Parkside PRU provides an alternative learning environment for students, at Key Stage 4, who have emotional difficulties, and other health problems, which prevent them from accessing mainstream education.

How does the use of innovative ICT technology impact upon student learning and develop a more personalised learning experience?

The Regional Project Grant enabled Parkside PRU to populate an innovative ipod development project, called ipod stacks, with a range of active and engaging approaches to mathematics, particularly involving videos and podcasts from the NCETM website and also handmade, for use with a group of disengaged secondary school age children in this Pupil Referral Unit. These activities will be used to engage and motivate “difficult to engage, hard to reach” learners into their mathematics work whilst keeping them active and avoiding distraction. The emphasis is upon a personalised approach to learning.

The ipod stacks were developed to enable learners to access a variety of mathematics materials which will enhance their learning and give them the ability to access learning outside of school via an ipod touch – commonly called the Martini Effect “anytime, anyplace, anywhere”. The work will also impact upon the use of hand held technology within the school, which is already a recipient of the BECTA Whole School ICT Excellence Award 2008 and in 2010 within the Eastern Region.

What did we do?

The three main parties met for ½ day a week, over a ten week period, to develop the ipod stacks by individual topic. They researched the NCETM site and reviewed a wide variety of materials. By Christmas 10 stacks were in place and their use and appeal has been evaluated following use with learners.
Context and Findings:

The principle outcome is the development of vibrant and engaging revision areas on the ipods for students working in mathematics using a cross curricula theme with ICT.

As teachers, in the olden days when we revised we were encouraged to use record cards to jot down the main facts. Then we could read them on the bus or at home.

This is the principle of this project. Students make their own cards which are then stacked together in groups of work. There are stacks for area calculations which involve diagrams being drawn by the students and then they add an audio file to remind them what to do in the calculation. Students have created various different word clouds using wordle and also are starting to make calligrams which can be uploaded with ease.

Engagement has been very good with positive feedback from all.

An associated outcome is also in the form of a case study for Suffolk County Council and the Transforming Learning Project Team who are leading a project for 14 schools, of which Parkside PRU is one. It will also form a Case Study for the Transforming Learning Project Suffolk learning hub and will form an integral part of the final project report in December 2010.

Student feedback

4 students were asked to give some qualitative comments relating to their experience of making and using the stacks:

- They are really useful – you have always got it with you- you can’t always carry your maths book around everywhere
- You can look at it whenever you want to
- I like the voice on it – it’s a bit different
- There is nothing to dislike – I’ve used them for English and science now too
- Easy to make – pretty simple really
- You are doing a bit of maths but it doesn’t really feel like it
Measuring impact/outcomes of the activity

Quality of the maths stacks was monitored by Julia Smith, Suffolk County Council 14-19 adviser and NCETM Associate. Learners were encouraged to really think about all the instructions when producing a stack. This leads to the conclusion that there is a huge amount of impact in developing a revision stack for your own use. Learners were encouraged to devise their own questions and set of instructions to enable the calculation to be completed eg area. Research (Edgar Dale – Audio visual methods in teaching 1957) tells us that learners retain more information if they are able to explain it to someone else. In our case they are explaining it to themselves initially but then the stacks can be made publically available). Malcolm Swan’s eight principles for effective teaching focus upon emphasising methods rather than answers; using rich collaborative tasks; and using technology in appropriate ways. What better, more personalised way than to produce a maths stack for yourself and then to share it with others.

Jean Freeman and Susan Green, Ict Co-ordinator and Maths teacher from Parkside together with Julia Smith, Transforming Learning Adviser for Suffolk County Council worked together to formulate appropriate work and experiment with a variety of approach. Susan came to this project via the NCETM “Extending our Reach” project. The Headteacher, Stuart Bailey, was fully supportive of the project since it was first mooted. Mick Waters, ex-QCA, has since visited the school in December 2010 and his comments stated “…we should all be trying to offer a learning experience to meet our pupils needs. That is why Parkside is so good. I have seen rigour in maths… the blur between the learning and recreational areas and a use of every piece of space…”

Next Steps

Parkside will continue to develop stacks for maths as we swing into exam preparation mode. Stacks are also being encouraged in other curriculum areas as the usefulness has been seen to be in the making of them as well as the end product of having a stack to refer to. This project will continue and the ipod development company may well decide to expand the use of this app and gain a licence for its commercial value in other schools.

Parkside Background

Parkside understands the very nature of personalised learning. Through its Becta recognition in 2008 of ILT Innovation in Learning it has forged ahead with recognising the difficulties many of its unique students have and gives them technology to enable them to access 24/7 learning that is individual and appropriate to them. Most recently it has won the Best Whole School BECTA ICT Excellence Award 2010.
January 2010 saw the commencement of coaching and modeling in the mathematics class with Julia Smith from Suffolk County Council, the mathematics teacher and various teaching assistants, to model and introduce a range of active and engaging learning approaches and resources from the National Mathematics Centre (NCETM). Engagement by both the students and staff was tangible.

This approach culminated in an NCETM Regional Project grant of £1000 being awarded in July 2010. This grant enabled further work over the Autumn Term looking specifically at the role of the iPod touch in mathematics learning. This saw the commencement of an innovative iPod touch app development with a design team producing mathematics stacks of podcasts, vodcasts (video), activities and worksheets created by the students with staff support. This follows on from work undertaken during the Summer Term to build confidence within the Maths Dept and look at collaborative approaches for mathematics and ICT.

Thanks are given to Pete Hall, Senior Regional Coordinator, for his support and visits that enabled this rewarding project to go ahead.

Julia Smith
14-19yrs Transforming Learning Adviser
Suffolk County Council
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