Naace

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Editorial Ramblings

In which your editor peers through the rising fog and ponders a route that might avoid the rocks and shoals now thick around us. Is there safe passage or shall we succumb to the siren cries of the Lorelei.

Difficult times are ahead and politicians harangue us daily with their demands for austerity and a frugal approach to public spending. The budget axe has swung and behind the scenes the paring knives are sharpened for the Comprehensive Spending Review that will define much of the educational landscape for years to come. The years of plenty are behind us and famine beckons.

So far we have seen the demise of BECTA, a body that has been admired internationally and according to a recent Guardian poll will be much missed by teachers. BECTA has been central to much of the progress with ICT in education and without it we are all poorer. And let us not forget the respected friends and colleagues who will be losing their jobs as result.

The blitzkrieg has continued with the wanton removal of £50M (25%) of this years Harnessing Technology Grant, a "low priority IT grant" so the House was informed, in order to fund 'free schools'. The consequences are a mid-year budget cut for schools who have already planned or paid for infrastructure upgrades, learning platforms and more. There will also be a knock on affect on Regional Broadband Consortia and on our sponsors in the wide ICT industry. £50M is a not insignificant amount to remove from ICT spending in the middle of a recession, yet I doubt if the consequences for schools, learners and suppliers was given the slighted consideration. And what of BSF? When will we find out? And then there is the potential for overall 25% cuts in the education budget when ICT has already been deemed "low priority". Possibly Shakespeare summed up the current situation:

> "There is a tide in the affairs of men.
> Which, taken at the flood, leads on to fortune;
> Omitted, all the voyage of their life
> Is bound in shallows and in miseries.
> On such a full sea are we now afloat,
> And we must take the current when it serves,
> Or lose our ventures."
>
> *Brutus, in Julius Caesar Act 4, scene 3, 218–224*

The tide is currently with the Coalition, as with any new government, but, in their haste they implement policies that will have unseen consequences, not just in the short term but for many years on. If our children are not fully prepared for the technology based jobs that are essential to a diversified economy then future prosperity for the country must be in doubt. If Gove is Brutus, driving headlong for Phillipi with his overwhelming legions than Naace is Octavian, building alliances and carefully navigating the political shoals. We need to ride the current and do so with vigour and some political cunning if we are to save the ICT venture. Octavian won by the way, though not till the second battle.

So where do we go now? Naace has built with others a strong alliance to argue the case for ICT in schools as the spending review progresses - a key element in educating politicians who have little or no experience of modern, progressive education and who, indeed, flinch at the very notion of 'progressive' as involving a fall in standards. But whose standards? Those of the world as it was 50 years ago, about the time my parents bought their first television, or the world of instant communications, digital video and online trading that we inhabit now. Without ICT the facilities would not have existed for our financial institutions to gamble as they did and so break the economy. Nor of course would individuals have maxed out their credit cards just to have the latest smart device.

Education must reflect the world as it is while preparing learners for a world we can only guess at and where ICT is core to that world. To treat it as 'low priority' is to ignore the whole basis of much modern trade and industry.

We have to fight for ICT at all levels, school, LA, region, country and nationally. With the arbitrary scrapping of both the Rose curriculum and the revitalised ICT Level descriptors we have lost a significant weapon. They at least recognised that the scope of ICT had moved light years beyond the outdated 1999 schemes of work, which now remain statutory till at least July 2012! We must continue to demonstrate and model good practice with digital story telling, animation, video, podcasting graphic design, and games/simulation programming – these are the challenging skills relevant today, that support core skills, especially in communication and language and above all motivate learners. We cannot afford to lose this to rote learning of e.g. the kings of England, most of whom weren't English anyway, in the false expectation that this will 'raise standards'.

The articles in this issue of Advancing Education provide a series of high quality snapshots of the quality of learning engendered by effective use of ICT from early Years upwards. As Michelle Singleton demonstrates, Moodle in the Foundation stage – supporting engagement with parents, aiding phonics teaching, primoting e-safety and more is actually quite straightforward.

At the other end of the age spectrum Parras Majithia explains the outcome of a complex Business and Enterprise project with 6th formers and also involving other schools. Three papers demonstrate the work of the Nottingham e-Learning Centres, with James Tinney study of e-portfolios to showcased learning and share project work in a 14-19 design and technology project. Marie-Line Antoine evaluates continuing multimedia work with schools using cutting edge technologies in HD filming and editing, chromakey and live streaming to the internet. Special educational needs are not forgotten, and David Ellis provide a useful insight into the use if combined multi-sensory and multi-media immersive learning environments.

In our regular short articles insights are offered on the need to teach learners to navigate the web with care and to be aware that any fool can have a website (and many do). Also, Gary Howard explains the links between Formula 1, fitness training and school ICT while Bob Harrison asks us to reflect on whether mobile technology, especially when pupil owned, is a learning resource or explosive device.

All these articles have one thing in common - they are practical, real-world examples of the critical importance of ICT in preparing young people for work. Lose the skills learned and we lose the competitive edge we need to survive as a wealthy country. That, if nothing else is the message that we need to get through to the decision makers.

Paul Heinrich
Editor

The views expressed in this editorial are those of the editor and do not necessarily reflect Naace policy.

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Case Study of a Business & Enterprise Project Inspired by the London 2012 Olympic Games

Author: Mr Parras Majithia, E-Learning Co-ordinator, Maiden Erlegh School, Wokingham

Maiden Erlegh School identified opportunities to provide more than just the traditional classroom education for its Business and Enterprise students as well as a desire to develop working links and relationships with other schools in order to support wider community improvement. This led to the development of an Olympics-inspired B&E Project and an extension of examination preparation opportunities offered to students

School Background

Maiden Erlegh School is a highly successful and oversubscribed 11-18 secondary school in the Wokingham Local Authority. We are a specialist college for Visual Arts, and Business & Enterprise and the largest secondary school in the Authority

In 2007, the school was judged to be 'Outstanding' in all categories, and since then has been developing innovative and exciting ways to continually enthuse our students, and enrich their learning experiences. 2007 also marked the addition of Business & Enterprise as the school's second specialism. This case study will showcase two of the many opportunities that we have made available to our students.

A brief explanation of the situation the school was in at a chosen point with reference to progression/retention

The school achieved High Performing Specialist School (HPSS) status and has built on this with increasing headline results. In 2009 Key Stage 4 students achieved 81.9% A*-C, with 74.1% including English and Mathematics, and Key Stage 5 students achieved 99% pass rate with 54% A/B. This was an improvement on previous years, and, with increasing numbers of students opting for subjects within the Business & Enterprise umbrella, we saw opportunities to provide more than just the traditional classroom education.

Students from Maiden Erlegh Year 11 make up more than 60% of their respective Year 12 cohort, and therefore were acutely aware that "more of the same" would continue to yield improving results. This however, was not enough, and the desire to develop working links and relationships with other schools in order to support wider community improvement led us to developing the Olympics-inspired B&E Project, and to extend examination preparation opportunities that we offer our students

Actions the school took to address the issues

In order to move forward on the KS4 plan, we set up regular meetings with the other local B&E college, The Forest School, building on a previous link that a member of staff had. These meetings focused on how to best deliver the new Edexcel GCSE 2009, utilising The Forest's experience from being involved with the original pilot course.

Whilst developing the inter-school links, we saw a way to utilise the content of the GCSE course, the upcoming London 2012 Olympic Games, and the UniServity Learning Platform to good effect together. This led to our developing, designing and writing an original scheme of work to deliver to a group of selected Gifted and Talented Year 10 Business Studies students. The Project was mapped directly into Unit 1 of the GCSE, and encompassed the development of students' enterprise skills, embraced the Olympic Values, and provided some practical application to their studies.

Whilst writing the Project, we established a link with Bradon Forest School in Wiltshire which has a particular expertise in developing their learning platform. This element of technology and digital learning had a strong focus for the Project as, aside from providing an enrichment activity, one of the priorities for the school over 2009-10 is to continue to develop our e-learning and e-literacy.

The Project itself was hosted on ME-Space, the Maiden Erlegh Learning Platform with regular updates of teaching content for the staff in each school, links to video clips and external sites, and press releases. In addition to this, there was a discussion forum set up for all the students on the Project to communicate with each other and share ideas. This was particularly useful following the trip to the Olympic Park, as all the students had the ability to put forward questions to a contact whom we had engaged with at the Stratford Shopping Centre. I was able to collate all the questions and send them as one email attachment, as opposed to the students all emailing the individual.

The Project included investigating why London won the 2012 Games; a trip to the Olympic Park which included carrying out primary research; identifying enterprise opportunities in the Stratford area as a result of their findings; a creative task to design a suitable opening ceremony and a visit from Team GB Rower, Tom Solesbury, to find out 'what it takes to be an Olympian'. Due to the distance and time involved Bradon Forest School were unable to attend the visit, therefore the questions that their students wished to ask Tom were communicated through both email, and the discussion forum on the Olympics Project microsite. Tom's visit was video-recorded, and was then embedded into the microsite that same afternoon, so that Bradon Forest's students could see the interview and address the required task.

The creation and development of the Project attracted the attention of both the London Organising Committee of the Olympic Games (LOCOG) and the SSAT. Following an application for support to run the Project, Maiden Erlegh was one of only 11 schools in the country to be awarded a grant of £5000. With this assistance, and other activities within the school that also promote the Olympic Values, we were also accepted onto the GetSet Enterprise Network. This is a group of approximately 100 schools who have and are demonstrating through their work, the Olympic Values of Respect; Friendship; Excellence; Determination; Courage; Inspiration and Equality. This prestigious accolade enables us to network with other similar schools, and also to benefit from opportunities such as free, facilitated enterprise workshops for our students, and other opportunities to acquire funding.

The students who were selected to participate in the Project were overwhelmingly positive about their experience (see below) and the collaborative links that we have forged with the other schools will remain to be lasting.

Owing to an external link between one of the staff involved with the Project and a professional videographer, we had the benefit of the significant elements of the Project being captured as moving image. This was then edited down and converted into an hour-long DVD which has been distributed to all students and staff involved as a souvenir.

How the B&E Specialism/enterprise activities/business education was used as a vehicle for school improvement

A major component of school improvement priorities over the past 2-3-years has been the concept of “Enjoy and Achieve” whereby Maiden Erlegh students are offered a wide and varied range of enrichment opportunities to supplement the high quality learning and teaching environment they already benefit from.

These enterprise activities and enrichment of business education as a whole, under the umbrella of the B&E Specialism, have reflected the improvement priorities. The improved and improving attainment results, coupled with positive student evaluations, give us ratification that the activities are effectively supporting both elements of the agenda.

