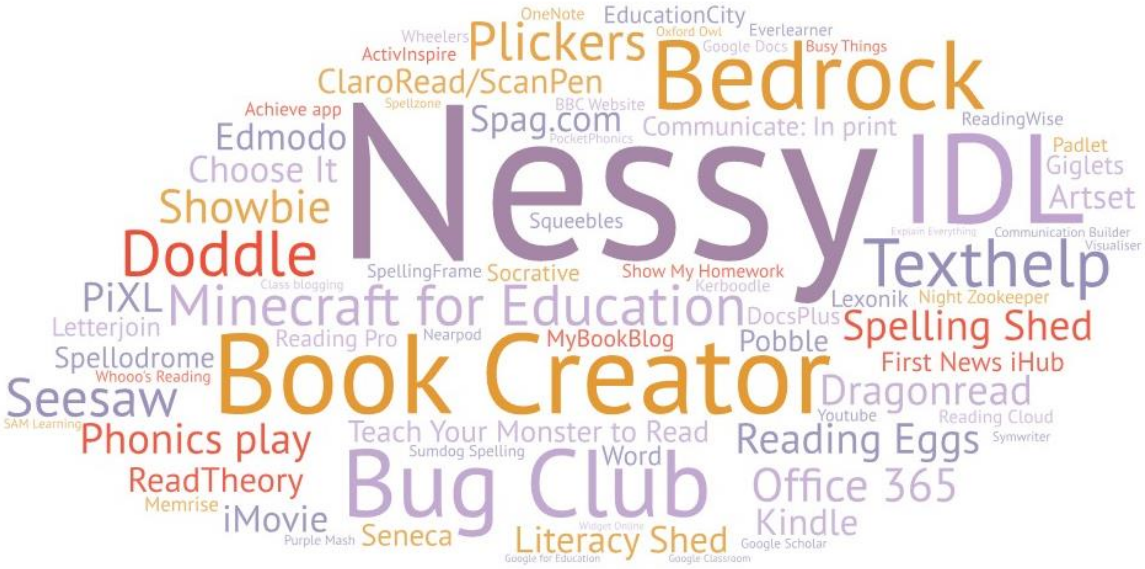


More than a quarter of teachers said pupils had access to Accelerated Reader (26.9%) and Clicker (25.1%), with Kahoot the third most popular platform mentioned by respondents to our survey (21.9%). More than 1 in 10 teachers also had access to platforms such as ActiveLearn, Purple Mash, Wordshark and Lexia UK. The most regularly used platforms generally mirrored those that were most available to teachers, although a slightly higher proportion used ActiveLearn and PurpleMash regularly compared to their availability, and these platforms were also among the most accessible to pupils outside school.

There were some differences in the popularity of platforms across school types. For example, respondents from primary settings were more likely to report using platforms such as Clicker, Discovery Education and Purple Mash, whereas secondary teachers were more likely to report using Accelerated Reader and Kahoot.

The wide range of other platforms, programmes and apps mentioned by smaller numbers of teachers are illustrated in Figure 8.

Figure 8: Other popular platforms, programmes and apps



We also invited respondents to describe an example of a platform, programme or app they had found effective for supporting literacy in more detail. Again, answers generally reflected the popularity of platforms indicated previously, but more fully described their impact on different pupils or pupil groups. Comments featured programmes that allowed children to score points on online comprehension tests, alter the look of text on screen, make their own books, support writing and use Personal Learning Devices (PLDs) to demonstrate learning:

> "Accelerated Reader …useful in encouraging our weaker readers …boys in particular seem to enjoy the competitive nature."
>
> Secondary teacher, Nottingham

> "Active Inspire …can be customised to change the background colour and font. …Children with …dyslexia or ASD find these adaptations helpful but so do all of the children in the class."
>
> Primary teacher, Birmingham

> "Book Creator [for] Year 5 boy-heavy lower ability children. …It's completely changed their attitude to writing and made them much more independent."
>
> Primary teacher, Leicester

> "We use Clicker to challenge the higher ability and support the lower ability children. Children seemed much more engaged within learning when using Clicker. A lot of my reluctant (boy) writers will perform better if using Clicker."
>
> Primary teacher, Cumbria

> "Kahoot has been a valuable tool in our classroom within the PRU setting as it gives pupils a challenge, sense of pride and achievement."

Several respondents used programmes or apps to support technical aspects of literacy such as phonics and spelling, or noted features such as differentiation and gamification:

"Phonics apps have been very useful on infant level and help to support those with SEN to practise phonics at their level."

Primary teacher, Sussex

"Spelling shed - The children engage with the games and I can set assignments for them outside of the classroom. Creates a buzz in our classroom. This programme makes them want to learn how to spell."

Primary teacher, Cumbria

Respondents using Clicker shared examples of the platform increasing writing self-regulation and resilience skills (particularly for children who struggle with the mechanical, rather than the creative aspects, of writing) and helping children with diverse needs take part in meaningful literacy practices:

"…to see that they are able to produce something in print is very powerful and has broken down some barriers to their learning."

Primary teacher, West Sussex

"She will often ask to use it in lessons. It has given her the confidence to believe in herself as a writer."

