A different STORY...

Students with undiagnosed reading difficulties often struggle to access the curriculum, says **Mark Fraser** – but edtech can help unlock their potential

I magine being unable to complete an exam or finish a piece of coursework just because you can't get your answers written in the allotted time. You have a flair for the subject, know the content inside-out, and have some brilliant ideas, but when it comes to the crunch, your reading and writing skills let you down.

It's a scenario that's all too familiar for secondary school students whose reading difficulties are not spotted early in their education journey.

When problems such as dyslexia remain uncovered throughout the primary school years, students can face a multitude of difficulties in accessing their secondary education. The new English literature GCSE specification, for instance, involves reading a larger number of texts than previously, many of which deal with complex ideas, sometimes using highly unfamiliar language.

And it's not only English that can pose problems for a child with reading issues.

Many subjects have become increasingly content heavy, and the lion's share of resources for subjects such as geography, history and modern foreign languages is made up of written material.

Limiting futures

Every day, students with undiagnosed reading difficulties are reading, writing and understanding less than their peers, and making up this missing ground becomes almost impossible.

It's often the case that poor reading skills are associated with low ability, and this can lead to an otherwise capable child being taught in a lower ability set where they are not challenged.

Students in this situation are less likely to access the higher level skills they need to realise their full potential, and the consequences of undiagnosed reading difficulties can be far reaching, restricting a student's options in their further or higher education or in their career.

It can be a challenge to support students with reading difficulties in other areas of the curriculum, particularly when there may be 29 other students in the class who also need targeted support. Teachers managing a hefty workload simply don't have the time it takes

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to recoup a student's lost years of reading.

New possibilities

However, technology might offer a solution. As a teacher with a passion for edtech, I am hugely excited by the potential of artificial intelligence (AI). We are already seeing examples of how AI is having an impact on our lives by helping banks detect fraud, for example, or speeding up the process of diagnosing medical conditions.

"There is enormous scope for AI to transform aspects of education"

There is enormous scope for AI to transform aspects of education, too. Not by taking over the role of teachers, but by saving teachers' time and helping them identify learning difficulties so they can be addressed early enough to make a difference.

Take for instance, a method called Lexplore that helps teachers spot which children are finding reading difficult by tracking the way a child's eyes move when they read two passages of text, one out loud and one in their head. This revolutionary eye-tracking technology records how long a child's eyes rest on one word, and how quickly they move forwards and backwards across a

series of words. Children whose eyes rest longer than usual on one word, move more slowly along a line of text, or move back to an earlier word find reading challenging. Importantly, the AI technology can recognise problems before a child's reading is fully established because it is based on eye movement, and with this knowledge, schools can start to tackle these difficulties before they affect a child's learning.

An AI-based assessment has the advantage of providing an entirely objective view on whether a child has reading difficulties. It removes any underlying links with perceived intelligence levels and focuses completely on the reading skills.

That's a huge advantage, particularly when you come across students who have become experts in masking their reading problems over the years with coping strategies. An objective test uncovers difficulties that could remain hidden.

And as with any machine learning technology, the more that schools use the method, the richer and more nuanced the picture of pupils' reading attainment becomes.

Supporting learning

So once a student's reading difficulties are known, how can we help them get their education on track? An additional fifteen

minutes of one-to-one reading every day makes a huge difference. However, it can be difficult to find the time or resources to implement this level of support in a secondary classroom, where there is a lot of content to teach. That's where engaging parents can really help so that they can support their child in achieving their reading goals.

Technology plays a crucial part here too. Dictation software has been used for some time by students whose writing is holding them back from completing essays or taking exams. But recent advances in voice recognition software have made the technology much more attuned to the user, by learning a user's way of speaking, adapting to their accent and blocking out background noise.

Similarly, text-to-speech technology has come on in leaps and bounds since its early days, and software can quickly convert a text document into an audio file. The technology can even help students with dyslexia to browse websites by converting the essential text from a webpage into audio.

I have seen the combination of parental involvement and technological solutions work wonders with students' reading and writing skills. I remember one child who came to our school aged 13, barely able to write his name correctly due to severe dyslexia, but very advanced in his intelligence and sensitivity to language.

The child's parents devoted a great deal of time to helping him boost his reading and writing skills in consultation with his teachers. This student also became adept at dictating his essays. So much so that

he achieved three excellent A levels and went on to study English at university.

There's an important role for technology in schools, not just in making learning more engaging, but in identifying learning difficulties early enough to help students unlock their potential and thrive throughout their education and beyond.

FIVE WAYS TO BREAK DOWN THE READING BARRIER USING TECHNOLOGY:

1 Investigate new technologies to see how they can help to spot and address reading issues.

2 Explore how AI can enrich human assessment of children's abilities.

3 Ask your students for their opinion on the technology that supports their reading

4 Share the benefits of edtech with parents to engage them with their child's learning goals.

5 Ask other teachers which technology is making most impact on reading in their classes and schools.

ABOUT THE AUTHOR
Mark Fraser is an experienced teacher of 29 years, and was director of digital learning at Clayesmore School. He is now an educational consultant and learning designer at Lexplore. Download AI – the perfect teacher's assistant (bit.ly/tandilexplore) free of charge for more information.