The link with Team GB Athletes/Olympians has provided inspiration for students looking to become involved further in sport/increased awareness of the impact of the London Games in 2012. Cross-curricular enrichment links have also been forged with the Physical Education Department hosting a workshop with Olympic Team Rower Daniel Ritchie in April 2010.

Between now and December 2012, membership of the GetSet Enterprise Network will enable us to provide more such inspirational opportunities and links for our students, to further enable them to “enjoy and achieve”.

The impact of ICT and other technology has been significant in enabling us to engage our students more with the other schools, and to produce high quality outputs such as the ‘Opening Ceremony’ videos using Movie Maker, and Adobe Flash; the excellently planned Powerpoint presentations; the handouts that some had created using Publisher or Word; and the statistical analysis that they had carried out following primary and secondary research using Excel. Students’ proficiency with such technologies and applications is improving year on year, and therefore, in order to continually harness their interests, it is highly important for enrichment projects such as this, which require them to devote some of their own time, to be engaging, enjoyable and fun.

Other contributory factors

Three significant contributory factors have enabled these activities to positively impact the experiences of the students, and school:

- Staff Cohesion and Teamwork to enable the activities detailed above, amongst many others, has been without question a key determining factor in the success of the outcomes. The willingness of the teams of staff involved in each activity to take on work that was over and above the “day job” ensured that the students received the best possible experience. Each member of the team’s expertise was utilised to the full, from creative and artistic talents, through to commandeering friends and past colleagues to join in and support the activities!
- The school’s Senior Leadership Team offered their support by accepting all invitations to attend events, and supporting the schedule of both off and on-site activities that have taken place. They have also embraced the extended collaboration that we have been seeking to achieve and have encouraged the team to continue doing so.
- Our students have engaged fully with the opportunities we have made available. The Olympics-inspired Project received positive and encouraging reviews from students, parents, internal colleagues and external colleagues alike.
- The inclusion of a significant amount of ICT, as stated above, has been a catalytic factor in the engagement of the students, and for the high quality outcomes that they have been able to produce. Such outcomes have been praised by high-profile internal and external stakeholders alike, and the students themselves gained much personal satisfaction.

Outcomes

We have made progress in terms of offering activities that promote community cohesion and improve student engagement through enrichment. These have also helped students develop vital life skills for the future. Furthermore, the number of positive alliances and links that we have built as a school bode well for the future.

Successful Outcomes

Quantifiable results for both Key Stage 4 and 5 at both departmental and school level have been continually improving:

Date	Department KS4	School KS4
2008	99% Pass 69.5% A*-C	99.6% Pass 74.7% A*-C

2009	100% Pass 93.7% A*-C	98.7% Pass 81.9% A*-C

2010 results are expected to demonstrate increased attainment levels at both key stages. 2011 results onwards should be impacted upon further as the enrichment programmes will have had exposure to more students.

Both qualitative and quantitative student feedback indicates that enjoyment and educational value of the activities were rated highly (selected data for information):

Olympics-inspired Project
95.8% of students who participated enjoyed their experience
66.7% of students felt that they were able to apply their knowledge from lessons to 'real life situations'
Planning and Organising (70.8%), Creativity (62.5%) and Teamworking (62.5%) were the enterprise skills that students felt they had most developed
Friendship (62.5%) and Inspiration (62.5%) were to Olympic Values that students felt they had best embraced
"It has been a really great experience, I feel that I have learnt a lot from it. I would love to do something like this again."
"This has been a really great course. It has made the things we did in lesson seem more real. The trip was a great experience and it was really good meeting Tom and hearing what he had to say. It was great fun working in our teams and together as a whole."

Areas of continuing challenge

Whilst we deem ourselves to have been successful in making a variety of enrichment activities available for the critical mass of students in the School, the challenge of ensuring these opportunities happen more regularly and within the "expectation" of the student mindset is something that we are working to address. High quality enrichment and community cohesion activities such as those detailed above form a crucial part of students' personal, social and emotional development therefore are highly important to continue.

Inter-school collaboration can be challenging from the point of view that each institution operates in a vastly different way. Closer and more regular collaboration will help to overcome any possible barriers.

In order to facilitate more projects such as 'Olympics-inspired', we look to search out funding and extra resources to make these activities possible.

We are continually looking for methods of enhancing and increasing the access to technology that we can make available for our students. Our long-term vision that we are committed to is that all students on the Maiden Erlegh campus should have unrivalled access to an individual ICT device. Teaching and support staff are constantly innovating and developing their practices to ensure that students can make the best use of, and progress with the types of activities that they are used to carrying out in their social lives.

What the future looks like

In the short to medium term, we are looking to develop our level of collaboration with other schools. We would very much welcome approaches from other schools to work together to achieve synergies, building on each others' expertise. We hold a key position within the Berkshire ELP, offering and hosting a number of events through Mr Paul Gibson, Head of Faculty for Business & Enterprise.

The London 2012 GetSet Enterprise Network offers us regular opportunities to apply for funding for discrete events involving members of our school community and other stakeholders. Most recently, we have booked to take advantage of an enterprise workshop led by external professionals who will come and work with some of our KS3 students to prepare a pitch to host a pre-Games training camp. This not only encompasses all the Olympic/Paralympic Values, but engages younger students in enterprise activities, thus supporting the work of the Specialism.

We plan to further develop our community links by taking our work outside the school to support local primary schools so that they can experience embedded enterprise, the Olympic Values and enjoy success through enterprise activities. We currently have strong links with our local feeder Primary schools, along with other similar Secondaries around the country. Some of these alliances have been forged through the developments and our work with the UniServity Learning Platform. These will continue to drive forward with Parras Majithia being a key player within the Secondary Focus of the UniServity/Microsoft Innovative Teachers Network.

Membership of this Network, and continued innovation within the school will lead, over time, to high quality embedded e-learning practices where students will utilise their ICT devices, the Learning Platform and the tools on it to communicate, interact and develop their learning journey alongside their social journey. Interactive use of forums, wikis, blogs and an online learning spaces (ePortfolio) will support this vision and it is planned to begin coming to fruition over the 2010-11 academic year.

Mr Parras Majithia can be contacted at mj@maidenerlegh.wokingham.sch.uk

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Developing Multi-Sensory Multi-Media Immersive Learning Environments

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Author: D Ellis

Abstract

The Nottingham e-Learning Centres have considerable experience in promoting the use of interactive control technology as an aid to raising standards in teaching and learning. Similarly, the centres have greatly promoted the development of digital audio and video technologies, interactive whiteboards and creative performance interfaces. This paper concerns the convergence of creative multi-media tools, multi-sensory technologies and interactive control systems for pedagogical benefit.

This paper attempts to demonstrate the usefulness of combined multi-sensory and multi-media immersive learning environments and finds that, even in these early stages of technological and pedagogical development, there are some measurable parameters evidenced through observation and feedback. We will consider the purpose of such technology as an aid to teaching and learning, the physical space (including design and construction), and offer recommendations of hardware/software.

Introduction

Many educationalists will be aware of sensory technologies as used, in particular, to support the development of children and adults with learning difficulties and additional needs. When used appropriately, even the most simple technologies, such as colour-changing bubble tubes, have proven to enhance many learner's abilities in cognitive processing (memory, association, concept formation, language, attention, perception, action, problem solving and mental imagery). Additionally, the use of interactive sensory technologies has, in many cases, shown to help physical development and rehabilitation of both the physically impaired and none physically impaired.

Multi-sensory multi-media technologies seem to offer a next-step combination of tools for developing immersive and interactive media-rich learning environments not limited only to SEN settings. This paper will consider the possibilities and practicalities of developing such a resource in a mainstream setting and consider the likely impact on learning and engagement.

Hypothesis

Although there is much widely available evidence demonstrating the pedagogical benefits of sensory environments, such research has mainly focused on specialist SEN settings. The hardware/software used for combining multi-sensory and multi-media technologies is still very much in its infancy and hitherto only really experienced in museum installations and exhibitions. However, based on our extensive experience working with interactive control technologies and audio/visual software, we predict that learners immersed in a sensory and media-rich environment, be that a specially designed room/space or an adaptation/addition to an existing classroom, are more likely to be engaged in learning and demonstrate a higher level of comprehension and greater recall than evidenced in most other traditional classroom-based teaching and learning methodologies.

Method

Over the past year, pupils from SEN and primary schools have taken part in workshops featuring multi-sensory and/or interactive multi-media technologies. Some of these workshops have been delivered at the North Nottingham e-Learning Centre whilst others have been hosted locally in schools. The purpose of the sessions has been to highlight emerging technologies which extend the current audio/visual/sensory provisions

typically found in schools and explore ways in which teaching and learning may be enhanced with next generation tools.

Some workshops have focused on music technology, others on live video synthesis (VJ'ing), some using typical sensory-room/Snoezelen equipment and others using a combination of all of these technologies.

Understanding the technology:

Electronic musical instrument manufacturers have great experience in developing intuitive and practical digital performance "instruments" and control surfaces. Many of these are based on utilizing infrared sensors specifically calibrated to act as virtual piano keyboards i.e., the musician/performer moves his/her hand in front of the projected infrared light beam which in turn triggers the in-built synthesizer or peripheral sound module/computer to produce and modify musical sequences. A popular example of this is the Theremin-like "Air Synth" manufactured by Alesis. With the capabilities of MIDI (a device-to-device control language), it is quite possible for a child to simultaneously compose, conduct and perform a musical composition without the need for any formal musical training or instrumental skills. In this scenario, what is composed/performed would be a piece of music constructed within pre-defined parameters of key signature, tempo, pitch, tone, scale etc. Although the resulting composition is unlikely to demonstrate musical originality, it would at least represent the first significant steps towards the child understanding various key processes involved with music making and, in all cases I have seen, inspire and enthuse the child to learn further. Additionally, such technologies enable all learners to participate and contribute to the creative process irrespective of their abilities or whether they are working on their own or within a group.

The same interactive control and sensor technologies that have proven to work so convincingly well by musicians and teachers of music are now emerging in various adaptations for controlling digital multi-media and performance equipment, for example, one can trigger multi-projection slide shows, interact with video presentation playback, control laser/LED lighting and pyrotechnic effects (smoke machines, haze machines, fan heaters, vibroacoustic systems etc). Therefore, a sensory room/theatre or Snoezelen-styled environment, which offers a more comprehensive and complete set of creation, control and performance tools, would provide a truly immersive learning experience.

The potential for future developments is considerable and the impact this may have for teaching and learning in the classroom of the future will gradually become apparent over the next decade.