Primary teacher, Cambridgeshire

"We have used it for children who have problems recording but have lots of ideas and writing is their barrier. Children love using Clicker."

Primary teacher, Oxfordshire

"It helps amazingly with our SEN pupils… we are in the process of rolling it out across the school."

Primary teacher, Cornwall

"Without Clicker my pupils simply couldn't access literacy. Pupils with eye gaze and switches are able to write and access the resources made for everyone. My more able pupils …benefit from the spell predictor, wordbanks and audio feedback. I am also an advisor for assistive technology and Clicker is my go to. There is no competition."

Special school teacher, Lincolnshire

"Gives SEND students more confidence when writing, encourages them to slow down when working and gets them to think about what they are writing. Already seen a massive improvement in progress."

Special school teacher, Warrington

Case study: The educational technology consultant

Educational technology is crucial to my job working with children with physical disabilities. I teach two days a week, then do three days' outreach for the county council. This involves providing access to learning for children who need extra support by loaning laptops and other equipment (for example, eye gaze equipment).

In terms of software, we couldn't live without programmes like Clicker and Clicker Docs. I use it all the time to support writing, and some pupils use Clicker on their laptop or with an adaptive mouse and keyboard. We also use Clicker Connect and Clicker Sentences. A range of children can really benefit from the way technology supports their communication. One Year 7 pupil who really struggled to read and write and had very low confidence was actully able to teach himself using Clicker's auditory feedback and the spelling predictor.

We also have pupils also use iPads with spelling support and auditory feedback, to let them hear what they've written, tools like Talking Tiles to record and transcribe things, Pictello for reading (it highlights the text as it is being read), phonics apps and various Nessy apps, such as Hairy Letters and Hairy Words.

In my role I do see teachers who haven't had much training, and devices might then be abandoned due to a lack of knowledge about how to use them effectively. Some consider technology to be 'cheating' and may not realise the value of giving pupils access and exposure to the proper spelling of words, and whole words. For those teachers, changing their attitudes involves giving them confidence, letting them see how things like perfect spelling might be holding pupils back. Of course funding is always an issue, too – I might recommend some equipment but there won't be the money for it. It's also important to recognise where technology is and isn't useful, based on the pupil. For some, it may be just as quick to support their learning on paper. However you do it, showing them that they have potential to learn is fantastic.

Teacher and technology consultant, East Midlands

Many examples indicated that technology was being used to support wider aspects of literacy, such as writing for purpose and reading for pleasure:

"Purple Mash for children to publish their writing. They really like the focus on purpose and audience and this creates better quality writing."

Primary teacher, Swindon

Other themes emerging from comments included practical considerations such as lowering costs, saving time or making formative assessment more efficient and constructive:

"Kindle (iPad app) - sharing a text with a class at a low cost per book."

Primary teacher, London

"Lexia is incredibly effective as it is automated and the children can access it both in and out of school."

Primary teacher, East Midlands

Case study: Using technology to support literacy learning

We have banks of iPads for our Year 1 and 2s, 2:1 iPads in Year 3 and 1:1 iPads in Year 4, 5 and 6 classes. I'm also the Year 6 teacher, and we've recently allowed Year 6s to take iPads home (parents must sign an agreement form). This has been great for continuing learning outside the classroom. We are keen on mobile technology – all the children have an excellent camera, microphone and the ability to do screen recording. We have built up the infrastructure over the last four years and now have a 100GB broadband line.

We still do lots of writing, but children might then take a photo of what they've written and use Showbie to share it with me. I might then choose to provide them with written or verbal feedback via a voice recording – the latter seems to engage some of the boys in particular. The children also keep a reading log using spreadsheets, which I can collaborate with them on and see what they're reading at any time. We use BookCreator across the curriculum, but have also used it to create Reading Journals, which many of the children do at home. This has 'lifted the lid' for more able children, who can do anything from a chapter summary to a mood grid based on their reading if they'd like to, but we also see children making video book reviews from their table at home. It's great for supporting their engagement with books, creating that 'conversation with a book' we're looking for.

I've been teaching for more than 10 years and seen a lot of initiatives, but encouraging this kind of independence is something we couldn't do before mobile technology. The children can take photos of their writing and post it online – they've had their work liked by Cressida Cowell, and tweets liked by Damian Hinds! It has enhanced and even revolutionalised what we can do when combined with good pedagogical techniques, and helped children to learn more independently and develop their creativity.

I like technology, personally as well as a teacher. I don't see it as a barrier to teaching, or yet another thing to get to grips with. However, good CPD is really needed. Good monitoring, modelling and dialogue and supportive leadership is crucial. There needs to be a whole school vision and ongoing planning - it should be both an extension of, and integral to, what you're doing.

