Disabled children's digital use practices for learning in mainstream schools

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There is a mixed picture of inclusion when it comes to how digital technologies can enrich the classroom experience of students with disability

Teachers hold a key role within schools. Yet while many teachers say they love their jobs, too many struggle with overwhelming workloads, conflicting priorities and the need to meet stringent assessment targets. This was the case before the arrival of COVID-19 added a whole new set of pressures and demands necessitated by lockdown and re-entry into schools.

It is not yet clear what the longer term impacts will be on teachers' and children's uses of digital technologies for teaching and learning. But what is clear is that teachers will continue to experience sustained pressures and continuous challenges on a daily basis. Recognising this difficult situation, therefore, it is with great caution that I proceed in encouraging teachers to make another important change to their practice. Yet, given the increased use of digital technologies in the pandemic, this may be exactly the right time to encourage this.

The issues as I see it is the urgent need for teachers to develop digital pedagogies that support disabled children and young people to learn with technology in inclusive ways. As a disabled researcher who relies greatly on digital technologies to do my job, I began questioning how disabled children were supported with digital technologies – such as computers, laptops and mobile devices – to learn in mainstream schools. Yet, previous research in this field is limited. There is very little that considers how disabled students learn with technologies every day in classrooms, *in situ*.

In response, I set up an [exploratory project](#) in North West England with visually impaired youngsters. I visited schools to find out what was happening on the ground. I talked about digital use practices with seven disabled children (age 13-17), their class teachers and key personnel, such as teaching assistants (TAs) and qualified teachers of children with vision impairments (QTVIs); and I observed activities in classrooms. The term "digital use practices" describes children's uses of digital technologies to support formal learning. The project enabled me to build up a comprehensive picture of the situation in schools of:

- how disabled children engage with digital use practices;
- how their engagement with digital use practices supports learning;
- what factors enable or constrain digital use practices;

Some positive findings

- *Disabled children's access to technology in secondary mainstream schools is often good*

In the schools visited, disabled children had reasonable digital resources provided by parents or the school. E.g., in School A, disabled children were given laptop/tablet hybrids to use at the beginning of each school day with all materials loaded by the teaching assistant. In School B, all children in year 8 had been provided with iPads, either paid for by parents or the school.

- *Children and young people like using digital technologies and find them useful*

The disabled children I spoke to enjoyed using mainstream digital technologies for learning and experienced many positive benefits from doing so, especially when using mobile devices. Comments showed students found them easy to use, fun, reliable, creative, versatile and supportive of independence. Simon, age 17 said 'It's just, it's like a whole new world really, it's just crazy all the stuff you can do on it."

- *Digital technologies can help disabled children and young people to fit in with their peers*

Laura, age 16, said that having a tablet computer helped her to fit in and be like her friends: "I like to be just like a normal girl sort of thing in the mix, which I quite like. Having an iPad and my friends have iPads as well, it just makes me feel like I'm one of them basically."

Some negative findings

On the other hand, digital use practices had unintended negative consequences.

- *Digital technologies can stigmatise disabled children and young people*

In some classes, disabled children are allowed to use digital technologies when other children are not. This can cause stigma. Fern, age 14, said of the arrangements in her school: "Sometimes, because like I feel like everyone's looking at me, because I have it."

- *Digital use practices were often more assistive than mainstream*

Typically, digital use practices were assistive; i.e., being used as a substitute for assistive technologies, rather than as resources for teaching and learning in their own right. They were frequently needed to overcome barriers faced when accessing the curriculum. These "workarounds," which represented extra workloads for disabled children; were necessitated by provision of inaccessible curricula activities and resources provided by class teachers. Workarounds included using standard hardware or inbuilt accessibility settings, e.g. using tablet computers to take and magnify images to suit preferences. Both class teachers and students relied on these on the spot solutions to overcome barriers presented. When this happened, disabled children's own independent learning could be eroded and create stigma.

[source]

Differences in practices: some examples

Noticeably, there were clear differences between teachers' pedagogical approaches that affected disabled children's digital use practices. These are summarised in the following examples drawn from the classroom observations and interviews.

