

Different as you are, we can make this work

Doug Loader

Computers can be used for a whole variety of purposes in the classroom. But I have recently come to the conclusion that if technology's use is for anything other than the pursuit of personalised learning and differentiated instruction, then educators should reassess the role that technology plays in their pedagogy. Used in the wrong way, I believe technology can be non-conducive to learning, and nothing more than an expensive distraction.

Take an electronic book (ebook) for example. When iPads first began to filter into schools, principals were promised that school bags would be lighter due to the removal of textbooks. On the contrary, after years of effort it is clear that a book is the best way to present text, a textbook is best at being a textbook! However an interactive book, with tailored content for the individual, rich in immersive media has the potential to become a better tool. In this instance you have moved beyond simple substitution and you are beginning to use technology to improve learning. The overall objective? *Differentiated Instruction*.

Late last term, I was fortunate enough to be involved in a professional development session hosted by Differentiated Instruction expert, Donna Deed (care of the Catholic Education Office). This session exposed me to the writings of Carol Ann Tomlinson and my colleagues and I began a conversation about technology's role in the delivery of personalised learning, and my own objectives, in the manner with which I support teaching staff, have been reaffirmed.

Also referred to as Differentiation, teachers must apply a range of techniques and methods if they want to enhance the learning outcomes of every student. In Carol Ann Tomlinson's book, *The Differentiated Classroom*, she highlights six components that form to create a focused teaching and learning method.

"The teacher modifies content, process, and products based on student readiness, interest, and learning profile." (Carol Ann Tomlinson).

'Content' is the area which, in most respects, is out of the teacher's hands. It is likely already selected as per the curriculum and represents the destination in this process. The 'Process' and 'Products' are elements that can, and often are, directly enhanced by technology e.g. research and media creation like photographs, movies, and podcast creation.

Assessment of a student can identify their



'Readiness' or entry point to a topic, and the 'Interest' component highlights a learner's curiosity about a topic. The sixth element, which I find most interesting (and will form the grounding to this article), is the 'Learning Profile' of a student that is developed in a number of ways. But of uppermost importance, it is crucial not to pigeon hole a learner within a traditional learning profile, e.g. auditory, visual etc, using these containers ignores the reality of the whole person. Although at its most basic, these senses are exactly how one begins to learn...

Cognitive learning

Sight, sound and touch are the most commonly used senses in the classroom. I believe that this is why tablets have been so well received by teachers. Unlike their laptop counterparts, they have moved beyond just being audio and visually rich. The iPad fuses together three human senses by bringing touch to the forefront of the interface. Once understood, a teacher can make the classroom a place of sensory wonder and marvel, where learning becomes a product of self-motivated and inspired students.

When knowledge is acquired it just seems to 'stick' better for some, and for good reason. The

process of remembering is achieved via activating a combination of senses, creating cross-curricular connections. Neurons in the brain are actually stimulated, helping us to cross-reference data, giving learning meaning, and made easier to recall. But with dozens of students in the class, how can you be sure that you are making learning a meaningful exercise for all?

"Assessment is today's means of understanding how to modify tomorrow's instruction" (Carol Ann Tomlinson)

How can technology be used to promote Tomlinson's Differentiated Classroom through assessment?

Google Forms (with the Flubaroo add-on), and Socrative

Both of these survey tools present outstanding reports to help you to visualise student understanding. They also provide the data as an Excel spreadsheet which is very important if you wish to further analyse or share the data. They are completely cross-platform, meaning no matter which type of computer you are using, all students can access your quizzes/surveys/assessments.

Flubaroo is an add-on for Google Forms. It allows you to auto mark assessments once you

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specify the marking key, and it will even send an individual student his grade via email and an overview of his right and wrong answers. Your students do not need a Gmail account to benefit from Google Forms with Flubaroo add-on, although you as the teacher will. It is free to use.