Deputy head, primary school, Lancashire

Several teachers also shared their own creative ideas for using generic technology to support pupils' literacy without the need for a specific platform or app, for example:

> "I get pupils to record independent reading and photograph the pages, …listen to about five pupils read at home each night, annotate the photos and discuss the following day …a really effective way to develop inference skills."
>
> Primary teacher, Leeds

Multimodal and 'new' literacies

As noted by Tyner (1998), "…new literacy technologies [are] both a product and a shaper of their times" and it is clear that "…as new technologies for information, communication and collaboration continually appear, new literacies emerge" (NSW DET, 2010). Delgado et al. (2018) propose that, as children grow up increasingly surrounded by digital technologies, skills such as "the ability to search and navigate, read critically, and multitask are essential (e.g. Salmerón, García, & Vidal-Abarca, 2018)".

Furthermore, as Considine et al. (2009) note, "today's teenagers bring to school a rich and different set of literacy practices and a background that is often unacknowledged or underused by educators". Another strand of research, therefore, calls for students' personal experience of technology to be recognised and valued in the classroom, while advocating for better appreciation of multimodal and 'new' literacies (e.g. Boche and Henning, 2015).

Noting how "the ways people make meaning and communicate are increasingly multimodal and digital", the authors of a study exploring the use of iPads for multimodal storytelling observed how they allowed young children to connect their school experiences to their home lives, and facilitate classroom experiences that more closely reflected in everyday life (Fantozzi et al., 2018). Other studies have described successful assimilation of traditional and new literacies in the classroom. For example, Price-Dennis et al. (2015) described a classroom in which a print-based literacy curriculum was 'infused' with elements of new literacies, observing that, "digital tools and 21st-century literacy practices were students' preferred modes …of learning to communicate …about topics that mattered to them".

A number of survey responses related to multimodal and new literacies, with teachers using various platforms to develop children's online reading skills, present their literacy learning using multimodal methods and provide visual context for learning:

> "First News iHub - students are reading current affairs and demonstrating comprehension and inference through interactive technology. Reading online suits many of our reluctant readers who say they don't read books, only screens and texts!"
>
> PRU teacher, North West

> "Google slides /docs - inspiring children to produce a high-quality product that fits audience/purpose; thinking about effective layout and presentation and how that impacts on the reader."
>
> Primary teacher, Colchester

> "iMovie - great for recording narratives over films or for presentations of work."
>
> Primary teacher, Leeds

Case study: Using technology to engage reluctant readers

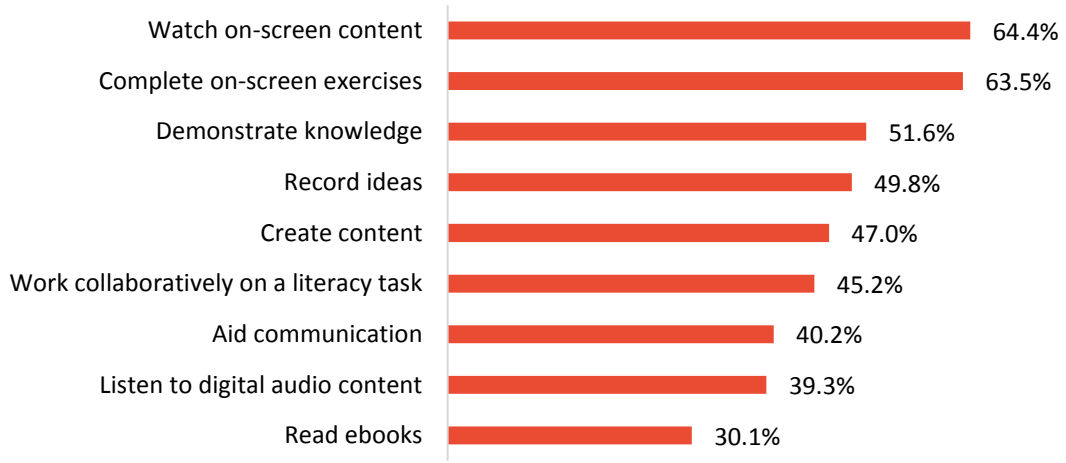
We have a number of centres across the area I work in, and reading across centres is a whole school priority. We made two successful grant applications and used the funding to make sure reading corners were well stocked with classics and the kind of books our students would want to read. We have many reluctant readers, and work hard to support their confidence and learning. We've been using First News iHub both within class and as homework. Children can log in from home and get instant feedback on comprehension quizzes, and it simplifies marking for the teachers. We're about to start the new (National Literacy Trust) Skills Academy programme. We find termly targeted interventions work well to keep pupils' interest and attention, and build students' vocabulary and comprehension, important for their GCSEs and wider enjoyment of reading.

Personally, I need to see the whole piece of paper when I am reading something, but for the young people today, reading on a screen is how they read, they're used to it being interactive and switching between pages across screens. I know there are risks around social media use, but I think we need to prepare the students to use future media and technologies and to do whatever it takes to engage them with literacy and the enjoyment reading can bring. We're encouraging more writing for enjoyment and purpose now too, and have found some of the children are brilliant at writing letters of complaint! When it comes to technology, some staff are more confident than others. I think training is most effective when you get time to try things out, and go away with something you can immediately use in the classroom.

Aspects of literacy learning most often supported with technology

We were interested to learn about the ways in which technology was typically used to support pupils' literacy in the classroom. Although not particularly anticipated in responses to earlier questions, watching on-screen content was the most popular use of technology, with almost two-thirds of teachers saying pupils typically used technology for this purpose or to complete on-screen exercises (see Figure 9).