To best understand the possibilities of a multi-sensory multi-media environment, we should first consider how digital media is currently used in the classroom. Let us assume that a teacher collects a variety of recorded audio/visual media. Typically, these resources will be played-back via class projector/sound system or perhaps incorporated into a presentation using an interactive whiteboard. The presentation may be used as a stimulus for debate or merely as an aid to help consolidate the pupil's existing understanding of a topic. A logical progression would be to teach the pupils to use ability-appropriate photo/video/audio editing software to create their own interpretation of the given media (in a primary setting, this would typically be done using Windows Movie Maker or Photostory where a simple narration could be added along with text and/or background music). Teachers and pupils alike would be understandably pleased with their efforts, and rightly so. Activities such as these are both engaging and worthwhile and should be encouraged. However, as we know, the learning experience could be made more pertinent by applying and presenting, or maybe, performing, the recorded media in a multi-sensory multi-media environment.

A practical example in action:

Let us consider a project we have been involved with recently: A year 5 class is studying World War 2 and has visited a local exhibition and gone on a field trip to a working museum. The pupils have taken digital photographs and recorded a series of short video clips and recorded interviews with museum staff (both in and out of character). Back in school, the pupils not only enjoy working to create "Photostory" videos but also have the opportunity to work in a newly designed "Sensory Pod". The "pod" features computer-controlled DMX lighting, projectors and a 5.1 surround-sound system. The pupils work together to create virtual

environments using the pre-recorded digital media from the field trips.

The principle here is that the pupils should consider, evaluate and employ the most appropriate images, sounds and videos etc and, in addition, demonstrate reasoning skills to create a cohesive narrative from all of the available materials/resources/evidence. This process offers far more challenge to the learner than merely just putting a collection of photographs in "the correct order". Indeed, the pupils should not only consider the sequence of events but also the method of cause and effect interaction with the presentation/performance ie, should they press a switch, turn a dial, touch the screen or move around the room to trigger the desired response?

How an interactive presentation/performance may run:

Three pupils sit on the floor and are each given a sensor or switch. An HD projector displays a photograph of an air raid shelter which fills the entire wall opposite. The pupils are given a couple of minutes to test their sensors/switches and discuss the logical order they should be used in and/or the way in which they should be used. Pupil 1 carefully squeezes a hand-held pressure sensor to produce the synthesized sound of an air-raid siren (the harder the squeezing, the greater the pitch and amplitude fluctuation). Pupil 2 then chooses between moving a switch to "hot" (which turns on a heater above the pupils) or "cold" (which turns on an oscillating fan). The pupil chooses "cold" as he/she reasons that the shelter would be cold, given photographic evidence. Pupil 3 then uses a rotary potentiometer to raise or lower the light level in the shelter. If the light level is set too low or too high, a message is displayed on the projector explaining to the pupils why it is/was important in an air-raid to control light pollution.

The narrative continues with the sound of planes overhead, bombs falling and exploding nearby, haze machines producing ambient fog/smoke simulation, flashes of strobe lighting to simulate gun fire/explosions and an aromatherapy machine producing the authentic aroma of the scenario. Within the simulation, the pupils are able to alter the narrative at any time, step back through the sequence of events and re-evaluate/re-perform as necessary. Additionally, they are encouraged to interact and collaborate with each other and carry out specific tasks as-and-when requested by the software.

The level of complexity in any given scenario/ environment can be pre-determined by the class teacher. In most cases, the simplicity or complexity will correlate with the age and ability of the pupils who are intended to be "immersed" in the activity. For example, for younger or less able learners, a simple scene of ambient/atmospheric colour-changing wall-wash lighting with some background sound and/or music may suffice (maybe to support story-time activities) whereas, for more able learners, scenes requiring multiple interfaces, challenging question and answer, call and response, cause and effect functionality and a greater volume of digital media resources would present a greater challenge.
We are at a developmental stage in Nottingham City were several schools are looking to create learning spaces which utilise multi-sensory and multi-media technologies. These are in addition to any provisions the city's SEN schools currently offer and, for various reasons, a mainstream setting's installation would probably necessitate a different design and specification to be most effective in any case.

The following is a guide to installing a simple yet well-featured multi-sensory multi-media room for the purpose of teaching and learning. The specific design and specification is draw from consultation meetings with teaching staff, previous designs and constructions that have been implemented and through "hands-on" classroom experience with pupils.

Designing an installation space:

In a permanent installation, the most important requirement should be that the designated space/room be acoustically insulated (soundproofed if possible) and have the ability to blackout all ambient and natural light sources. The size of the space/room is best kept fairly compact as the larger the installation, the more equipment is required to produce the necessary effect/s. Assuming a moderate budget for the installation, a space of approximately 4m x 3m is suitable for up to twelve primary-age pupils or seven secondary-age pupils. A possible solution for this is to build a room within a room using Rockwool acoustic insulation between stud

walls. The interior of the room will need to be painted white to reflect the correct colours of the projected effect lighting. Assuming this is built conforming to current health and safety requirements, the new room will serve as a perfect blank canvas for installing the necessary hardware.

What hardware/software is required?

Many manufacturers offer control software capable of managing disco lighting effects, however, this is unsuitable as it invariably requires additional music production software to run synchronously through pre-arranged/recorded events. Some budget lighting effects software can work as stand-alone solutions (such as "DMXIS" – manufactured by Enttec), but this again does not offer suitable interactivity and is only really useful for creating preset "moods" i.e., as found in a therapeutic relaxation room. A more suitable system is one such as "Ensemble" supplied by Apollo Creative. This is a hardware/software combination consisting of a simple user interface (designed specifically to be used by children) which connects via USB to a hardware I/O box. The benefit of this system is that it offers a totally customizable "show" with high degrees of interactivity and can accept a wide variety of input sensors and outputs to many lighting, audio and pyrotechnic effects units.

Obviously, the capabilities of the software are only as flexible as the hardware which you plan to operate, and any sensory environment will need a suitable range of sound and lighting equipment to compliment this. Fortunately, within the past five years, there have been huge improvements to the design and manufacture of LED lighting effects, so much so that now a single multi-LED lighting fixture can produce a colour-wash of almost any colour to fill a moderately sized room. Similar advances have come in the design of DMX*-controlled fans and heaters, smoke/fog/haze machines and low-powered effect lasers.

**DMX is a control signal used by disco and theatre lighting devices. Essentially, a DMX-controlled lighting effect can be programmed and/or operated remotely by computer software or through using interactive control devices.*

Equipment specification:

Based on the hypothetical 4m x 3m room discussed earlier, the following equipment and installation is prescribed:

Windows 7 PC (software not yet available for Mac)
Apollo "Ensemble" software/hardware package
Variety of sensors (switches, IR beams, variable squeeze/pressure sensors etc)
50w RMS 2.1 sound system with sub-bass speaker (for "rumble" effects)
1 x American DJ MEGA BAR multiple LED DMX-controlled light
1 x Kam low-power DMX cluster laser
1 x Antari Haze machine (none DMX)
1 x DMX-controlled lighting dimmer (used to power standard oscillating fans and heaters)
1 x Large oscillating fan
1 x Oscillating wall-mounted fan heater (to be installed safely out of reach)
1 x Short-throw projector (connected to PC)

Practically any number of additional DMX-controlled lights/effects can be added to the room (up to a maximum of 256 "channels"). A very common addition in SEN settings is a water-ripple light, although many budget brands do not really provide suitable brightness or projection spread.

The installation:

The installation of the above equipment is relatively straightforward. All equipment should be fixed neatly to the wall along one side of the room (as high as possible and out of reach). The projector will need to be central to the room as it must project onto the centre of the wall opposite. Both the LED DMX-controlled light and the laser will need to point up towards the ceiling as to not shine directly onto pupils. Similarly, the oscillating fan and heater will need to be installed at a safe height out of reach. All appliances, even the

DMX-controlled effects, will each need their own on/off power switch and run from a master circuit with an on/off switch and RCD power-breaker.

Many traditional sensory rooms are built with bathroom-style pull switches mounted from the ceiling to isolate individual units, however, a more convenient solution is now to use wireless power plugs such as those made by HomeEasy or ByeByeStandby. These convenient devices enable all plug sockets and switches to be positioned at ceiling height and all devices can be operated using just one remote control unit.

The haze machine does not need to be wall mounted or DMX-controlled as it is only likely to be used by the teacher to enhance the effect lights/laser. The haze machine is suggested as an alternative to traditional smoke machines as haze chemicals are far less likely to accidentally trigger smoke detectors (only 10% of the density of theatrical smoke) and the effect lasts significantly longer than smoke/fog which disperses within minutes.

The 2.1 speakers should be positioned at opposing sides of the room to provide a suitable stereo spread for panned sound effects. The sub-bass speaker can be positioned anywhere in the room as low frequency sounds are omni-directional (they do not give an indication of the direction which they come from). A good idea, if possible, is to have the master volume control for the sound system somewhere nearby, not necessarily only as a safety feature but also for occasions were during a presentation or performance, it is necessary to lower the ambient soundtrack to enable the learners to converse more easily.

Virtually any scenario/ virtual environment can be simulated and each of these environments can be saved to a preset library for future use. Assuming other schools/institutions have the same software, it is then possible to share created environments between different institutions.

Results

Learners have demonstrated great attraction to the immersive and interactive nature of the sessions. It has been noted that pupils are always keen to participate in sessions, show excitement for any given topic or task, demonstrate positive behaviour and appear to understand and retain the key concepts of the lesson.

The technology used is not merely a “bells and whistles” gimmick but actually offers a functional and practical way for learners to connect with a learning task.

The learners appear to have a more stimulating learning experience than that which they are normally exposed to in a traditional classroom setting and on that basis, the application of the technology works well. Throughout a range of tasks, learners have participated in planning virtual environments, collecting and editing digital media resources, programming scenes, debated the implications of cause and effect in their programming and performed/composed/created multi-sensory/multi-media “shows” within pre-determined and understood parameters.

Interactive whiteboards and data projectors are now a very common feature in most classrooms and we may assume that the classroom or learning space of the future would continue to offer, what is now, this basic functionality in addition to any emerging technologies which further extend the interactive and/or presentational experience. However, the point has to be made that many IWB’s installed in schools are still not used effectively and, without adequate teacher training, the same could well be true of future sensory and media adaptations. As is so often the case, the more intuitive and demonstrably beneficial a learning technology is, the greater the chance of early adoption and proliferation by teaching practitioners.

Discussion

Our prediction that learners immersed in a sensory and media-rich environment are more likely to be engaged is clearly true and evidenced by talking to pupils and teachers. Learners are excited and enthused by the variety of audio/visual/sensory experiences and ultimately through the immersive delivery of the teaching stimuli. However, is it too early to draw such a certain conclusion regarding the prediction that learners

would "….demonstrate a higher level of comprehension and greater recall than evidenced in most other traditional classroom-based teaching and learning methodologies". To accurately test this, it will be necessary to take a long view of the development process and devise a suitable method of comparing learner's comprehension and knowledge retention.

