



Case Study: Trentham High School, Stoke on Trent | Years: 9 & 10 | High School, Specialist Science College | v1

Exploring Classrooms and Curriculum Development for the Future: The iTEC Project

'One of Promethean's key motivations for becoming involved in the iTEC project was because teachers are located at the centre of activities and empowered to actively contribute and help shape every phase of the process, from design through to implementation and evaluation.'

Gill Leahy, Promethean iTEC project lead

The Challenge

Innovative Technologies for an Engaging Classroom (iTEC) is a European Commission funded project aiming to develop and pilot inspiring technology-based scenarios of future classrooms through a collaborative process involving learners, teachers, researchers, technology industry partners and Ministries of Education. In designing and testing pilot learning experiences, the project aims to develop approaches and resources that are scalable for use in future classrooms and are of value to the wider education community.

This large and pioneering project began in 2010 and is piloting innovative learning and teaching scenarios through the strategic and effective integration of

technology in more than 1000 classrooms across 15 countries. Promethean is one of 27 project partners, including a range of other technology-enhanced learning experts, who are supporting numerous innovative teachers engaged in developing creative and unique approaches to learning and teaching and enhancing curriculum development.

The iTEC project methodology incorporates the development of meaningful learning and teaching scenarios for the future classroom and follows a process of user-centred design process and rigorous testing. Each scenario is a short narrative description, or story, depicting a desirable learning context set within a model



learning environment and aims to inspire the teachers to develop their own technology-enhanced learning experiences and associated lesson plans. Teachers are then engaged in 'pilot' projects, supported by high levels of resources and training in the use of new technologies and related services. In all there are five overlapping 18-month research and development cycles, each including the following elements: scenario development, participatory design sessions, pre-piloting of prototypes, large-scale pilot implementation, data collection, feedback and analysis.

Fabia's Story: Supporting Student Achievement through the Development of Revision Strategies and Resources

Fabia Hully is one of Promethean's case study teachers. She is a Design and Technology teacher at Trentham High School Specialist Science College. In cycle 2 of the iTEC project, she focused specifically on the use of innovative technologies in order to embed revision, assessment and exam practice in learning activities.

Fabia has a passion for seeking out new ways of enhancing pupils' enjoyment, interest and understanding of design, and as a result has been working with a range of technologies and teaching approaches to explore how they might stimulate inquiry and provide newer, richer and more exciting ways to learn.

Whilst working with Year 10 students progressing toward their GCSE exam in Design and Technology, mock tests revealed that a number of students were under-performing. Fabia drew on her involvement in the iTEC project in order to redress potential under-achievement of these pupils. As an Advanced Skills Teacher, she utilised a range of new technologies such as Promethean's ActivEngage virtual learner response in the pilot, as well as a range of other devices and resources such as iPods, apps and multi-media. Not only were such technologies effective in supporting students' learning, revision and in helping them prepare for exams, they also provided greater motivation for students to engage with learning. Furthermore, competition was also felt to be an important motivational factor, which was to be incorporated into lesson plans and learning activities.



Tools such as ActivEngage, ActivExpression hand-held learner response devices and Edmodo were all utilised as resources to support new approaches to assessment that fostered peer feedback and reflection. The teacher, students and parents used a safe social learning network to share information and to increase communication between the home and school.

Students were often given revision exercises and learning materials with subsequent lessons beginning with a quiz on the interactive whiteboard (IWB). By using ActivEngage installed on students' iPods, Fabia was instantly able to see students' responses and identify where gaps or misconceptions in students understanding were, thus helping her to target and consolidate learning more appropriately.

Quick response (QR) codes were also presented on the IWB and directly on technology equipment that linked to web-based information and revision materials. Students could then scan the IWB and the equipment with their iPod camera tool and visit the various materials, enabling revision to be tailored to individual students' needs.