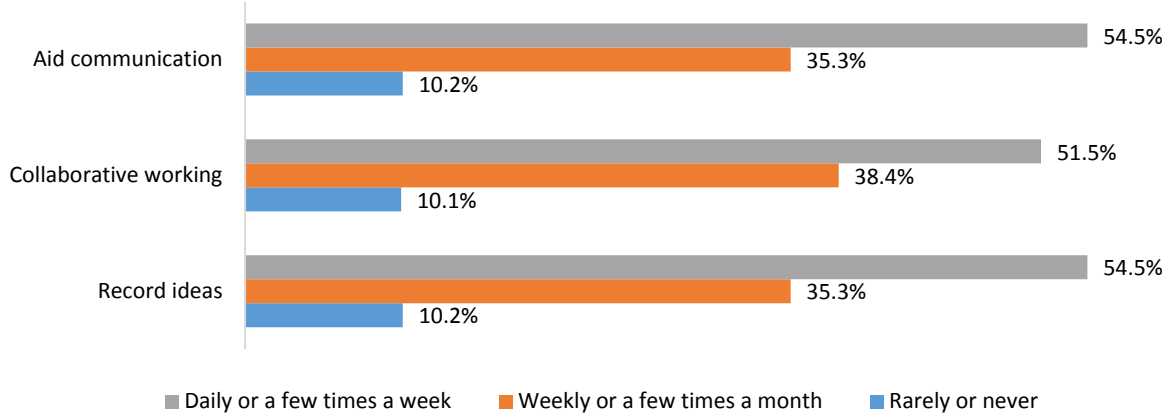
Figure 9: Pupils typically use technology to…



However, around half of respondents said pupils used technology to demonstrate their knowledge, record their ideas or create content, indicating that devices were being used almost as much for creative tasks and purposes as for viewing or taking tests. Indeed, 2 in 5 teachers said pupils used technology to work collaboratively on a literacy task. More than 2 in 5 used technology to aid communication, and while by comparison the least popular uses of technology related to listening and reading, nearly 2 in 5 teachers said pupils used it to listen to digital audio content, and almost a third used technology to read ebooks. This is perhaps a higher percentage than might have been expected, as only 14.6% of respondents had access to tablets and just 6.4% to e-readers.

Respondents who reported using technology for specific reasons such as to aid pupils' communication, to help pupils to record ideas or to facilitate collaborative working, were more likely to say they used it regularly than those using it for other purposes (see Figure 10). Primary schools were more likely to say that pupils used technology to record their ideas than secondary teachers.

Figure 10: Use of technology for specific purposes and more frequent use



Teachers' beliefs about using technology to support learning

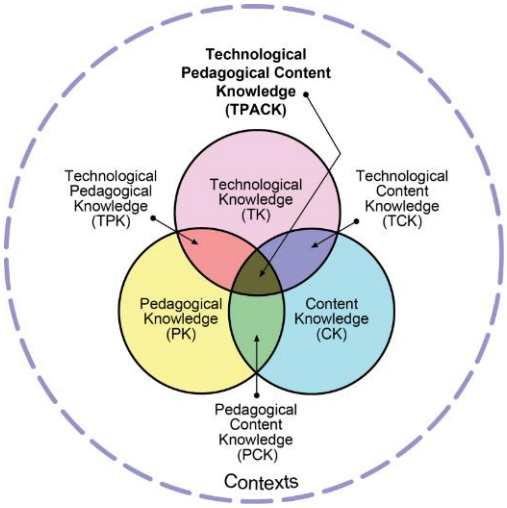
Research indicates that teachers' pedagogical beliefs, knowledge and experience are important factors in technology integration (Graham, 2008; Avramides, 2016; Ertmer, 2016). Furthermore, there is a consensus that teachers play a key role in supporting pupils to use technology effectively, as "…despite familiarity with personal technologies, learners are generally poor at deploying their digital skills in support of learning" (Beetham et al., 2009; see also Butterworth, 2009; Green and Gordon, 2014; McQuirter et al., 2017). Indeed, as Considine et al. (2009) have suggested, "In order to best meet the needs of digital natives, educators must 'build a bridge' connecting knowledge and skills students already possess to the academic content and skills required for success".

This is further illustrated in a review by Delgado et al., (2018), who noted that studies indicate that simple methodologies (such as writing keywords summarising text when reading on screen) can engage pupils with in-depth processing, mitigating the "screen inferiority" otherwise noted in relation to comprehension. This demonstrates the significant role that

pedagogy has to play in helping students develop skills that support a "thoughtful approach to digital information". Such approaches recognise that, rather than replacing teaching, "technology's main classroom role is to complement and enable good learning practices" (Walton, 2017). Indeed, as Higgins et al. (2012) conclude, "… the evidence does not offer a convincing case for the general impact of digital technology on learning outcomes …rather it is …the pedagogy of the application of technology in the classroom which is important: the *how* rather than the *what*."