This is still very much a first step in the application of this technology and its use is yet to be fully appreciated. As more intuitive software and sensory interfaces are developed, such as the potential offered by the Apple iPad as a control surface or more affordable motion-capture devices, then we should see a significant increase in pedagogical development and every classroom may offer a full compliment of multi-sensory multi-media learning tools.

For further information on the above project, send your enquiry to david.ellis@nottinghamcity.gov.uk

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Naace

Mobile technology learning resource or explosive device?

Author: Bob Harrison, Education Adviser, Toshiba Information Systems(UK) Ltd

The recent tragic story of the science teacher in Mansfield found not guilty of attempted murder has once again generated hysteria about the use of mobile phones in schools. Described dramatically as an "explosive" combination, the digital technology seems to getting some of the blame for the incident.

General Secretary of the NAS/UWT Ms Keates said:

"What we had in that classroom was an explosive situation of a combination of a teacher who was in a fragile state, of pupils who were set to exploit that fragile state and mobile technology that acted as a catalyst to make the whole situation escalate extremely quickly."

However much recent research and many teachers in schools and colleges have found mobile technologies an aid to learning.

Paul Haigh, Assistant Headteacher at Notre Dame School in Sheffield, hit the headlines a few months ago when he announced how mobile technology was supporting pupils learning described them as *"An untapped Learning resource"* in a recent TES interview:

http://www.tes.co.uk/article.aspx?storycode=6024598#

And a research report from Elizabeth Hartnell Young identified a whole range of positive impacts of using mobile phones for learning:

http://www.agent4change.net/innovation/innovation/181-mobiles-computers-that-wrong-foot-schools.html

It is not just an issue for schools as there has been an expansion of Mobile Learning in Further Education thanks to a £14m investment "The MoleNet project"

One of the more successful LSC interventions into the further education sector, MoleNet (Mobile Learning Network-geddit?) this week began to reflect on it's 3 years and £14m of funding and the Learning and Skills Networks's attempts to transform learning and teaching in Further Education Colleges in England

The numbers are impressive and the final year of £3.5m funding produced 63 proposals and eventually 22 projects and 20 micro projects were approved.This generated engagement with 2154 teaching staff, hundreds of technicians and over 18,000 learners.

But did it make any difference? Well, according to Project Director, Jill Attewell, there is plenty of evidence that the project has made a lot of difference;

"We are still gathering and analysing the impact evidence but early indications from the data from years 1 and 2 there has been a significant and positive impact on achievement levels for learners involved in MoleNet projects."

But is not just the existing learner's who will benefit according to Jill;

" We are leaving a capacity legacy which should benefit all future learners in FE Colleges including the "MoleNet Academies" centres of excellence for mobile learning cpd, moletv, moleshare, and a very rich data

set of lessons learned and what works", added Jill.

The devices used by college learners cover the whole range of mobile devices including smartphones, ipods, iphones, netbooks, games consoles, digi-recorders, digi-cameras. Training for the teachers was provided via the molenet website and onsite provision, but the LSN also provided mentoring and peer support and knowledge and resource sharing which the colleges bought from their own resources.

" This model of investing capital money in technology but linking it to the buy back of staff training and support has worked really well", said Jill Attewell, adding. "We think other sectors would benefit from the lessons of MoleNet and we are very happy to share".

The learners experiences have been predominantly positive according to Sheena Palmer head of ICT at Trafford College who had a MoleNet 2 project working with hairdressing students and using mobile devices.

"There is no doubt that the students were motivated by the technology" said Sheena "and we hope to transfer some of the lessons learned into the new Trafford Academy Trafford College are sponsoring which opens next year"

The LSN will be disseminating the full findings of their experiences in a report at the end of May and are planning a one day conference in September so the Colleges can demonstrate and share what they have learned about mobile learning.

So perhaps we need to calmly reflect on the issues raised in the sad case in Mansfield and be very careful not to throw the digital technology baby out with the bathwater? Children use lots of technologies in schools and colleges far more dangerous than digital devices and surely the issue is how we set a climate for learning that encourages appropriate use?

Links:
http://www.tes.co.uk/article.aspx?storycode=6024598
www.molenet.org.uk
www.moleshare.org.uk
www.moletv.org.uk
www.molenetprojects.org.uk
www.lsnlearning.org.uk

Bob Harrison, Education Adviser, Toshiba Information Systems(UK) Ltd Consultant ,BECTA and National College for School Leadership Support for Education and Training bobharrisonset@aol.com www.setuk.co.uk
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Naace

Much Ado About Nothing?

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Author: Michelle Singleton, Teacher Adviser ICT (Primary), Learning Excellence, Lancashire County Council

Getting started with a learning platform in the Foundation Stage.

Having been involved with the introduction and development of a learning platform within a local authority for the last two years, I would like to provide personal experiences and an insight into how positive steps forward and developments have been made within both the Foundation Stage and Key Stage 1 using the tools within Moodle. How? That was really the question I had begun to ask myself when faced with the challenge of introducing Moodle into the primary phase. I could see all the advantages of using the tools within the VLE for Key Stage 2 and some to support Key Stage 1, however, to engage fully with this type of tool within the Foundation Stage, there would surely need to be acknowledgment that not only could the VLE help to save teachers time but also to recognise a 'real' use for a learning platform.

Working with busy teachers in a busy classroom really does help to focus your mind on what you need to do to support them in developing their own skills in the use of ICT. There is nothing more satisfying than finding ways of creating something which looks effective but takes very little time once you have been shown a few 'tricks', like finding out how to use 'word art' to create classroom signs or using 'Photostory' to play back all the images you have collected from your recent class visit.

Using a learning platform with a group of different Foundation Stage teachers recently seemed to have that instant, success criteria, why? Because, they had a need and they saw a something which could help them overcome the need in a very simple and spontaneous way. The need was to try to find a way in which they could communicate information to the parents of the new reception children about to participate in the induction sessions in school. The Foundation Stage teachers had recognised that whilst visits to the school were great for the new children to participate in, by the time they started school in September they had forgotten all about their previous visits. The teachers were looking for ways in which to engage the children actively between their induction visits in June and attending school in September. Through discussion with the class teachers and identifying the key features of what they were trying to achieve with both new children and their parents, we started to look at some of the features of the learning platform (Moodle) they were using.

Using some of the simple tools within Moodle we had quickly produced an induction page for parents with essential information and a simple book for the children to look through featuring images of their new classroom and their new teachers. Yes, the teachers needed some basic skills to do this but they wanted to learn how to do it as they saw their learning platform providing the opportunities to meet their needs. On my second visit to the school (a
week later), one of the teachers had recorded several different sounds from around the school, the noise in the playground, the school bell, the teacher saying good morning. The class teacher had decided that it would be really helpful to add the sounds to the images to help the new children. She had also recorded some of the children in her current reception class talking about some of the things in their classroom. The page was getting bigger and the ideas were fast and flowing. Next on the list was a forum for parents and carers. This would be left open for a couple of weeks after the induction session and then there was the questionnaire for parents and new children to complete……and so the ideas continued. As you would expect it didn't stop there, the idea was taken to their cluster group and more began to get involved.

Had I tried to teach this group of teachers the skills to use their learning platform like me, they would have

questioned, why? Why do I need to do this on top of everything else I do? In fact, their responses were quite different. 'Why have I not used this before, it's really not what I expected it to be, I thought it was much more difficult than this'.

The induction session in school also provided an ideal opportunity for the head teacher to introduce the concept of the learning platform and to provide all the new children with their own 'passport to Moodle' promoting the Induction page for them to access after their visits , giving the children all summer to revisit their school visit experiences, on Moodle. Alongside this it also provided an ideal opportunity to introduce the concept of E-safety and promote parents e-safety sessions taking place in school.

These sessions have proved very popular for Foundation Stage teachers looking for ways in which to engage with parents and carers and have now developed further in supporting teaching and learning through their learning platform. From this project many additional ideas developed. The teachers began looking for ways in which to engage parents with children's learning. Some decided to use their learning platform to share the themes and topics they would be teaching each half term with the parents and to provide choice activities to allow the children to choose which topics they would like to learn about.

The project also provided an opportunity to develop a small working group of Key Stage 1 and Foundation Stage teachers to look at ways in which the learning platform could be used and to identify ways in which the local authority could support these developments. At the time, many of the teachers were actively engaged with introducing the new phonics 'Letters and Sounds' into the classroom and providing opportunities to promote this to parents was also a priority. In support of the working party a decision was made to provide a central Moodle for Foundation Stage and Key Stage 1 teachers with materials and ideas to support their use of the school learning platform. The Sunny Safari Moodle was launched Sept 10 to provide a 'first steps' for teaching using Moodle.

The content made available on this site would be available to the local schools enabling them to take the pages and add them to their own school Moodle , therefore giving children and parents access to the materials at home. The first content to be added was materials to support the teaching of the new Letters and Sounds phonics with support for parents and activities for children and the option for the schools to personalise the materials for their own school. Providing opportunities for the teachers to edit and change materials gave them a purpose for using their own school learning platform, it gave them a starting point which provided many with the skills to take things further. Giving parents access with their children also provided the space for learning together and engaging in their childs own progress. It has also opened up many avenues of discussion regarding children without access online at home, about safeguarding and keeping information safe all of which parents have been actively involved. The Sunny Safari project has continued to develop into Key Stage 2 and provided a very successful means of engaging teachers with new tools. Templates for developing the induction pack are available to use and adapt, there are many different pages of content supporting not only letters and sounds but all areas of the curriculum. The more the site is used the more feedback we have to help inform our developments. As a means of providing content to develop teachers, awareness and practical skills we know we are being successful.

For teachers to see and provide opportunities for that additional link to parents we still need to provide support but it is beginning to happen. Like many developing projects there are pockets of ideas working really well and the learning platform is a great means for disseminating this information, if we can see and share those ideas it's a great starting point. I think we are only touching on what we can achieve supporting children and parents with learning platforms but who knows what the future will bring. One thing is for sure if something works well and fulfills a need you are less likely to want to lose it.

Michelle Singleton can be contacted at MichelleSingleton@ict.lancsngfl.ac.uk

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Naace

New Ofqual guidelines highlight the many challenges faced by pupils when navigating the open web. How can schools respond?

Author: JISC Collections

The internet has opened up exciting new possibilities for teaching and learning, and it is widely accepted to be the information source of choice for "digital natives". However, the open web is a far cry from the carefully-managed learning experience traditionally offered to children by their school.

