

It's all about **Mii!**

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In preparation for the forthcoming North West Design and Technology conference Dawne Bell, Edge Hill University and Traci Pierce, St Edmund Arrowsmith Catholic Centre for Learning, evaluate the impact their 2010 Technological Textiles workshop has had on classroom practice.

Enabling teachers to continually update their subject skills, knowledge and understanding is of vital importance, but we are all aware of the difficulties involved that arise in attending training due to issues relating to funding or 'rarely cover'.

Building on the success of the 2010 North West Design and Technology event held at Daresbury Laboratories, this year's free event for teachers aims to provide even more opportunities for delegates to gain new and update existing skills.

Having presented a Technological Textiles Workshop at Daresbury, in helping to plan for this year we contacted several delegates from last year's conference to see what, if any, impact our workshop had on their classroom practice and we were delighted to uncover many examples of good practice where the workshop had impacted directly upon classroom activity.



Technological textiles

One example in particular is the work currently being undertaken by workshop delegate Debbie Gillies. Since September Debbie has been working to establish technological textiles in her school, Our Lady Queen of Peace Engineering College, Skelmesdale with some fantastic results.

Debbie's classroom is a work in progress, but is already a shrine to innovative technological textiles, with practical examples of material applications including silver and seaweed fabric (which have antibacterial properties), Kevlar, Geo, Thermo and nano textile technologies (such as Nanotex®), adorning the walls, windows and doors.

As Debbie explains "I have an industrial textiles background so in setting up the area I wanted to make sure that the work I was undertaking was from a technological perspective. Much of what I have seen in other schools recently tends to be heavily weighted towards fabric painting, printing or another kind of surface 'embellishment'.

As we are an engineering college it is important that the work I cover reflects the modern processes and technological approaches of the rest of the department. I've been lucky to attend some good courses but the technological workshop at Daresbury was like a breath of fresh air. With my industrial background I already had similar ideas but their workshop enabled me to have the confidence to build upon these and in particular give me more ideas to incorporate Science, Technology, Engineering and Maths (STEM) into my lessons". Whilst 'soft' textile skills clearly have a place in the curriculum, it is important to ensure that this kind of work is not at the expense of the 'hard' skills, knowledge and understanding associated with the discipline.



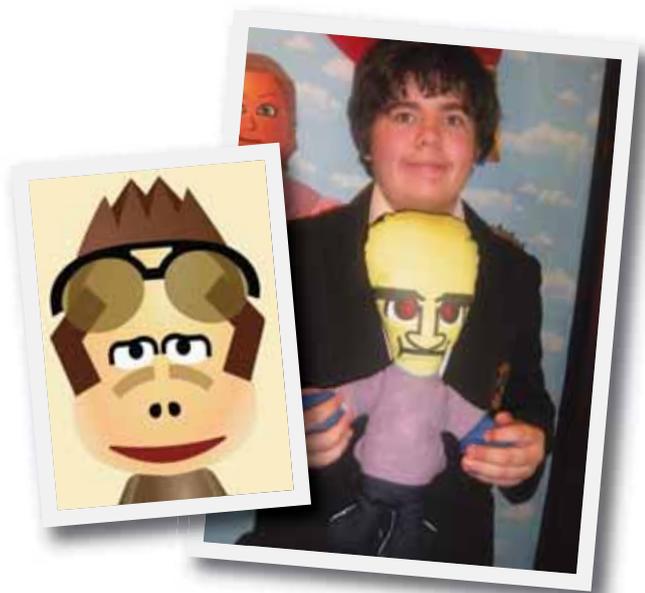
Schemes of work

Debbie has developed schemes of work for Key Stage 3; in Year 7 the students design and make kites enabling them to explore the scientific principles and functionality of their material choice, as well as structures and forces which enables them to dip into science and maths without realising they are doing it.

In Year 8 students design and make their own 'Mini Mii Wii' dolls, which as Debbie explains incorporates plenty of CAD/CAM and outputs using new technological applications including sublimation printing. In Year 9 they investigate fair trade, recycling, sustainability and with support from two local companies have run a competition to design sportswear with two designs having been industrially produced.

Whilst Debbie is clear to point out that she is not an electronics expert the 'Mini Mii Wii' doll includes an extension task whereby students can add an electronic circuit into their design prior to final assembly.

Throughout the summer Debbie spent time contacting companies for information and the material samples, which she now uses in her lessons, help inspire and engage learners. She was able to visit some manufacturers including 'Smile Plastics' in Southport where she saw for herself how they used children's wellington boots, dead currency, recycled coloured plastic bottles, yoghurt pots and even gas pipes to create new materials, which include synthetic ice rinks.





STEM Subject Competition Entries



Textiles Year 8



Encouraging boys into textiles



Debbie is continually evolving her projects as new technologies are developed, but she is mindful in keeping a balance between the traditional versus the innovative ways in which textiles can be delivered in school. Since September, Debbie is also a primary liaison teacher working with Key Stage 2 bringing strands of engineering into the primary arena.

She hopes her approach will stimulate all students to think very differently about textiles, but in particular she is working to address the issue of gender stereotyping. She encourages boys via the introduction of personal protective textiles, which use materials such as Kevlar and ultra-high-molecular-weight polyethylene. Nike sportswear, which is made from recycled plastic bottles, is also used as a case study and through industrial applications for engineering, building and construction, she hopes that more male students would consider it as a possible future career.

Carmel Foster, Head Teacher of Our Lady's is delighted with the impact of Debbie's creative and innovative approaches to the teaching of textiles. She comments that Debbie's enthusiasm is inspiring the learners and her use of technological processes engages boys as well as girls in a subject that can be seen to be more attractive to the girls. Debbie has added another dimension to our specialism and is inspiring our learners to find solutions to problems through the projects she is teaching in all year groups.

Textiles workshop

Visiting Debbie and a few of the other delegates from last year's conference has helped us to understand how teachers have been able to incorporate some of the ideas from the workshop directly into their lessons. As Traci explains "It was wonderful to meet up with Debbie after the textiles workshop and to see how she was utilising some of the information and resources that we had provided. Her 'Mini Wii Mii' dolls are an excellent way of combining new technologies within textiles. Students can see how a light circuit can be incorporated, which in turn can engage them. The inclusion of sublimation printing can lead into scientific study of how heat can cause molecular changes in sublimation dyes so that they permanently bind with polymers. When this type of learning is taking place alongside the more traditional textiles skills, it gives the subject the credit it deserves within the technology curriculum. Textiles is a highly technical subject, something which is often overlooked. The aim of the technical textiles workshop was initially to bring this to the forefront, so it is encouraging to see good examples of work such as Debbie's".

We would hope to be able to run a similar workshop at this year's conference and this process of evaluation has given us an insight into what really worked well, which aspects require additional development and what else we can do in order to help support colleagues 'at the chalk face' to deliver more innovative technological textile lessons. ■

The North West Design and Technology Conference

Following on from the success of previous events this year's North West Design and Technology conference for primary and secondary design and technology teachers will be held on Saturday 25th June 2011 at The Science Learning Centre North West, Manchester.

Taking into account feedback from delegates who attended last year's event this year our focus will be CPD for teachers. In addition to the keynote address, the popular 'question and answer clinic' also returns.

We are planning to offer a range of sessions across the full range of design and technology material areas being delivered by a combination of CPD training providers and serving teachers.

For additional information or to book your place(s) please contact: The Science Learning Centre North West on 0161 247 2944 or email slc.northwest@mmu.ac.uk