Mishra and Koehler's 2006 TPACK framework (see Figure 11), one of the best-known models of technology integration in education, foregrounds the need for educators to understand how content, pedagogy and technology "work together, supplement one another, and are indivisible if technology is to enhance education" (Cook et al., 2103). At the same time, studies have found that "…compared with their technological and content knowledge, teachers' pedagogical knowledge and years of teacher experience strongly influenced their decisions regarding mobile technology integration" (Saudelli et al., 2014).

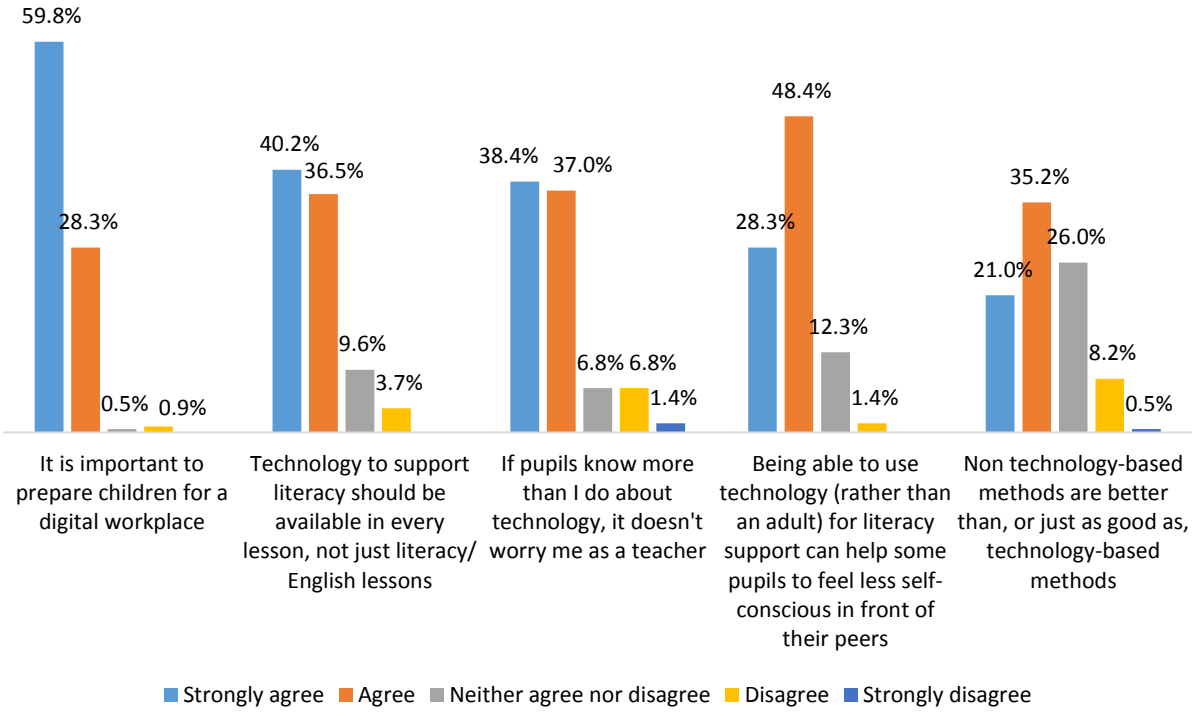
Figure 11: The TPACK framework



Other attitudinal and practical factors have been found to influence the effective use of technology in the classroom. Kereluik et al. (2011) found time to be the dominant factor influencing the integration of technology into the classroom, and "time to explore, practise and prepare" was also identified as the main influencing factor for technology use by most of the 1,441 US teachers surveyed on the subject (Hutchison, 2012). As Higgins (2015) observed, "You have to know how to use technology well to get the best from it in an educational setting".

In order to explore attitudes towards using technology, survey respondents were invited to agree or disagree with a series of statements relating to the topic of using technology in the classroom (see Figure 12).

Figure 12: Attitudes to statements about technology and learning



Almost all teachers (88.1%) believed children should be prepared for a digital workplace, indicating that most of the sample held pragmatic views towards the role of technology in increasing pupils' employability. While very few disagreed with this idea, those who did were also less likely to feel technology supported less able readers (0.0% vs. 67.4% of those that agreed) and pupils with dyslexia (0.0% vs. 69.4%).

Similarly, more than three quarters (76.7%) respondents agreed that technology to support literacy should be made available across the curriculum, rather than being used only in English lessons. Of all the attitudinal statements, agreement with this statement was associated the most with other positive responses in the survey, possibly reflecting an underlying belief in technology's efficacy for supporting children's learning and communication generally. Those who agreed were more likely to feel technology supported children's reading skills, writing skills, attitudes, enjoyment and motivation, and speaking and listening confidence. They were also more likely to believe technology was effective for supporting several aspects of reading (spelling, vocabulary, phonics, decoding, comprehension and fluency) and that it could effectively support girls, reluctant writers and more able readers and writers.

Respondents' views were somewhat more mixed in relation to pupils potentially knowing more about technology than they did. While more than three-quarters (75.4%) said they weren't worried about this, 8.2% were concerned about it. Few differences were found between those who agreed or disagreed, however. Those who disagreed were only significantly less likely to feel technology was beneficial for personalised learning (38.9% vs. 67.3% vs. of those that agreed) or for supporting pupils with autism (27.8% vs. 54.5%).