In schools, resources have been selected by teaching and information management professionals to ensure suitability, relevance, and accuracy. In stark contrast, the internet is a resource to which anyone can add material, where accuracy cannot be guaranteed, where sources are often hard to establish, and where a great deal of inappropriate content is easy to access.

For example, as stated in the new Ofqual "Using Sources" booklet, *"Wikipedia can be an excellent starting point for research. However, unlike traditional encyclopaedias anyone can add information on any topic, even you! It may not necessarily be authoritative or accurate. In some cases information may be completely untrue."*

> "Put your sources under the spotlight – be aware of bias" (Ofqual, "Using Sources")

The importance of "knowing your source", and the need to help pupils develop information literacy skills, was clearly brought home to history teacher Ben Walsh when he asked his GCSE students to research information about the Owen Lattimore case in the context of the McCarthyite "Red Scare" in the 1950s.

"Much to my surprise, having searched for information on the open web, my students reported back that the Lattimore case showed that McCarthy had been the victim of a conspiracy by the Liberal Left. As was clear from the Oxford Dictionary of National Biography (an online subscription resource published by Oxford University Press), the case against Lattimore was dismissed. This led to a really interesting classroom discussion about the motivation behind each of the sites, and which sites carried more weight - and why.

Sadly, for most of my students this was new territory. It is clear that they generally locate a site through a search engine, and accept what it says. If they are not fastidious about the trustworthiness of the source material they are using, then what kind of information are they getting?"

> "It's important to remember that any images you find on the web (for example using an images search in Google) belong to someone and may be subject to copyright restrictions." (Ofqual, "Using Sources")

Infringing copyright is another risk, particularly in terms of images. The ease of cutting and pasting from internet sites means that students may often be inadvertently contravening copyright laws. They need to learn to ask questions such as: What am I allowed to do with this information? Can I include this image in my homework? How do I cite it?

One way schools can help to safeguard their students is by subscribing to online image libraries (such as ***Scran***) where, not only have images been carefully-selected for their value in teaching and learning, they have also been copyright-cleared for use in education.

Many schools are already embracing the "digital challenge" and are providing their pupils with access, often

via learning platforms, to carefully-selected and appropriate sources of information online – some free and some available by subscription. These new teacher and librarian-created "online libraries" replicate a school's physical library in many ways – but, unlike the physical library, they are also available to support students from wherever they are and 24/7.

> "Your school library will probably subscribe to online databases that you can also use to locate information on a topic... The advantage of using these databases is that the information they provide has been written and reviewed by experts. (Ofqual, "Using Sources")

In the past, the cost of online subscription resources has been a major barrier to widespread uptake by schools. However, as a result of an important national initiative, over 20 online subscription resources are now available to state-funded and independent schools across the UK at discounts of up to 80%.

JISC Collections has been negotiating with publishers and owners of digital content on behalf of universities and colleges for well over 10 years. JISC Collections for Schools was launched in 2008 with funding from Becta and offers a choice of over 20 high quality online resources from leading publishers at significantly discounted prices. Selected by a panel of experts from the school community to be appropriate, accurate, and curriculum relevant, resources include copyright-cleared image and video libraries, curriculum-mapped games and simulations, newspaper archives, and general and subject-focused reference and learning materials.

Excellent terms of use have been negotiated allowing links to be made to individual articles, images and videos within resources from learning platforms. Excerpts from resources can also be included in teaching materials and student projects, and citation information is clearly stated. Images and videos have been carefully chosen for their suitability in education in order to ensure that there is no risk of inappropriate material or copyright infringement.

The highest discounts are on offer to schools in a region subscribing together in buying groups with a total of at least 2,500 learners. Growing numbers of librarians, School Library Services and teachers across the UK are seeing the value in this kind of aggregated purchasing in terms of saving money and time. Buying groups are also under development in Bedfordshire, Buckinghamshire (including Milton Keynes), Cambridgeshire, Gloucestershire (and surrounding counties), London, Northamptonshire, West Midlands (including Coventry, Warwick, Solihull and Birmingham) and Worcestershire (via the Local Authority procurement process).

Across Oxfordshire and Berkshire, ten schools have placed orders for 50 subscriptions to date, saving an estimated total of over £14,000 by forming themselves into a buying group - and more schools subscriptions are planned for September. In Hertfordshire, the Schools Library Service has successfully coordinated the formation a buying group consisting of ten schools who have already made savings of over £13,000. Leicestershire Library Services for Education (LLSE) has recently subscribed to four JCS resources on behalf of its member schools. Credo Reference, History Study Centre and Science Reference Center™ will be available to LLSE members free of charge from April 2010 to August 2011. The Guardian and Observer Digital Archive will be available to members in perpetuity at no cost.

> Further information about JISC Collections for Schools and ways to form buying groups is available at www.jcs.nen.gov.uk

> The Ofqual guidelines can be found at: http://www.ofqual.gov.uk/files/2009-12-24-plagiarism-students.pdf

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Naace

Practical Strategies for Using Online Tools in Producing e-Portfolios, showcasing learning and sharing Project work: Specifically in Design and Technology Taught to Students Aged 14-19

Author: James Tinney

ABSTRACT
This project was designed to explore ways that online tools and Internet sites can facilitate new ways for students to present their coursework and for teaching staff to produce learning opportunities aimed at design and technology classes, although not limited to just design and technology. A joint Becta/Design and Technology Association/NAAIDT project report [1] details what they consider an e-portfolio in design and technology to be and how it is a valuable way for students to develop and record their design portfolios. It was a good starting point for this study.

The technological areas of particular interest to this study were the free to use (non paid-for) tools, applications and services available online. Many of such services may not have been intended for use in education, so part of this study was to evaluate their relevance to the education community. Certain online tools and applications were identified as possible good starting points (detailed later.) Training sessions were delivered to teaching staff from Nottingham and surrounding areas, teaching sessions were delivered to students from a Nottingham City school and other material was produced online supporting these activities. The results of the study are very varied and contain feedback comments, examples of pupils' work online and testimony from a teacher claiming improvement in BTEC coursework. There is also a wealth of online work created by the author, the students and teachers made available (see references).

Introduction

It is considered that other than the subject of ICT, the use of new information technologies - software and hardware - in design and technology at secondary schools is at greater levels than any other national curriculum subject [2]. However, despite the widespread successful use of computer aided design and manufacturing, much of the design work that students undertake is still recorded as a paper-based portfolio. Exam boards accept a range of electronic formats for compiling of design portfolios, and schools have started submitting electronic portfolios, however these are often PowerPoint files created from individually scanned design sheets – a process that contributes virtually no value to the work the student is undertaking, other than being easy to send for moderation.
The research question is to discover which of the new web technologies (sometimes referred to as web 2.0) could be used in helping students to create design portfolios, be a method that inherently encourages creativity and which allows them to achieve better results.

Some of the key issues of the study are to:

- Evaluate web based solutions for helping to create and host/store a student's design and technology portfolio – ones that allow the natural 'work-in-progress' feel of an developing portfolio
- Students and teachers having free access to web tools and applications. i.e. not paying for them.
- Addressing the issue of e-safety, especially in relation to the social and sharing nature of some of these tools and potential problems therein
- Giving pupils responsibility for their own portfolio of design work and giving them anytime access online

- Being aware of related technologies such as video capture and editing, digitally recording original design work using graphic tablets, and using various computer aided design software
- Investigating strategies that teachers can develop for implementing online e-portfolios and maintaining a sound overview of their students activities
- Investigate how students work can be assessed and practical limitations on reviewing work to then award grades

Hypothesis

Students:

It was anticipated that students would readily embrace the idea of creating an online portfolio of their own work using Internet tools and applications. One key reason would be to have anytime/anywhere access. It would be very difficult to judge the effect using online technologies would have on examination results – but these will be looked for.

Educators:

It was anticipated that teachers would be excited by the potential to use online tools to assist portfolio creation. As mentioned, design and technology is a subject that uses ICT more than any other national curriculum subject as reported by the Design and Technology Association[3] and Her Majesty's Chief Inspector's e-publication ICT in Schools: Effect of government initiatives.[1] It is expected that teachers, after receiving some support, will trial some or all of the ideas promoted. It is realised that there will be a certain resistance to deviate from normal paper-based activities.

Examination Awarding bodies:

Examination bodies now accept design and technology portfolios in a wide range of electronic formats.[4] These are most often received on a computer disc as a PowerPoint file created from scanned pages. At this time, it is not clear if they will accept online evidence, or whether the requirement for physical evidence in the shape of a disc or paper portfolio is always going to be required. Incidentally, not all of the design portfolio work students complete is submitted to exam boards. Many 'practice' projects are undertaken in Year 10 (or the first year of a GCSE.)

Personal findings:

It is expected that the author will gain a sound understanding of how 'new' web technologies can be used in helping to create online portfolios (e-portfolios); and then pass on expertise to students and teachers.

Method

The first step was to review a slew of current online technologies that are sometimes referred to as 'web 2.0' technologies. Some of the key factors that were used to evaluate a website or application's suitability in supporting the creation of an e-portfolio were:

- *Are they free to use
- How easy are they to use by someone in Year 10 upwards – how straightforward is the user interface
- Is the website stable – not disappear, technically robust and always available
- Could they be used to store and present a portfolio over the Internet
- How safe is the student's work from being plagiarised, removed or vandalised
- What e-safety concerns are there – protecting a student's identity, protecting against abusive comments

- How much a teacher can remain in control of the material
- How do they compare to other more formal e-learning tools such as Virtual Learning Environments (VLEs)

After initial research, a few online, browser-based technologies were identified as worthy of trialing. The main ones were www.wix.com and www.prezi.com. Both sites allowed creative and attractive ways to store, display and navigate through an e-portfolio. Other applications and tools were trialed and some of the results are discussed in this study.

Following on from the initial research, a series of teacher training and presentations were carried out. This was done to share some exciting new approaches and also to gauge interest from teachers. It was hoped that those attending the presentations and training would be intrigued enough to try out some of the ideas. The first key event was the Secondary Curriculum Conference at Nottingham Trent University on 5th June 2009 attended by a large number of local design and technology teachers, Heads of Departments and University staff. The author presented a discussion titled 'Using e-Portfolios to Support D&T Learning' (the substance of the presentation is online here: http://www.wix.com/nottinghamelc/eportfolio)

There then followed other a series of less formal training with secondary school teachers using Apple's iWeb software and, separately, using wix.com online editor to host and create digital portfolios.

Additionally, and throughout, other tools were identified as having the potential to add great value to the project. These included; software such as the free to download Google SketchUp, online tools such as the browser-based photo editor pixlr (www.pixlr.com) and hardware such as graphic tablets (ones tested were Waccom pen tablets.)

