

The good practice in detail

It's time to invest in combusive education

The only worthwhile criteria for evaluating education is that it makes a positive difference to learners. And for education to be considered outstanding, this 'difference' has to be significant, and for every learner. That's quite an aspiration.

Arguably, over the last few thousand years, mankind has committed an incalculable number of hours to the pursuit of how best to teach – so do we now know how to 'do it'? If you asked this question at the end of the Twentieth Century, many education professionals may well have said they did, but since then the paradigm has changed – utterly.

Facts and knowledge are now 'cheap' – so easily accessible through a conversation with your smart phone. What counts now is learners' ability to use this information to think consequentially and to transform; whether this be their understanding, a creative idea, a process, or themselves in a particular situation.

Unlike many developments in pedagogy, our latest (and greatest?) paradigm shift didn't emerge from scholarly research into our wonderful art form of teaching, but through our technology-fuelled urge to have fun. For instance, not too long ago the learning of 'times-tables' was a laborious rote activity, most successfully mastered by those with good memories, stamina and persistent parents. Click play on *Timestables to 10* in Mathletics, however, and within seconds you're competing against a learner from China, another from Australia and maybe one from Iran to see who can answer the most correct questions in 60 seconds. This is combusive education, where learners are as likely to become addicted to learning as learners of the past were to giving up.

Generation Z* learners inhale web2.0 (interactive) technology. The trouble is, their teachers don't. A dystopian view is that we're watching a slow-motion car crash at the end of which traditional formal education will lie wasted in a heap. The utopian view – and that of Lincoln College and its partners – is that we're standing at the dawn of a wonderful new ride. The question is: how do you get started.

Step 1: The big issue

Unlike many new initiatives which seem to simply start with an idea for a new activity, Lincoln College began with a root-cause evaluation of the problem: that teachers have neither the technology skills nor confidence to let go of the *olde* ways in order to meet the new challenges.

Only when you're confident with your root-cause hypothesis, can you then move onto step 2: the articulation of the issue once resolved.

Step 2: What they're trying to achieve

Simply put, the Lincoln college team want learners to immerse themselves wholeheartedly in their education, and to learn effectively both in and in between formal lessons, becoming expert, independent learners whose qualification success rates are outstanding. That's all well and good, but how on earth do you achieve such lofty aspirations?

Step 3: The hard work

The team's research and experimentation has clarified four discrete areas of development:

- the desire of teachers to embrace the new
- the skills of teachers to understand and take advantage of the new opportunities available
- the network required to support teachers' brittle confidences as they journey outside their comfort zones, and
- the resource infrastructure needed to enable all of this to happen.

Step 3.1: The desire of teachers to embrace the new

As with all good research projects, the staff journey began with an initial survey to assess their pre-existing skills and confidence. The results weren't great – though very much expected. Just 10% of teachers had 'confidence to build on' or 'a good level of confidence' when using learning technologies and

cloud-based software. No doubt a result of the 'fear of the unknown'. The first challenge, then, was to showcase the technologies available and demonstrate leadership's commitment to the journey by giving an iPad to each team leader so that they could explore and develop their personal skills. Next, the teams looked at some of the education software available, balancing their ultimate aim for independent learning, ease of use, flexibility and sustainability.

- **blendspace** by TES

This is basically an easy-to-use environment, or 'front end', in which teachers can assemble any type of digital resource into a coherent learning experience. These include: TES resources (of course), pdfs, images, YouTube and other on-line videos, Microsoft Office documents, dropbox content, links, your Google Drive... In short, any digital content.



- **QRStuff.com**

QR (Quick Response) code generator to create scannable links to online content.



- **Planet e-stream**

Another digital asset-management system, with a speciality around video, live streaming of events, and Freeview TV recording.



- **Steljes** (Smart Technologies)

Specialist interactive hardware supplier, backed up by Notebook and Wordwall software for in-class interactivity with technology products.



- **GCSEpod**

Online material for 20 GCSE subjects. Each Pod is a concentrated, 3-5 minute burst of audio-visual, teacher-written learning, reinforcing and consolidating key GCSE topics.



- **Camtasia**

Easy-to-use screen recorder & video editor. Helps create more professional videos without having to be a video pro. Easily record screen movements and actions, or import HD video from a camera or other source.



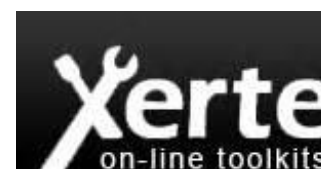
- **Articulate**

Template-based or customisable on-line learning course design software.



- **Xerte online toolkit**

A suite of browser-based tools that allow anyone with a web browser to create media-rich interactive learning materials quickly and easily. Content can be delivered to all devices using a responsive template, both small screens and desktop computers.



Loughborough College also demonstrated a 'homemade' Moodle plugin very similar to Blendspace, but with more control by the college authors.

Step 3.2: The skills of teachers to understand and take advantage of the new opportunities

Lincoln College invested in a training centre for staff called the Professional Development Centre (PDC) along with a team of Advanced Practitioners (APs). An online booking system was created for the development team's bespoke training and timetables were rearranged to allow staff to attend development sessions every Friday morning for two hours. Within weeks, the teams had taken up the challenge of learning new the software packages, talked to learners for their ideas, and started experimenting with different ways of using the materials.