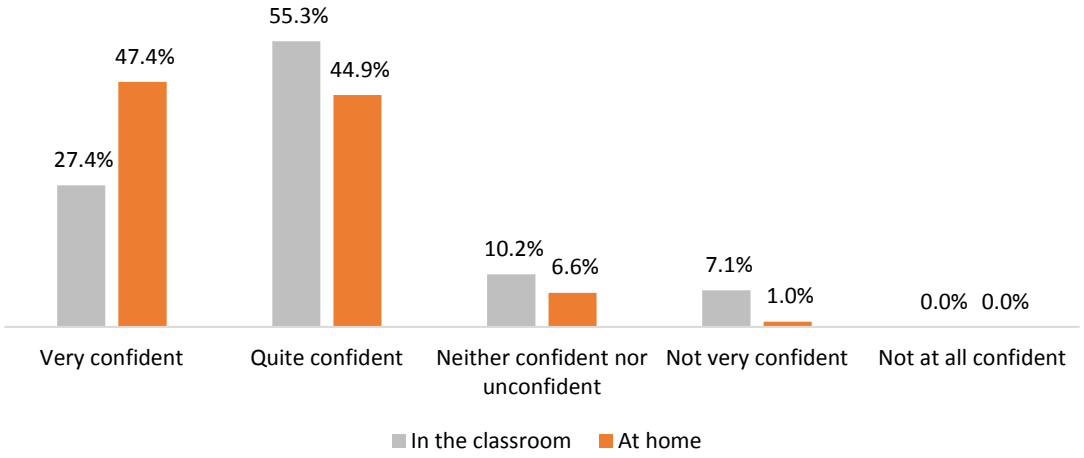
While more than three-quarters (76.7%) of teachers believed technology could help pupils feel less self-conscious when needing literacy support, more than 1 in 10 (12.3%) neither agreed nor disagreed, perhaps reflecting different levels of experience using technology with diverse types of learner.

The most diverse range of responses (with the highest percentage of neutral or disagreement responses) related to the statement about the effectiveness of technology versus traditional teaching methods. Neutral responses may perhaps reflect the more nuanced impact of technology on particular pupils or specific literacy skills, which would make this statement more difficult to take a definitive position on. Nevertheless, more than half of teachers believed non-technology-based teaching was better than, or just as good as, technology-based methods, somewhat challenging the notion that new technology always makes things better or solves a problem.

Teachers' confidence in using technology at school and at home

Studies have indicated that teachers' confidence in using technology can contribute to its effective use in the classroom (e.g. Ertmer, Anne, & Tondeur, 2015). 4 in 5 (82.7%) respondents to our survey considered themselves to be 'very' or 'quite' confident in using technology to support learning in the classroom, while just 7.1% were 'not very' confident (see Figure 13).

Figure 13: Teachers' confidence in using technology at school and at home



However, a higher percentage (92.3%) overall described themselves as 'very' or 'quite' confident in using technology at home, and respondents were almost twice as likely to describe themselves as 'very' confident using technology at home compared with in the classroom (47.4% vs. 27.4%). Just 1.0% were 'not very' confident using technology at home; while 6.6% were neither confident nor unconfident (no-one described themselves as 'not at all' confident in either setting).

These findings indicate that teachers have a stronger sense of self-efficacy when using technology for personal, rather than professional, use and that some may therefore benefit from additional information, training and support around using technology effectively in the

classroom. At the same time, it is perhaps interesting to note that no statistically significant associations were found when teachers' confidence levels were explored in relation to other responses to the survey.

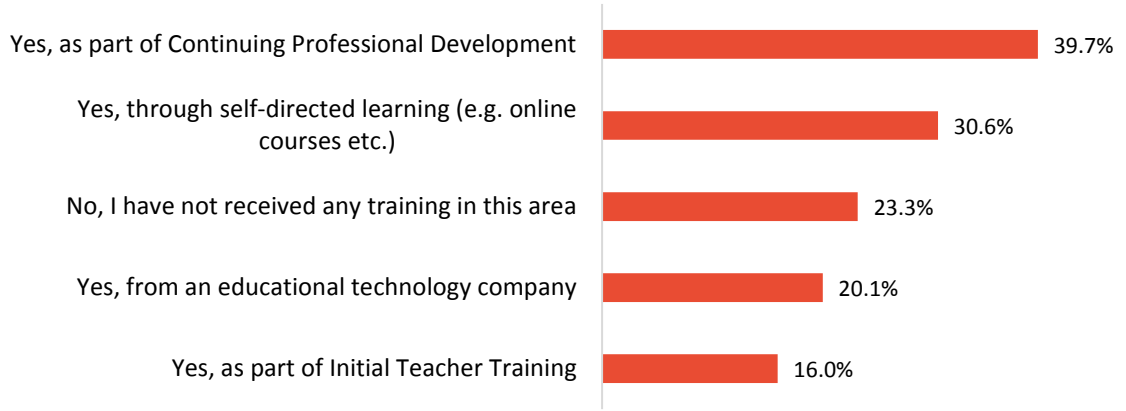
Training to use technology to support literacy in the classroom

There is a strong sense that initial teacher training should prepare new teachers for the '21st-century classroom', ideally recognising "how literacy is shaped by technology and vice versa" (Shoffner and Boche, 2014). However, the interplay between technology and teaching practice is evolving at a great pace, presenting an ongoing challenge for integration into initial training and Continuing Professional Development (CPD).