Finally, BTEC Fashion students from Djanogly City Academy in Nottingham visited the South eLearning Centre (City Learning Centre) on a series of occasions to primarily use one of the online tools (www.prezi.com) to create their own online portfolios. The project was planned and managed jointly between the author and the students' teacher Yvette Hail. The results of the project will de discussed and evidenced below.

Results

The results can be considered in the following broad categories:

Suitability of the online tools – based on research and trials and judged against some of the criteria mentioned in the Method section
After some initial and ongoing research, an obvious standout was www.wix.com. With one user account, it allows a person to create any number of websites completely within an online browser. The key aspects of such a tool in enabling students to create and develop their online portfolio are:

- It is free to use – a created site starts with www.wix.com\... Followed by the title a user gives to their site, or in this case, e-portfolio.
- An excellent flash-based user interface that lends itself to creative ways of working.
- The only personal information required is an email address. It was suggested that the teacher might retain the passwords for the individual sites if she wanted that level of control.
- Design files, scanned images, drawings and text documents are uploaded and stored in a user's own gallery area. Videos are hosted on YouTube and other online video hosting sites, which can then be embedded in the site.
- The site is robust, suffering no significant working errors. It is available at anytime.
- Teachers widely reported enthusiasm for using it to create online teaching material – example

given[6].

- At the time of this study, as a flash-based site, it cannot be viewed on the majority of mobile phones or Internet connected games consoles. This may change as the technology catches up, however, some of the technologies that young people use at home and on the move will not be useful in this respect.

There are other 'web 2.0' technologies that could be used, such as http://wordpress.org (for blogging) and www.wetpaint.com (a mix between a wiki and a blog.) However, Wix offered a much richer 'what you see is what you get' user interface, easier to use tools and a strong visual appeal. Over time, some of the attention of the study was directed to a new and very different online portfolio / presentation tool, www.prezi.com. More is said about this in the discussion of the Djanogly City Academy project evaluation, with examples and feedback.

A major drawback from creating online portfolios and using them to evidence coursework for assessment is that by their nature, they are always online and potentially being added to. It is for this reason that examination boards will not accept a website as a students work. To meet Examination boards and Qualification and Curriculum Authority rules, a student's coursework must be their own work and be submitted for a moderation process by a deadline date. With a live website, this would be extremely difficult to guarantee, unless the e-portfolio site was downloaded and stored on a disc in a format readable by the examiner. Although this is possible, it was not achievable in the timescale of this study to get a commitment from a school to trial this idea with an actual examination class. It was seen as a bigger risk than was acceptable. The fear was generally about being too experimental at this time. However, there is evidence that the Djanogly City Academy BTEC Fashion class from the study and other non-examination classes in other schools are adopting the approach. Identification of other notable software, hardware and other tools that added considerable value to the project

It is not the intention to evaluate products in this report; however, it was found through personal experience and feedback - in particular from students, that some additional tools made the process of developing online e-portfolios become a more pleasurable, creative and productive activity.

There is huge number of online drawing applications, photo editing tools and free to download computer aided design software available. In fact there are too many to mention. However, it is interesting to note that students showed very good knowledge of where and how to access these tools. They seemed familiar to using them on social networking sites such as Twitter and MySpace, to edit person photographs and the like.

Students felt that using graphic tablets to digitally record and annotate their design work, directly on screen was hugely enjoyable and more productive than drawing on A4 or A3 paper, scanning the page in and needing to resize, edit and import into PowerPoint or something similar. Another benefit in using graphic tablets was the ability to improve, add to and annotate drawings and imported Internet sourced images. The graphic tablets worked very well with some free to download photo editing and design software, similar software normally found on PCs and Apple computers and on commercially available design software common in many schools and at home. The costs of the tested graphic tablets were £50 for a small tablet and £150 for a larger more feature-rich tablet. As a result of the project, several schools were planning on purchasing sets of the smaller tablets. It must be said that students who used the tablets did not want to go back to using a mouse to draw with. It is the author's opinion that graphics tablets will increasingly find home in design and technology and in art rooms in schools, such is their usefulness.

Research revealed that video as well as photographic evidence could be submitted to examination bodies as demonstration of a student's skill, as proof of them completing their own work and to simply show a designed product functioning as intended. With this in mind, as part of the study, teachers and students were encouraged to film themselves (or be filmed) during important workshop lessons making their design and technology products. These and other videos showing how the product works were included in their online

e-portfolios.

Due to some teachers' concerns, videos are not often placed on YouTube or similar video hosting sites due to the open and public nature of such sites. YouTube is frequently blocked on classroom computers. A better solution was found in converting the video files to a small, easy to upload format (Flash.) These files can be uploaded directly to the students' e-portfolios and hosted there. The biggest difficulty was in the technical knowledge required to perform the necessary steps – but this was not arduous. At this time in the study, there is not much online evidence from students of e-portfolios with embedded videos. As coursework at this time is till ongoing, it is too early to include completed examples. However, by the end of the 2009/10 academic year, it is anticipated e-portfolios will contain video evidence alongside design work, written discussions and notes, research information and external links.

A variety of video capturing products have been used, such as the inexpensive 'point and shoot' camcorders (under £70) and mobile phones. It is expected that inexpensive video cameras will become an essential tool in capturing evidence – such is the value in what they show.

Evaluation of project conducted with Djanogly City Academy – looking at student design work, teacher opinion and student achievement

The project undertaken by teacher Yvette Hail and her BTEC Fashion students for Djanogly City Academy encompassed all the key ideas of this study. The students used the facilities of a website called Prezi (www.prezi.com). They each are in the process of creating an e-portfolio site using only an email address and password to register. It is a site that was personal to them. Using images from the Internet, scanned original drawings, original digitally created drawings and text, they have been busy developing fantastically creative e-portfolios. One example shows a student telling the story of how fashion from the 1920's is influencing some contemporary designers.[7] This 'live' site is genuinely in development. It is constantly changing, but it is very much worth visiting.
Students made many positive comments throughout the project, such as expressing satisfaction at being able to develop their ideas, online, wherever they are. The teacher Yvette Hail believed that many students were achieving better results compared with previous design work, and that she felt they were being inspired by the technology. [note: I have requested comments again as previous comments were lost in the online form]

Discussion

The initial hypothesis assumed that teachers and students would embrace the idea of creating anytime-access (online) portfolios for their design and technology coursework. From the verbal and written feedback received, it would appear that all the teachers and most of the students enjoyed the experience of doing so. Teachers felt the technology gave their students more control over their own portfolios. They believed that in general their students were showing evidence of developing their portfolios in their own time and were more motivated to do so. By sharing portfolio URLs (website addresses) the teacher can check on the developing portfolio (and therefore the progress of their students' coursework.)
The issue of whether an online portfolio can be accepted as evidence by examinations bodies was inconclusive at this stage. One examination body has clearly detailed the range of electronic formats it would accept design and technology portfolios in.[4] It appears likely that they would accept a locally saved copy (not online) of a portfolio as long as the potential moderator did not need any additional software to view the portfolio. This is entirely achievable with the methods discussed in this study. The remaining examination boards do not have such a clear policy, so would need further investigation.
Further to the issue of examination bodies accepting digital portfolios, the author and many teachers felt that this should not preclude the use of online tools from contributing enjoyment and success to students' work. The nature of some courses such as BTEC courses, where it is the teacher who assess units, means coursework can remain online for that assessment. Also for other non-exam courses where there is no external assessment – there is not the same concern for having locally saved copies for moderation purposes.

At this time there are real pushes on increasing the reach of learning platforms and online virtual learning environments. It may be that these technologies will include a creative portfolio-making function in the future. At the moment however, there is nothing on offer that is as simple and enjoyable to use, or that actually encourages creativity as much as the online tools discussed in this report. In addition, the online tools feel more personal to use and are usually free.

The areas of interest of this study will continue to develop and evolve. There is a growing interest in the potential of using social networking sites, mobile technologies and open source tools [9 & 10] to change the way students are educated and the way educators teach. It can only be inevitable that online presentation tools grow in popularity and usefulness in the creation, storage and presentation of students' coursework portfolios. It is an area that deserves further investigation.

For further information on the above project, send your enquiry to james.tinney@nottinghamcity.gov.uk

References

1. Simone Richards, Gareth Pimley, Roy Ballam and Brian Russell. Design and Technology Association website reporting a joint Becta/Design and Technology Association/NAAIDT project on e-portfolios in design and technology (date unknown)
http://www.data.org.uk/index.php?option=com_content&view=article&id=148&Itemid=343
2. HM Chief Inspector of Schools e-publication. ICT in Schools: Effect of government initiatives: Secondary Design and Technology. HMI (2002)
3. DATA website. www.data.org.uk Design and Technology Association
4. OCR Specification. Entry Level Certificate in Design and Technology. Pages 45-46. OCR Publication (2009)
5. Google SketchUp Education Case Studies: http://docs.google.com/Doc?id=dc837t9h_12g2pxr6
6. AJ Booker and James Tinney. Notadesktidy website. http://www.wix.com/nottinghamelc/notadesktidy
7. Department for Education and Skills publication. Harnessing Technology: Transforming Learning and Children's Services. DfES (2005)
8. Miriam Fearon BTEC Fashion student at Djanogly City Academy, Nottingham. Exploring the Brief: the background story… A portfolio work in progress (2009/10) http://prezi.com/tpdmjmip4z5-/exploring-the-brief-the-background-story/
9. Open Source School. http://opensourceschools.org.uk/
10. Classroom 2.0. http://www.classroom20.com/

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Taking digital video to the next level across the curriculum

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Author: Miss M. Antoine, e-Learning Consultant, e-Learning Centres Nottingham

Abstract
Through our continuing multimedia work with schools in the East Midlands, we wanted to work towards demystifying and making accessible more cutting edge video technologies such as filming and editing in HD, chromakey and live streaming on the internet. We researched into what equipment was needed and made the necessary purchases as well as undertaking appropriate refurbishment of rooms. We then worked on devising workshops, delivering training and collaborating with existing link teachers. We tested how quickly and practical it would be to integrate innovative ideas into their teaching as well as bringing a fresh approach to new curriculum initiatives such as the diploma, functional skills and the primary review. In the process, by continually evaluating and revising our practices, we wanted to continue to raise the bar in what pupils could achieve in their learning.

As part of the e-Learning Centres' specialisms, consultants have used media technologies in the last seven years to bring a more creative approach to teaching and learning across the curriculum primarily in Nottingham City's schools at both primary and secondary levels. Excellent progress has been made and the impact is most evident in the greater number of teachers using media technologies in a variety of subjects and their confidence in using them to facilitate their teaching. This increase has been possible with the advent of free or affordable video editing software, cheaper and more powerful computers, and the ability to showcase pupils' work via digital projection, on DVD and video sharing websites such as YouTube. Increasingly teaching resources and educational websites offer media rich experiences to pupils. Teachers are becoming more confident and autonomous in incorporating these technologies in their teaching and learning.