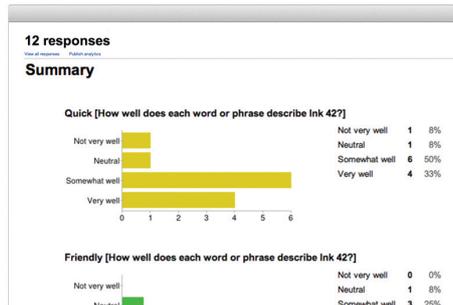
Socrative is comparatively simpler to operate, and visually more rewarding for the teacher and student. Teachers can easily set up a range of 'Quick Questions' containing True/False or multiple-choice responses, or even a 'Space Race' to add a real-time classroom race, which brings a great sense of competition into your lesson. The quiz results can be emailed to you, or saved for analysis later.

Both Google Forms and Socrative require the teacher to write the questions, which is great for personalised classrooms, but if you wish to get started faster I highly recommend you investigate NearPod and the Progressive Achievement Tests (PAT) from ACER.

NearPod

Possibly one of the best examples of transformative learning in the classroom, Nearpod shines for me because of the variety of responses that can be presented to students. It is way more than just a survey or quiz, students can be directed to, but kept within the confines of websites or other online activities. The teacher directs the speed of progression from their device, moving students through a tremendous wealth of online knowledge. You can challenge students to draw or annotate diagrams, if those diagrams are good they can be shared amongst the other devices, all in real time.

I recommend that you investigate the library of over 1500 ready-to-use lessons, many of



Google forms

which are aligned to the Australian Curriculum. Nearpod's only shortfalls are the relatively small price tag and also the dependency on a stable internet connection.

ACER's Progressive Achievement Tests (PAT)

These tests have been developed specifically for Australian schools. They can be completed on any device, although if online is not an option, you can order paper variants. The ACER website describes their tests as "...a series of tests designed to provide objective, norm-referenced information to teachers about their students' skills and understandings in a range of key areas. At the centre of each PAT test is a described proficiency scale, providing both quantitative and qualitative data on student performance"

ACER provides four test programs, each one spanning a range of proficiencies and intended to be taken over the course of years: Maths, Reading, Science and SPG (Spelling, Punctuation, and Grammar); you can pay for each program individually.

For the benefit of easy marking these tests are entirely multiple choice. However, I consider this to be something of a drawback because it does have the potential to exclude pupils whose learning profiles do not lend to read-only multiple choice conditions.



Creating Learning Profiles

To make a real difference, a collective effort from all teachers should be made to teach to a student's needs. But this can only be achieved if all staff are privy to the same information. It is here where many schools and their choice of Learning Management System (LMS) fall short.

The challenge we face is how can each staff member contribute to form an overview of a student's learning profile, and how can that data be easily accessed by dozens of teaching staff? I am referring to data beyond NAPLAN data. Observational data, character data including personal interests, and data that evolves throughout the weeks and terms.

Creating Learning Profiles in an accessible, communal and visual manner is a challenge that I am taking on this term. In my article for Term 2 issue of *Education Today* I will illustrate how we overcame this problem at my 7-12 school in WA.

ET



Doug Loader is a technology enthusiast with a track record of delivering effective and working solutions in education and business. He is an Apple Distinguished Educator and has worked in education for over five years. He manages the IT Department at Kolbe Catholic College in Rockingham, 45 minutes south of Perth. Visit his website for more articles, guides and opinions: www.iSupport.com.au



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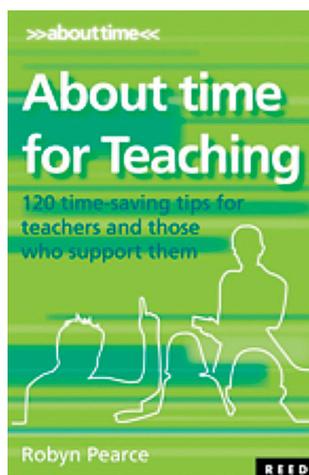
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