Teacher A (School B) was enthusiastic about digital technologies. He was using them widely to support innovative activities that directly engaged *all* students to learn and speak French vocabulary. Children drafted sentences to be spoken by puppets dictated on a speech programme using Puppet Pals (). To ensure that Nigel, age 13, could seamlessly take part in all activities alongside his friends and

peers, Teacher A had planned the lesson in advance in conjunction with the teaching assistant.

Teacher B (School B) also liked to use technology in her science classes. In the lesson observed, she was using PowerPoint to help the children revise for exams on a whiteboard. She said she was keen to support and take responsibility for the learning of *all* children in the class. Ahead of the lesson, she had sent a PowerPoint presentation to Laura, age 16, who was able to access it in class though she did need the help of the teaching assistant in situ who told her when to advance each slide. This help from the teaching assistant represented a loss of independence for Laura.

Teacher C (School A) was not using digital technologies at all in the English lesson observed. Fern, age 14, was the only student allowed to use technology in class, a hybrid laptop/tablet provided by the school. Teacher C wrote out vocabulary on a whiteboard by hand. Unfortunately, the teacher seemed to have forgotten that Fern is visually impaired and cannot see the board (Fern sat as close as possible to the board). There was a teaching assistant at the back of the room. He immediately recognised the problem and walked to the front of the classroom. He borrowed Fern's tablet, took a photograph of what was on the board and returned it to Fern. She then used the inbuilt zoom function to enlarge the image and access the content. In the interview following the lesson, the TA said this kind of event frustrated him as it was avoidable: "It's getting across to the teachers what the students, visually impaired, what they can and can't see. […] I don't think people understand what it is like. This is one of the stumbling blocks I've had with some of the staff at school."

These short summaries illustrate the types of challenges that disabled children and their teachers face everyday in mainstream classrooms. Teacher B typified other teachers' perspectives when she said in the interview that while she knew it would be better to provide Laura with digital resources, it was often quicker to use manual workarounds instead.

"That's not what we should be doing. … So for example, so if I was wanting to provide that sheet to Laura, the right way to go about that would be to go into the electronic file, increase the font size to the right font size and print out that sheet again. The wrong way to do it which is the very quick way of doing it, is actually take that to the photocopier, press enlarge to A3 sheet, which means it's not actually technically to the right font size but it's generally just a bit bigger than it being a normal one."

The experience of Teacher B encapsulates the situation for many teachers who set out with the best of intentions to effectively teach *all* the students in the class through digital use practices, yet find themselves compromised in practice.

The message of these observations

Overall, the project showed that disabled students are largely positive about their digital use practices for learning, access is reasonable and digital technologies can help them to fit in with their peers. On the other hand, digital use practices can be stigmatising. In classrooms, they can undermine independence and are often needed to work around inaccessible curricula rather than engaging students in innovative and stimulating learning activities. There are notable differences in how far teachers can use digital technologies in innovative ways in their teaching generally; and specifically to develop inclusive digital pedagogies where teachers accept primary responsibility for the learning of all the children in the class.

So, how can teachers be supported to develop inclusive digital pedagogies? First, I would argue that this is not just the responsibility of teachers. Researchers need to work with teachers and disabled children to provide guidance and scaffolding that facilitates teachers to develop inclusive digital pedagogies. Second, teachers need to be given the time to develop skills, awareness and knowledge about how to enable disabled children's inclusive digital use practices. This includes the time to work with teaching assistants in planning lessons that support disabled children inclusively from the outset rather than necessitating the current reliance on teaching assistants '"bridging" the learning in the moment'.

It is possible that the need for emergency remote teaching during the COVID-19 pandemic in 2020 has meant that class teachers have developed their own digital pedagogies further. What needs to happen next is that teachers get the support they need to build on these and develop inclusive digital pedagogies too.

About the author

Dr Sue Cranmer is a lecturer in digital education and social justice at Lancaster University. Her expertise is in digital pedagogies, innovation and inclusion. She is widely published in the area of digital education and has recently written a book for Bloomsbury Academic, 'Disabled Children and Digital Technologies. Learning in the context of inclusive education' (due out November 2020).

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