

Technology doesn't automatically transform education – but with training it can!

On a pleasant June afternoon, 15 year old students in Miss William's classroom are sitting in groups of four. Each group of four is clustered around a computer.

They were halfway through a project-based unit on cells. Their goal: research a topic of their choice from the module on animal and plant cells and produce a paper on it. Their immediate task: to develop a multimedia presentation of their findings, working collaboratively with their four classmates.

As they worked, they were able to access a number of high quality resources in the library on the school's Learning Platform. They debated and agreed their findings and conclusions as a group and made notes directly into their secure area on the Learning Platform. Their teacher could access and see these notes and presentation developing in real-time – and give helpful comments and feedback.

Each group assessed their own work against a Success Criteria which had been previously agreed. Based on this and on her own assessment of their work, Miss Williams was able – at the end of the day - to send out further explanation material electronically via the Learning Platform. This extension material was differentiated according to each group's level of understanding so far.

She was also able, using the Learning Platform's video recording button, to send personalised suggestions on some individual student's work – both saving herself time compared with written comments and making the comments more personal and friendly.

The problem is that this type of student-centred, hands-on, personalized instruction making innovative use of technology is still not necessarily the norm – even in countries like the US and UK that have invested hugely in technology for some years.

A handful of "early adopters" embrace innovative uses of new technology, while too many of their colleagues make incremental or even no changes to what they already do. They might use an overhead projector and Powerpoint - but they haven't yet given students control over the technology and they haven't exploited the power of Learning Platforms to genuinely individualise learning.

For example only a minority of teachers in a 2014 USA survey reported that their students sometimes or often used technology to conduct experiments (25%), create art or music (25%), design and produce a product (13%), or contribute to a blog or wiki (9%).

The main mistake is to invest in technology but not give teachers the time and training to be confident in using it. Even more important is the need for teachers to work out how to modify their methodology to use the technology to put more responsibility onto the learners.

The key is to give students real-world issues and authentic problems to solve using digital tools and resources, setting their own educational goals, managing their own learning, and assessing their own progress – and in so doing deepen their learning and increase engagement and motivation.

Over the next few years thousands of Polish schools will adopt interactive whiteboards, e-books, learning platforms and learning Apps and will wish to integrate the use by students of computers into the classroom.

So how can they get full value from these investments? What are the lessons from other countries?

1. Schools should get initial training on how to use an Interactive Whiteboard or Learning Platform from the supplier. Both Multitablica and the Itslearning Platform offer this – based on best practice international experience. ItsLearning has experience with over 5 million teachers and students across Europe and USA.
2. Technically neither technology is difficult to learn, however. It is the change in teaching methods that is the key to improving results – as the results of this study on IWBs dramatically shows:

	Overall effect size	Percentile point gain in students achievement*
Using IWBs without specific training on improved teaching strategies	+ 0.37	+ 14%
Using the top 15 proven teaching strategies but no IWB technology	+ 0.64	+24%
Combining the top 15 teaching strategies with IWB technology	+1.60	+ 45%

- *Research conducted by Dr Robert Marzano, of the Marzano Research Center which hosts the U.S. Department of Education's Regional Institute of Education Sciences.*
3. Once teachers have a reasonable level of technical proficiency, schools should get training on how to modify their teaching and learning strategies – see note below. It's not difficult – but it is essential.
 4. Identify "early adopters" inside a school who are making innovative, student-centred use of technology in their classrooms - and use those teachers to teach other teachers how to integrate technology into their lessons.
 5. Encourage teachers to join a 'Personal Learning Network' of early adopters outside their school swapping ideas and teaching and learning strategies.

Given these basics, technology:

- Keeps students motivated and engaged in the learning process.
- Allows students to learn at their own pace and in their preferred way – and therefore better master subjects.
- Saves considerable time for teachers in preparation and assessment
- Enables parents to stay continuously up-to-date with their child's learning rather than just at parent's evenings.
- Helps prepare students for the real world
- Deepens a student's basic skills. Recent studies show that students learn faster and understand better when they use technology because it facilitates cooperative learning.

So embrace the new technology – but be aware that it needs to be accompanied by a shift to more self-managed learning by students – and that needs professional development for teachers and instruction for students in effective learning techniques.

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Colin Rose has produced an on-line training programme for teachers to show how to embed the top most effective 15 teaching and learning strategies into their day to day classroom. It's called *'Did THEY ask a good question today?'*

Its companion 'learning to learn' training programme for students showing them how to use the top 10 learning techniques is called *'Winning at Learning'*

The combination of both programs develops independent learning that enables schools to take full advantage of technology and really drive up motivation, engagement and grades.

Both programmes are available from INE – <http://ine.com.pl/en>. INE also has a 'hub' where early adopters of technology can swap ideas and solve issues.

Multitablica Interactive Whiteboards are available from www.multitablica.pl

itsLearning is a teacher developed Learning Platform / Learning Management system that combines ease of use with a host of features and a curriculum linked library from PWN <http://itslearningpoland.publishpath.com/>