In addition, as developments in technology lead to changes in classroom teaching, these same developments may also demand new approaches to professional development. For example, one article looking at UK teachers using iPads as tools for learning observed that they naturally adopted "experiential, informal and playful" strategies, rejecting traditional, staged professional development for "…a more fluid and experiential model, learning alongside their pupils in a relationship that reverses the traditional power nexus" (Beauchamp et al., 2015).

Almost a quarter (23.3%) of respondents to our survey said they had not received initial or ongoing training in the area of using technology to support literacy learning (see Figure 14).

Figure 14: Have you received any training relating to using technology to support literacy?



Of those that had, just 1 in 6 had received training as part of their Initial Teacher Training. However, two-fifths had received training related to using technology to support learning as part of CPD, and a fifth had received some training through educational technology companies. Primary school-based respondents were more likely to say they had received CPD than those from secondary schools (46.5% vs. 26.5%). Almost a third of teachers had trained themselves through self-directed learning (more of those from secondary settings reported self-directed learning [41.0% vs. 25.4%]) and this was reflected in several of the comments:

"I train myself!"

"Personal practice."

"Professional discussions with colleagues where hints and tips are shared."

The high percentage of teachers with no training at all in using technology to support literacy, but who have sought to increase their knowledge of the subject, indicates an appetite for learning more about how to use technology in the classroom. This was further borne out in relation to a question about existing qualifications in this area, with more than 1 in 5 respondents (22.8%) saying that while they did not currently hold any educational technology-related qualifications, they would like to.

Perhaps unsurprisingly, the majority (56.2%) of respondents considered themselves to hold no educational technology-related qualifications. Of those who did, only a very small percentage had organisationally linked qualifications. For example, 2.7% were Microsoft Certified Educators/Innovative Educator Experts, 1.4% were Apple Distinguished Educators and 0.9% were Google Certified Educators. 0.9% of respondents held the European Computer Driving Licence (ECDL) and just 0.5% had a post-graduate qualification in educational technology.

Barriers to using technology to support learning

Teachers responding to the survey did not perceive attitudes, confidence or training as the main barriers to using technology to support learning. Rather, when asked to select the top three barriers, most indicated practical and resource-related reasons (see Figure 15).

Figure 15: Top three barriers to using technology to support learning

Indeed, just 11.9% of teachers ranked lack of training as one of their top three barriers to using technology to support learning, whereas two in five cited lack of hardware, software and wifi. This reflects earlier findings relating to teachers' access to computers, laptops or tablets, with less than half having this equipment available. In addition, only 47.9% of teachers said they had wifi access, with respondents from primary schools twice as likely to say they

have access as those from secondary schools (60.2% to 31.3%). It is perhaps worth considering how this compares with New Zealand, where 98% of schools have wifi access (Walton, 2017). It is clear teachers felt that investment in training would need to follow any investment in resources:

> "FINANCES - without the funds we …cannot offer CPD …or release staff to go on courses …upgrade/ buy IT equipment [or] give time to staff to practise."

Primary vs. secondary settings

Despite primary teachers reporting greater access to devices and wifi, respondents from both primary and secondary settings were equally likely to rank lack of resources as a top barrier. Following this, lack of time, lack of information about effective platforms and lack of confidence were the most cited barriers to using technology effectively, with primary teachers twice as likely to rank lack of time as a barrier (32.2% vs. 14.5% secondary).

Personal attitudinal barriers to using technology featured in some comments:

> "I don't think it's effective in supporting progress - especially for students who do not have access to programmes in exams. Although developing digital literacy is important, English lessons are to improve their literacy and assessable skills."

> "Lack of interest on my part to spend time learning how to use it."

Case study: A balanced approach to technology

Using technology is good in that it engages students, but can also be restrictive when it presents an instant solution. For example, with spelling, it might put the 'i' before the 'e' but we need to help pupils think more about what's behind some of the things technology enables them to do. When it comes to exams, these will be on paper so children can't just go in and skim read.

We don't allow phones in lessons so most technology is PC-based and we use specific programmes, for example, SAM Learning and Show My Homework, and Reading Eggs with some Year 7s and 8s (they are developing the platform for up to Year 9 and we're one of their test schools). We've recently started using PiXL Unlock, which promotes a more thoughtful approach, for maths, English and humanities. The teaching staff are trying it out first before we offer it to pupils, as we've found when teachers aren't thoroughly familiar with how something works, that can mean the children disengage when something goes wrong. We also use lots of non-technological techniques to support children's reading - we have a 'Literacy Box', with games like Scrabble and Pass the Bomb to help children engage with words and literacy, extend their vocabulary and build their confidence.