Step 3.3: The network required to support teachers' development

The partners used a scaffolded quality-circle approach, providing each pilot curriculum area with a team leader, access to a specialist IT professional (employed for two days per week), and regular structured meetings for the sharing of emerging practice and ideas. Leaders and managers also, crucially, demonstrated their continued interest through personal visits to the curriculum areas for updates on developments.

A further vital support strategy for some teachers was the learners themselves. Their own IT confidence and positive feedback on the emerging new learning experiences served to fuel the on-going developments of the new resources.

Step 3.4: The resource infrastructure needed to enable everything to happen

The team are quite clear about their hindsight advice for others:

- 'IT infrastructure must be a number one priority and must provide a stable, usable platform that actively encourages classroom innovation as well as completion of course administration. This will help save time and motivate staff to try new ideas. This includes wifi systems.'
- The IT system should be in place to support teaching, learning and assessment for both teachers and learners alike.
- Learners must continue to have the opportunity to freely use their own devices and where possible, provide, improve and review the provision of supplying devices for teachers and opportunities for learners to purchase technology to assist with learning.'



Step 4: What they did

The learning experience begins with a poster. The images used represent well the subject to be studied, and act as strong visual and relational 'anchors' for the learning. Ahead of each new topic of study, a QR (Quick Reference) code is added to the poster. This makes learners curious to know what lies at the end of the link.



Using a QR code scanner app (freely available from any App Store) and holding their phone/scanner over the image takes learners directly to the Blendspace pages created to teach the target element.

These pages are set out as 'storyboards', showing a logical flow through the learning materials. Typically, these will include: an overview; 'how to' videos; illustrations; 'curiosity' videos to promote further thinking, ideas and motivation; sound files; an assessment tool to check learning.



Teachers can assemble their own material into storyboards, curate appropriate work published online by others, or a blend of the two. Stakeholders and employers and trade partners are encouraged to contribute to the development of the storyboards and both they and the learners can comment on the materials after use, helping the development team hone their skills and the effectiveness of the learning resources.

New QR codes can be added *before* formal lessons so that learners can pre-learn the content, or at the very least become curious and want to know more. Codes can also be

added during or after lessons, to help reinforce learning through practise and repetition.

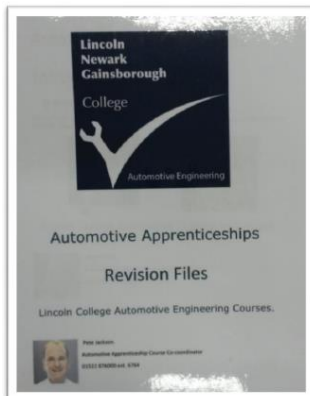
The QR codes are also published within the course Moodle pages and on the OneFile electronic portfolio alongside traditional URLs. (Here's the one for the example above: <https://www.Blendspace.com/lessons/hkZTu6c3G9Kefg/edit>), allowing access to the same material from anywhere at any time.

Step 5: The difference that it made

For change to be sustainable, it has to be intrinsically driven. Just three months after the low starting point of 10% of teachers being 'confidence to build on' or having 'a good level of confidence' when using learning technologies and cloud-based software, the figure rose to 76% when asked again.

Large learning posters are strategically sited in corridors near each target subject area and, with the weekly addition of QR codes, build into full on-line learning suites of resources by the end of the academic year. These also allow prospective learners and their parents to sample the material during College open events.

Using Blendspace has also allowed teachers to quickly build an online library of materials that can be shared across subject areas. For example, sharing material on 'first fix' between different construction trades has given all learners a broader understanding of how their trade fits into the wider picture.



Towards the end of a unit of study, all resources are collated into revision guides and published in full to help learners prepare effectively for their final assessments. Survey data shows that well over three quarters of learners enjoyed using and learning from the new resources. Of those who did not, all sited the reliability and speed of the internet connection and college devices as the reason for their poorer experience.

Some learners enjoyed the new learning process so much that they began making their own training videos.

Step 6: The future

Nick Boles, Minister of State for Skills and Equalities, warns the sector that: 'This is not really about technology, but about new ways of thinking.

Technology will never replace good teachers, but teachers who use technology effectively will replace those who do not.' (Harrison, 2014).

The Lincoln College team and its partners are investing in their and their learners' futures. The payoff for this investment will be a manageable workload for busy front-line staff and a richer, more successful learning experience for learners.

Despite the great progress made during the lifetime of the OTLA project, the development team still feel that they are only just beginning and are looking ahead to better evaluation of learning impact, leading to improved resources and methodologies, ahead of a wider roll out across their partnership and broadcast to the wider sector. The future's bright.

Provider background

The lead partner for this project was Lincoln College – a medium-sized general further education college situated in Lincoln. The project was centred on the School of Construction and Engineering, though staff from across the college were encouraged to take part.

The main partner is Linkage College, a small specialist further education college situation in Grimsby. Linkage provides development opportunities for young people with learning difficulties and autism, aged 16 to 25.