This progression of a cycle of innovation followed by a cycle of integration[1] meant that we could naturally take our professional practices to the next stage. We wanted to give ourselves the opportunity to develop our knowledge of emerging media technologies and increase our technical skills in such areas as chromakey[2], live video mixing and broadcasting over the internet, hitherto experienced mostly at professional and commercial levels. From past experience, it has been most evident that pupils are very motivated in their learning when engaged in new technologies which they perceive to be exciting, innovative and in keeping with their own experience of what they are exposed to on the internet and in the media.

City Learning Centres, by their nature, are innovative in their use of technology. On one of our visit to a neighbouring CLC we were introduced to Reflecmedia[3] technology which enabled chromakey work quite effectively. We saw its potential and made further research by attending video technology seminars and shows as well as networking with other CLC 2
colleagues. Undertaking advanced video work would, as with past projects, raise many questions to be answered. For example, would teachers and pupils welcome the opportunity and come into the centre to do experimental work? Would they be put off by their unfamiliarity with the terminology and techniques of the technology? Would it be technology for the sake of it? Would we be able to enthuse teachers for them to replicate the set up at school? Finally, how could we balance the use of technology with raising attainment, without being blinded by it?

Our experimental work eventually took us in two different but complementing directions:

1. Special effects (VFX) in video production using chromakey technology
2. The opportunity to experience a fully functional TV studio with multi-camera set up, autocue facilities and an attached gallery for live mixing and streaming on the internet.

Over a period of eighteen months, we experimented with the technology. We first purchased two 5 meters wide Reflecmedia sheets, one as backdrop and the other for the floor, and we operated with standard DV cameras initially, then with one HD Sony camera. A set of professional Kino4lights was also purchased and installed to supplement the light from the lite ring attached to the video camera. We worked with existing teachers to film pupils in front of the Reflecmedia backdrop. The footage was then edited off line using Adobe Premiere Pro software. Here are some of the projects we undertook:

- News reading by presenters including weather and sport reports as part of English, media studies coursework and BBC school report – primary and secondary pupils including presenting in foreign languages.[Primary and Secondary]
- WW2 evacuation simulation re-enacting scenes of separation using authentic video and WW2 still images as backdrops. [Primary]
- Music videos as filmed and performed by summer school G&T Year 10 and 11 pupils using pre-prepared motion clips as backdrop.
- MFL: Year 11's TV advert in Russian.
- Production of training video packages – teachers and university lecturers.
- Storytelling by Key Stage One pupils either scripting their own stories or using well known stories.

Two major points came out of this first experimental stage. Firstly, obtaining good chromakey effects requires a uniformly lit backdrop. We found that the Reflecmedia backdrop worked best on a smaller scale as it was lit by the lite ring. As we pulled back to film a bigger area, the edges were not so well lit. This created patches and fringing around subjects which were not keyed out properly. Reflecmedia seemed to work best when filming a smaller area with medium to medium long shots. However we persevered for a while, working within the limits of available technology. Teachers and pupils were always delighted with the final effect of being transport into a different location, era or magical world. The feedback was always positive.

Secondly, we found off line editing quite time consuming. Sometimes, the filmed sequences could be finished in the time allocated, usually during one day workshops. If not, time had to be factored in for consultants to finish off the post production tasks such as compositing, adding effects, text and sound.

Our intention was to improve the quality of our work based on what we had experienced as well as on feedback from teachers and pupils. Therefore, as new technology became either available or affordable and in consultation with the Head of Centres, we budgeted for the purchase of new equipment and the refurbishment of two of our teaching studios.

VFX^5 chromakey studio: At the 2009 Broadcast Video Expo in London we met representatives from VFX Solutions, a firm that specialised in blue/green VFX for film and TV. We were impressed by the light aluminium frame which holds the green fabric and matching colour floor in latex, with panels between backdrop and floor to allow for a seamless one colour background [see photo in appendix]. The Music Studio was re-located which allowed the room to become solely a VFX/TV studio with bespoke frames, lighting and flooring, so that no time would be wasted in setting up for workshops. A number of skilled people were involved in setting up: electricians, air conditioning specialists, painters (the walls were painted black for the film studio look), lighting engineers and VFX chromakey specialists. The lighting units were positioned and calibrated professionally to ensure an evenly lit room to make keying out the green colour easier - only the cameras have to be adjusted for white balance before filming takes place.

The Tricaster: We purchased a Tricaster Studio (see appendix) live mixer which can mix up to six cameras, does chromakeying and comes with virtual sets, titling facilities and audio mixing, as well as live streaming on the web. We saw the potential of using this equipment to simulate a TV studio environment. We positioned the mixer with monitors permanently in 'the gallery' located in the teaching room (the Media Studio) next door. The Centre's technician was tasked with working out the many functions of the mixer. The crew in the gallery can communicate with those in the TV studio via a talkback system and see what is going on through a glass panel.

HD[6]video cameras: We purchased an extra two HD cameras including one wide-angle one to offer a multi-camera experience either live or off line using Adobe Premiere Pro to do multi-cam editing. A three camera HD set up added extra quality to our production.

The Matrox video capture card: This allows us to record footage (including HD) directly into the computer cutting out the recording process onto DV tape then downloading. It also makes it easy to handle graphics, animation and compositing for chromakey filming.

The autocue: This made it much easier for pupils to read their script in a natural way as most found it difficult to either memorise their words or improvise.

Audio: A number of boom microphones and two sets of radio microphones were purchased to add to the quality of sound recording. High end software such as Logic 9 is used to produce soundtracks to match visuals.

Technical and Learning Outcomes

There was an immediate impact on many fronts and as we have continued to deliver more workshops in a variety of ways, we have used the feedback to make necessary improvements. As a matter of course, we always evaluate how effective we have run our workshops. There are many positive aspects which we are pleased to report following improvements made in the technology used and in our delivery of workshops. Here are a few of these highlighted below:

- Keying out the green is easy as the studio is evenly lit. There is no setting up time.
- Downloading and editing using the Matrox card have made the workload lighter with the handling of data faster and more efficient, and less computer crashes.
- Although the Tricaster has made more challenging demands on everyone's IT skills in live mixing and recording, many students have risen to the challenge and experienced a great sense of achievement and pride that their work bears good resemblance to professional output.
- HD cameras (which can be used as SD cameras as well) give better quality footage and look visually more professional. However, when appropriate DV footage is also used.
- The autocue has given pupils the confidence to present the news and other scripts in a more confident manner. However, for a less stilted presentation, we need to give pupils more time to practise reading aloud from the autocue.
- Being able to use the whole of the VFX/TV studio has allowed bigger groups being accommodated for performances, for example, recently a group of fifteen pupils easily recreated a scene for Where the Wild Things Are, with dancing and singing as they were transported into a magical forest.
- Pupils have hands on experience with high end equipment to develop their technical skills in camera work including multi-camera set-up, directing and mixing live. This element is always well appreciated by pupils.
- Consultants and the technician have been able to develop their technical knowledge and skills thus offering more ambitious and innovative ways of using the studio set up. For example, one consultant is working on mixing 3D animation with live subjects in the VFX studio. Another has gone to film on location to acquire footage of steam trains and the station to make the production of WW2 child evacuation more authentic. The technician has assisted two consultants in producing professional training videos for Design and Technology and is also working on virtual sets combined with chromakey footage for computer games design for the iPhone.
- We were approached by the DCSF to discuss how the TV studio activities could be used to exemplify Functional Skills and held a mutually fruitful meeting with one of their trainers.[7]
- The BBC School Report team contacted us to commend the TV news programmes produced by the three schools which took part in the 2009 School Report.[8]
- Teachers and pupils who took part in the BBC School Report rose to the challenges encountered and produced excellent work. The feedback was most positive.[9]
- Courses advertised so far for producing TV news have proved very popular and for the 2010 BBC

School Report we will be collaborating with the same three schools again.[10]

Areas for Improvement and Discussion

1. As more TV News Production workshops have been undertaken, it has become evident that these cannot be run effectively in one day if pupils are to get the maximum hands-on learning experience whilst developing all the skills needed for production – see G&T brochure for a course outline. If schools cannot manage two days, we have decided to run the workshop in a different way, placing less emphasis on correct simulation of news production but more on experiences such as reading the autocue, presenting the weather and cueing pre-made video footage.
2. Live mixing has caused problems with some junior pupils who have found it difficult because they were nervous. To minimise the pressure, we now propose alternative solutions which teachers can opt for: extra time to practise and rehearse, using pre-made material and footage if necessary, record sections separately and then assemble off line or offer a number of experiences such as producing a short video news podcast.
3. Encourage all teachers bringing pupils for VFX/TV studio workshops at the centre to visit, plan and have some hands-on experience prior to their visit so that they are more realistic in the expectation of what can be achieved in the given time and skills needed by their pupils.
4. The VFX/TV studio has enabled each member of the team to use the technology for their own projects. However, some workshops such as the TV News production require the whole team which is labour intensive. This has to be taken in consideration when planning in advance for the workshops or responding to short term notice.
5. The team members' work to their strengths and skills especially when offering TV news workshops. However it is important for the centre to encourage individuals to develop a variety of skills for personal development as well as not being dependent on one individual to perform specific tasks in case of emergencies. Time is therefore needed to diversify and training needs have to be factored into delivery planning.
6. As the financial investment into this venture has been considerable, there is some pressure to utilise the studio more regularly either during or outside the school day – this needs to be balanced with activities provided by consultants during the academic year as well as other staffing requirements.
7. Streaming video footage on the internet can at present be done for ten clients but can be increased if a dedicated video server is installed.

Generally speaking, this venture has had a very positive impact on teaching and learning and will continue to do so as we develop our skills and ideas further. Teachers value the experience their pupils are given and see a visit to the centre as something special which pupils enjoy and they return to their school highly motivated.[11] Due to the collaborative nature of the work between consultants and teachers, they are also able to express their opinion if things need to be changed or if they have particular preferences in order to fulfill their curriculum requirements.

Could the set up be replicated in schools? Teachers benefit from the experience we gain. We can pass on technical skills, advise on the effectiveness of the technology, discuss how to avoid pitfalls such as time constraints, as well as how to provide more creative content. Our main reservation is that a school would require considerable funding to provide a similar set up. However companies such as Planet DV are now offering TV studio packages on a smaller scale and budget.