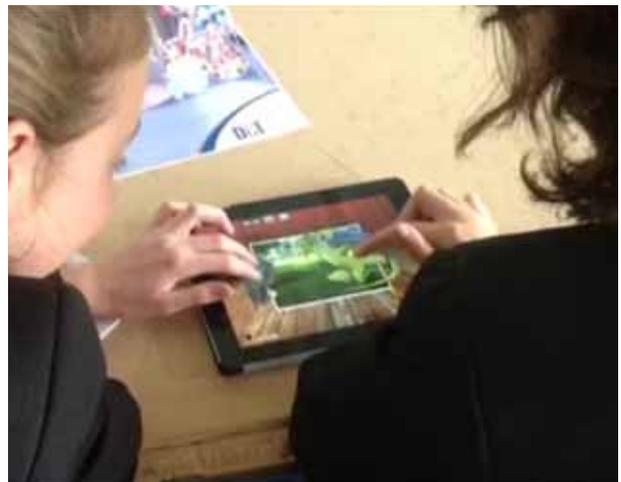
Because Fabia utilised the social network, used technologies to assess students' knowledge and provided tailored revision materials and learning resources that were accessible outside the classroom, she was able to target her teaching more specifically and spend more time interacting with students. This was crucial given the limited time available prior to final examinations.

Over a relatively short period of time she witnessed an increase in test scores, and students reported that the technology not only helped make learning more exciting, but also helped them with their revision and learning more generally.

Improving the Quality of Education through Collaboration and Professional Development

Fabia feels that being part of such an interesting and ground-breaking project has been invaluable to her own professional development. Moreover, having such a wealth of innovative technologies at her disposal has led to her rethinking teaching strategies and approach and allowed her to develop a new set of technology-enhanced pedagogical practices to apply elsewhere. For example, Fabia is focusing on the redesign of learning and teaching approaches in collaboration with her Year 9 students who are working on an Inclusive Design project. This project seeks to ensure that learning approaches cater for the myriad of different learning needs and styles, thereby creating more inclusive practices.

She also feels that as a project participant she has benefitted by learning from others, sharing knowledge, information and experiences. For example, being able to collaborate with other iTEC teachers in the UK, Austria and Turkey through the Promethean Planet forums and with the Promethean national coordinators led to greater knowledge exchange and supported professional development. Teachers used Promethean ActivInspire software to share initial ideas about lessons during online Promethean workshop and share resources and identify tools and services, which were subsequently trialed in the classroom. Fabia has also had the opportunity to reflect on her practice and present and share her findings with others within the project and to other interested parties, including a recent presentation to education decision makers in Brussels.



'The use of the technology in Fabia's story bridged the gap between home and school, enabling both teacher and pupils to bring part of the home environment into the school, and vice versa. As a result, more feedback was given and received and there were higher levels of collaboration in class.'

*Gavin Dykes,
Secretary General of the iTEC project's High Level Group*

The longer-term impact of her involvement in the project is also being felt in her own school, and there are plans to extend such learning approaches into other subject areas, including Science, Maths, ICT and Modern Foreign Languages. Fabia intends to continue incorporating new technologies to enhance learning and revision processes and hopes that all staff at her school and across the iTEC project will have similar opportunities and that the new learning resources created can continue to be shared via the Promethean platform.

'At Trentham we are trying to develop a learning culture throughout the school that pervades all relationships through the use of new technologies. The concept of learning anytime, anywhere is central to our vision. A main driver in implanting the vision is students acting as teachers and learning new technologies from each other through effective cooperation. Creating the culture where staff are open to new ideas and are willing to embrace new technology and innovate in the classroom is also key in moving students' learning forward.'

John King,

Acting Headteacher at Trentham

Just the Beginning: Next Steps Toward the Future Classroom

Fabia's positive experience has led her now embarking on the third cycle (C₃) of the iTEC project. In this cycle, she is focusing on the design process, with learning activities centered around the design brief, contextual enquiry and observation, product design, participatory design workshops, final product design and reflection. Not only does Fabia find the prospect of Cycle 3 extremely exciting as a Design and Technology teacher, she also feels that the design process is relevant and can be applied as an approach in many other aspects and areas of learning.

Fabia's involvement and input into the iTEC project also looks set to continue beyond the current phase. She has recently been involved with a group who has been planning the scenarios to be incorporated in the fourth cycle of pilot projects.

The opportunity to gain knowledge from a range of experts and to be involved in a wider community of practice has provided Fabia with a great source of motivation and a platform for the development of more effective teaching practices. In particular, sharing information regarding the design of technology-

enhanced learning and teaching activities has convinced her that she can provide more personalised experiences that will not only make learning and teaching more dynamic and engaging, but will also result in the best possible learning outcomes for her students.

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