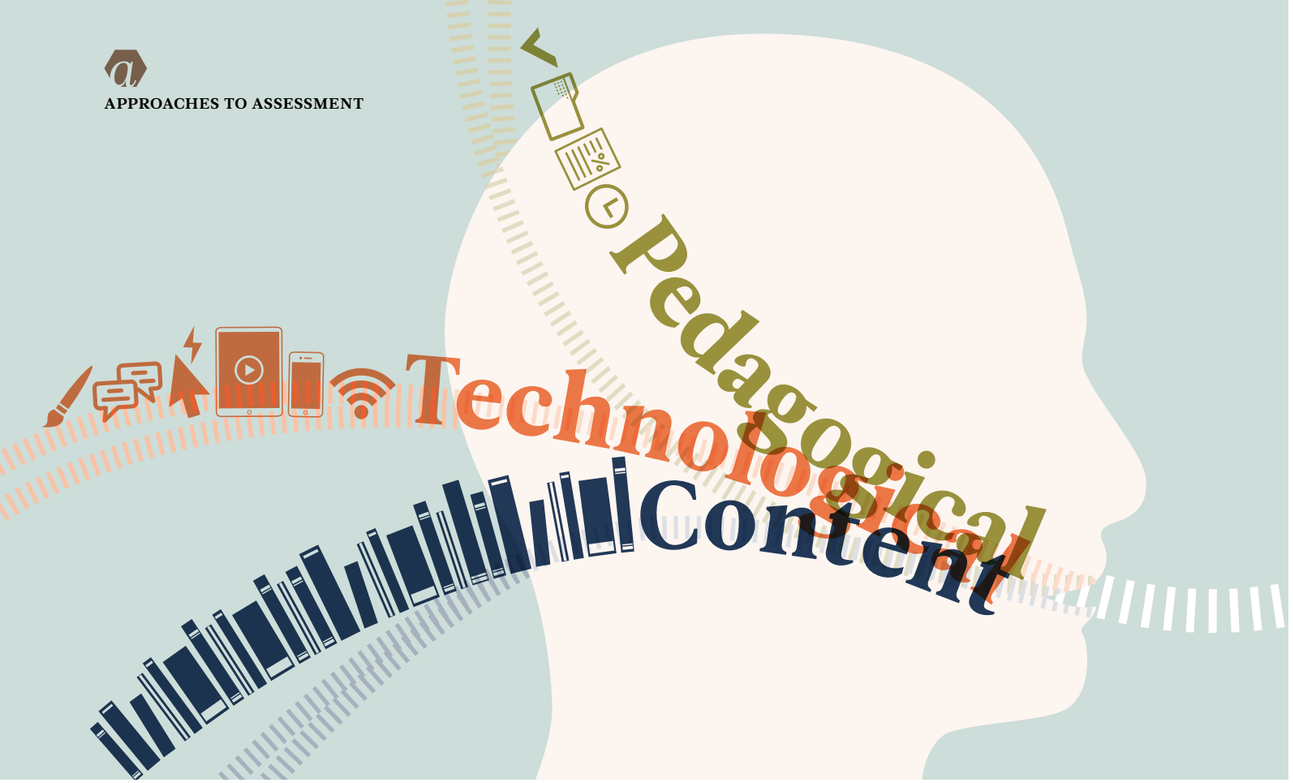

REFLECTION

How to do IT: Using digital technology to support effective assessment and feedback

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Nothing polarises a staffroom discussion more than technology. The moment interactive whiteboards, virtual learning environments or mobile devices are brought into the fray, we're revealed as either gimmicky evangelists of the new, or chalk-stained Luddites. While there is limited research to suggest that greater use of technology will unequivocally result in improved educational outcomes, there does appear to be a correlation between the effective use of technology and improved outcomes (Higgins et al., 2013). The role of technology in supporting the processes and practices involved in effective teaching and learning needs to be more clearly identified.

According to Koehler and Mishra (2009), technology, pedagogy and content knowledge represent three bodies of expertise that can interact to produce the understanding needed to use technological tools well in the classroom. In short, they found teachers are most effective when they develop skills in using technology in addition to subject knowledge and understanding of pedagogy. I have found that technology can support better teaching and learning, but it depends on how it is used. Technology needs to be included in pedagogy, not considered in isolation, and teachers and students need to be supported in developing its use to support effective pedagogical practice. With this in mind, let's look at technology in relation to two of the pillars of good practice in teaching: assessment and feedback.

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Frequent assessment for better retention

Tests are used to determine how well a student has learnt the required material (summative assessment) and to inform future teaching and learning (formative assessment). Often, tests tend to be formal and are often high-stakes end-of-unit or end-of-module tests and end-of-year exams. However, frequent low-stakes tests are effective at helping with learning because frequent retrieval practice, through the use of flashcards, for example, helps students commit something to memory more permanently (Roediger, McDaniel and Brown, 2014). Given this, teachers would be wise to consider incorporating frequent, relatively informal retrieval practice through low-stakes testing and quizzing to help learning – and the implications of this for the use of technology to support learning are significant.

There are many software packages and digital publishing tools that facilitate the inclusion of frequent retrieval practice opportunities. Even if the resources we are using are primarily paper-based, teachers can create or curate web pages that learners can use to self-test and self-determine where they are in their learning and how to improve. Testing yourself is easier than ever these days, with a multitude of smartphone and tablet apps as well as web tools that allow learners to create their own flashcards and quizzes that can be used and reused as part of a revision routine. Good examples include Quizlet, an online learning tool that lets users create flashcards, and Kahoot, a game-based learning platform that can be used to generate quizzes.

Feedback as collaboration

Explaining to students where they are, where they need to be and how to get there is key to effective feedback (Wiliam and Leahy, 2015). To ensure the impact of feedback is positive, it should be accurate and clear, with specific guidance on how to improve. Though feedback can take many forms, marking is one of the most common – but the workload associated with traditional marking is problematic. Technology can be used to ameliorate the marking load while improving the timeliness and efficacy of feedback. Small but powerful tweaks to our policies and practice would allow us to deliver feedback to a whole class rather than to individual students. This is much less time-consuming and arguably as effective as individual 'what-went-wells' and 'even-better-ifs' for every student.

Teachers would still need to look through their students' work, but instead of feeding back individually, they would look for and make a note of common misconceptions. Then, using screen or voice recording technology, the teacher could record herself highlighting what students have been good at, what they need to be better at and how to be better at it. This feedback could be delivered during a lesson without needing to use any technology, but if you do use digital technology to record it — and this would take as long as marking and writing feedback for one exercise book — you can then make it available so that students can access your advice at any point throughout the course.

With tools such as Google for Education or Microsoft Office 365, students can share their work with teachers. When both teachers and students can edit the work, the valuable drafting and redrafting process that would otherwise take a few lessons to achieve can be accomplished much more rapidly. Giving feedback becomes a kind of collaborative modelling.

So when it comes to adopting technology, the old adage applies: it ain't what you do, it's the way that you do it. Technology use can indeed be a bit gimmicky, but only if you make it so, because nothing engages a class better than expertise in teaching, and nothing is more likely to contribute to students' distraction than the lack of it.

INFOGRAPHIC: MADALENA STUDIO

FURTHER READING

José explores these issues further in: Picardo J (2017) *Bloomsbury CPD Library: Using Technology in the Classroom.* London: Bloomsbury Education, to be published in November 2017.

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