Recommendations to Schools

- Equipment: "low tech" or "high tech" will depend on funding and technical support in school. Costs involved can be discussed honestly with teachers, and companies proven reliable can be recommended.
- Training: there needs to be a culture of support from management to enable appropriate training to take place. The e-LC automatically offers training prior to workshops and always responds to individual requests.

- Time: time consuming planning, production and post production need to be factored into a project, including appropriate training.
- Funding: cheaper cameras and computers do not necessarily mean more savings in the long run; however investing in expensive high end technology can result in the equipment and software becoming obsolete quickly with further investment needed for upgrading.
- Ideas for project: teachers would need to work on what's feasible with the available technology without compromising achievement.
- Collaboration: It is important to get support from other colleagues and technicians as well as their involvement at all stages of the project.

In the next few months, the e-LC team will continue to offer a variety of video workshops based on existing formats whilst devising and trialling out new ones. Technology is developing at a fast rate and the investment made so far to take video to a higher level is work in progress and a learning journey for all.

Appendix

Useful links:
http://news.bbc.co.uk/1/hi/school_report/default.stm (BBC School Report)
http://www.planetdv.net/Content/Chroma_Keying/Reflecmedia.asp [Reflecmedia]
http://www.cirrolite.com/photo_gallery/photo_gallery_kinoflo.html [lighting equipment]
http://bristolpaint.com/cp_root/h/Home/VFX_Bluescreen/3/ [VFX chromakey]
http://www.planetdv.net/Content/By_Manufacturer/Autocue/ [autocue]

Notes

1 Paul Otellini, CEO of Intel coined the phrase in an interview with the BBC, January 2010

2 The process of creating an image, a portion of which is placed on a background of uniform colour, usually blue, so that another image can later be added by placing it in the area of uniform colour (fileformat.info)

3 This consists of "a green or blue LED ring and a unique retro-reflective back drop cloth, which is embedded with tiny glass beads. The LED light ring is mounted on the lens of the camera and projects a highly directional green or blue light on the back drop cloth. Thanks to the embedded glass beads, light is then reflected back to the camera creating a perfect green or blue background, providing you with an excellent keying result." (Planet DV)

4 See appendix

5 VFX: short for visual effects

6 HD: high definition

7 "We are keen to write a case study about your project that shows how it can be used to develop young people's skills in English Maths and ICT in a creative and exciting way. In doing so, we feel teachers will be inspired to develop their own innovative skills in this area." Howard Parker, East Midlands Regional Coordinator, Functional Skills Support Programme.

8 "I really enjoyed watching the three schools' videos, especially the environment report filmed in a variety of locations, and I thought the healthy eating piece had an impressive range of angles and opinions." Carla Pickering - BBC

9 'I think the News Day project's real selling point is to have a concrete outcome that the students can see and keep afterwards. This goal motivates them to get things done on time and to a high standard. The work itself is beneficial for team working skills, literacy and ICT. As an English teacher, I enjoyed seeing my students writing and speaking with an audience in mind. The support offered by the e-LC is extremely professional and well-resourced. The students thoroughly enjoyed the project and I hope we can continue to

run it for many years to come! “Andrew Lowery, English and Media teacher, Ellis Guilford School, Nottingham.

10 “I’m so glad we can come up again, it really made a fantastic finish to the project! The video put together is still on the TV screens in school – and is still talked about, so I’m really looking forward to making a new one.” David Jones, Design and Technology teacher, Fernwood Comprehensive School.

11 “...Also, I just wanted to say a massive thank you for both trips last year. The Year 11 one was a particular success and you are a hero with some of them now! They have produced some amazing stuff and they all really enjoyed themselves, I think they're really proud of what they did and I haven’t seen them like that before so it was really lovely!” and “That’s such a lovely offer of letting the boys come back up - those three had become a bit apathetic but the trip and the work you did with them really encouraged them to be motivated again, Curtis in particular!” Kat Carrick, Media Studies Teacher, the Nottingham Emmanuel School commenting on video editing and chromakey work done with Year 10 and 11 students for their GCSE production.

Further Information

Lighting: source: (www.kinoflo.com) The ParaZip is a directional soft light with cool lighting for HD television. The lamps are dimmable from 100% to 5% as well as switchable (turning on/off two lamps at a time) and can be tilted and panned as well as rotated. It’s ideal for low ceiling applications.

The Tricaster Studio mixer:
http://www.newtek.com/tricaster/

The Tricaster (left) and the interface as seen on a separate monitor

The TV studio with lighting, autocue, green screen and flooring and multi camera set up:

The Gallery: from the gallery pupils can control the autocue, direct the studio crew and record live using the Tricaster shown on the right

The Matrox capture card: allows for live video download directly into the computer and more effective handling of video data and effects including compositing.

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TechnoGym - cross-curricular links

Author: Gary Howard, Denton Community College

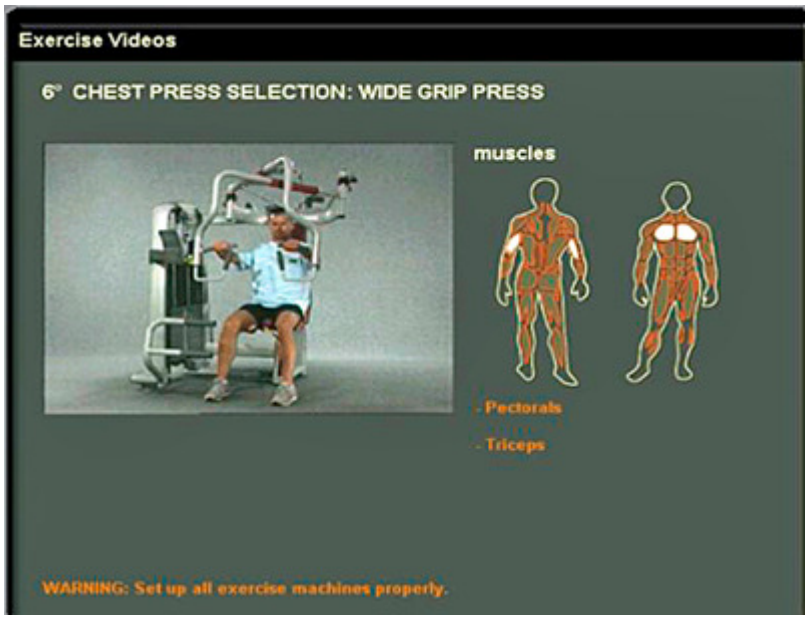
What are the links between Formula 1, fitness training and school ICT? Answers here!.

It seemed like nothing more than a run of the mill email from my Deputy Headteacher, thanking me for a presentation that I had prepared the week before. But then, tagged on at the end, as though it was the most normal statement in the world, was the line 'oh, by the way, the new Head wants you to go to Silverstone and race a Porsche around the track'. Not a request normally received in my capacity as a whole school ICT Coordinator at the soon to be Denton Community College, near Manchester!

After making several enquiries to confirm I was not the subject of an elaborate SLT wind-up, I discovered that the Headteacher designate, of our new BSF school, wanted me to travel to Silverstone to investigate the TechnoGym range of the fitness equipment that is used to train some Formula 1 racing drivers. As our new school was to have a range of the TechnoGym equipment installed, my remit was to discover how this equipment could be used to facilitate ICT across the new thematic curriculum that was being introduced.

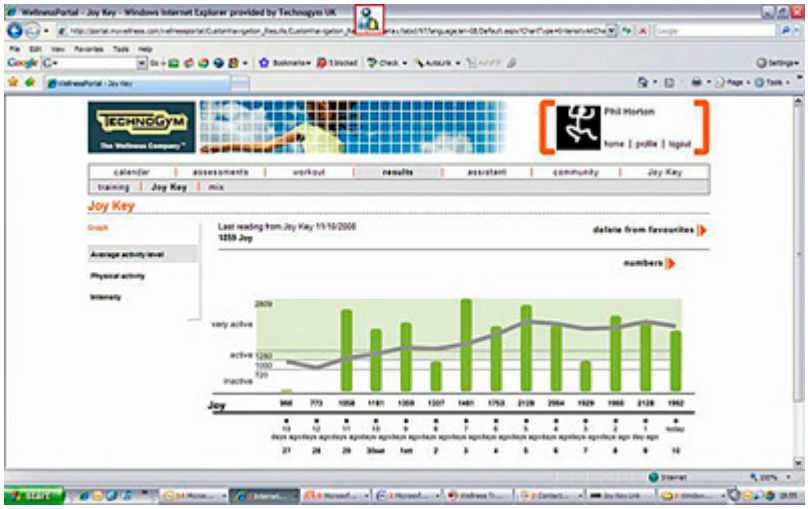
My initial impression upon arriving at the Technogym facility based at the Silverstone racetrack was of how professional the equipment looked. Everything about the place oozed quality and it was easy to see how students would be proud to use such resources as part of their education. The fitness machines were easy to use, with most being designed for use by both able-bodied and disabled people.

The USP of the equipment, however, came in the form of a unique 'key' for each user. The key instantly brings up your own personal exercise programme on the monitor that is present on many of the exercise 'stations'. Past achievements and future targets are shown, together with other statistics such as calorie and heartbeat information.



It was once I started to investigate further, however, that I became genuinely excited at the vast range of cross-curricular potential that could be gained. For example, it quickly becomes apparent that students can produce reports of their performance, which could then easily be analysed and manipulated in ICT lessons. Predictions could be made using models, with statistics from workouts also being tracked and calculated in Maths. Data relating to Body Mass Index and Weight could be used in Science.

Continuing with the theme, there are obvious tie-ins to Food technology to design appropriate eating programmes, linking well with the 'Healthy Lifestyles' element of our the new thematic curriculum. As most of the exercise stations have video tutorials built in, it would also be possible for Drama students to become involved in the scripting, filming and production of exemplar videos. Media Studies students could then edit these videos to create their own exercise tutorials, complete with soundtracks for exercise that have been produced 'in-house'.



The language of the written instructions on each workstation monitor can also be changed, thereby aiding functionality within MFL subjects such as French, German & Spanish. Furthermore, a real-life perspective for Geography lessons could be obtained by running and cycling one of the pre-programmed routes that are tracked GPS style on-screen, around the Tour de France and the New York Marathon.

It is all in the early planning stages, but my colleagues across school are genuinely excited at the prospect of using the TechnoGym equipment to plan lessons that will interest and engage students. I would also be lying if I didn't say that one or two of us were also looking forward to actually using the equipment ourselves! And for any 'petrol-heads' out there, you might like to know that, whilst at Silverstone, I got to drive a Porsche 911 Carrera S and also a Porsche Boxster around the track – purely for educational purposes, you understand!

Gary Howard can be contactd at gbhoward99@googlemail.com

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