Teacher, secondary school, South West England

Discussion

The use of technology to support learning is a contentious topic, in which competing narratives emphasise the need to teach young people modern skills that will equip them for the 'new economy' (OECDc, 2015; Miltner, 2017) or warn against the negative aspects of technology use (Fuller et al., 2017; McDaniel and Radesky, 2017). Such debates force us to consider the gains and losses of technological development, just as the invention of writing was once predicted to "atrophy people's memories [and] make the things they have learnt disappear from their minds" (Plato 275a, see ed. Waterfield, 2009).

Nevertheless, literacy that enables learning and employment is increasingly a digital experience, and while the definition of literacy is being reshaped by the technological context, it is essential that the education sector's response is based on evidence identifying how digital technologies offer opportunities to raise literacy levels.

An important first step is to work with teachers to establish an accurate picture of how technology is being used in classrooms today to support literacy teaching and learning, and what platforms and approaches are most effective for pupil outcomes. Indeed, as stated almost two decades ago, "Determining the actual, as opposed to the possible, impact of the new technology on literacy could be one of the most interesting research challenges in this field" (Hannon, 2000).

It is also important to recognise the popularity and relevance of technology in the lives of children, young people and families, to investigate how its various affordances may support the components of literacy and how features designed to capture and retain attention may be used to engage and immerse children in effective learning. Findings from our survey indicate that teachers believe that technology does this well, and that it can be a particularly effective tool for creating a classroom that supports improved learning outcomes for all pupils. However, respondents reported low levels of access to the equipment and wifi needed to allow a regular and ongoing process of learning and development, suggesting that investment in hardware should be followed by investment in the responsive training and research needed to ensure technology is used effectively.

This type of educational transformation will require support from policymakers and the technology sector, in consultation with academics, educationalists and learners. As Darling-Hammond of Stanford University has observed, "very few governments actually appreciate what [the rhetoric around 21st century skills] means for the nature of schooling and redesigning the systems we currently have" (cited in Walton, 2017). It is encouraging that, as a practical step in this direction, the Department for Education (DfE) is working with the Chartered College of Teaching and the British Educational Suppliers Association (BESA) to encourage better collaboration between the technology sector and educationalists (DfE, 2018).

In conclusion, our survey showed that a high percentage of teachers feel technology is an effective tool for supporting pupils' access to, and enjoyment of, traditional and newer literacy practices. Responses and comments also emphasise its role in enabling those who struggle to access literacy learning through print-based formats, and note other positive

features to certain uses of technology, such as facilitating a continuation of learning between school and home. However, limited access to hardware, software, wifi and training present a significant challenge to those seeking to use technology in the most effective way for literacy learning.

Appendix

Respondent characteristics

The survey was conducted between late October and mid-December 2018, and was promoted through a number of channels, including the National Literacy Trust membership network, contacts in other educational organisations and Cricksoft school contacts. It received 385 responses, of which 193 were complete and 192 partial. Of 192 partial responses, 26 were considered sufficiently complete enough to include, bringing the total number of responses to 219.

Of these, just over half (53.9%) came from teachers based in primary schools, and almost 4 in 10 (37.9%) from secondary schools, meaning secondary responses were somewhat over-represented when compared to proportions of these schools as a whole[6]. The remainder were from a range of educational settings, including Pupil Referral Units (2.3%) special schools (1.8%), with All-through, Middle Schools, learning support and post-16 settings making up 4.1% of responses.

Schools varied in size, with most (32.0%) serving between 300 and 699 pupils, followed by 21.5% serving more than 1,000 pupils, 21.% between 101 and 299 pupils, 10.0% between 700 and 799 pupils and the smallest number (5.5%) serving fewer than 100 pupils.

Respondents mostly held teaching roles, with 39.7% describing their role as 'teacher'; 21.9% as 'literacy coordinator'; 15.1% as 'head of department'; 13.2% as 'senior management (including assistant or deputy head); 1.4% as 'headteacher'; 11.9% as 'special educational needs coordinator (SENCO)'; 9.1% as 'school librarian/LRC manager'; 3.2% as 'teaching assistant' and 1.4% as 'consultant/advisor'. Of teachers, the majority (74.9%) had been in teaching for more than three years, with 4.1% teaching less than this time and 0.5 holding NQT status. Almost 9 in 10 responses (87.3%) were from female teachers and 1 in 10 (10.7%) from male teachers (2.0% preferred not to say). This may be compared with figures from the Department for Education (2016) which note that 26% of teachers in England are male (15% primary and 38% secondary).

[6] 24,316 schools in 2018, of which 16,766 (69%) were primary and 3,436 (14%) secondary
https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2018

Acknowledgements

We are very grateful to Crick Software, a provider of literacy support software, for their financial support, which made this piece of research possible: www.cricksoft.com/uk.

We are also very thankful to all the teachers who participated. We couldn't have done it without you.

About the National Literacy Trust

We are a national charity dedicated to raising literacy levels in the UK. Our research and analysis make us the leading authority on literacy. We run projects in the poorest communities, campaign to make literacy a priority for politicians and parents, and support schools.

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Suggested reference for this report is: Picton, I. (2019). Teachers' use of technology to support literacy in 2018, London: National Literacy Trust.

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