

Challenge Fund Projects 2005 - 2008

**A Microsoft/SQA
Partners in Learning
Project 2005 – 2008**

**An independent
evaluation by
Walter Patterson
Consultancy**

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Microsoft/SQA Partners in Learning Challenge Fund Project

Project Evaluation

Executive Summary

The PIL Challenge Fund supported 22 projects in 2005 and 11 projects in 2006. These projects were selected on the basis of their innovation, transferability and sustainability and the commitment of the applicant to transformation in their teaching and learning practice. They spanned the range of eligible institutions - nursery, primary, secondary and special schools thus demonstrating that innovative teachers are to be found at all stages of education.

Innovative teachers were provided with access to on-line and CD-based resources created by Microsoft to help them develop their personal competences in ICT and build their confidence in using technology in their classroom practice. In some projects the match funding from the school covered the costs of further training (such as computer animation techniques). The plan to enrol teachers as Microsoft Innovative Teachers was hampered by technical difficulties and instead teachers were enrolled in a community of practice managed by the project coordinator. This arrangement proved to be only partially successful as some teachers were unable to access noticeboards and forums from their school systems. As a result the sharing of ongoing experiences in the implementation of their innovative practice was limited to a few exchanges. In any case, the range of different approaches across the projects made the exchange of experiences less relevant to individual teachers.

Most of the innovative teachers progressed their projects without much support in their school from other teachers or from local authority sources. As a result, in the few cases where a teacher's circumstances changed (such as moving to another school or being seconded, or going on maternity leave) the project did not fulfill its expectations. In a few cases there were long delays to projects attributable to a lack of authority support in approving and purchasing equipment and software, and in one case the software purchased became unusable after an authority upgrade. However, there were also several projects where the innovative teacher worked collaboratively with others to ensure the optimum value was secured from the investment. And in a few projects the teacher had creatively accessed other funding or staff resources to help the success of their projects - such as the help of a drama specialist in an animation project.

For a few projects the innovation was very much "of the moment", with the equipment or software being put to general use within the classroom on completion of the project objectives. For example, in one primary school the project created a celebration of the school's 50th birthday, after which the equipment used to capture and display images and record audio was simply added to the school inventory of resources. For a good proportion of the projects the project itself became the foundation on which the teacher built further transformed teaching and learning practice.

A key aspect of the Challenge Fund was to support grass-roots innovation by individual teachers and to provide them with a mechanism to share the outcomes of their innovation with the wider community of teachers in Scotland. To this end all innovative teachers were contractually required to produce a Virtual Classroom Tour. They were provided with exemplars of VCTs from other Microsoft Innovative Teacher projects. Through a variety of circumstances, however, only 23 VCTs have been produced from the 33 projects. As noted before, some projects have not yet been completed but in a few cases the innovative teachers have shown a marked reluctance to fulfill their obligations.

These 23 VCTs have been made available to the wider community of teachers in Scotland through placement on a microsite on the SQA website, and are also to be included in the shared resources area of the Microsoft Innovative Teacher Network website. The SQA collection has been publicised through various channels, and feedback collected on the website indicates that these exemplars of innovative practice are valued by other teachers. It was also the expectation of the project that teachers would in their individual schools become champions of innovative practice. There has been little evidence of this.

1. Introduction

- 1.1 In 2005 and 2006 PIL made funds available to support innovation in teaching and learning in Scottish education. The Challenge Fund was publicised through a range of channels and invited teachers to submit proposals for funding of up to £2000 per project. To qualify for funding the project had to be match funded from other sources (e.g. school budget, local authority project), and the teachers involved were asked to commit themselves to become Microsoft Innovative Teachers by participating in CPD activities and teacher on-line forums. Each successful project was also required to make the outcomes of the project available to others. The medium selected by PIL for sharing outcomes was the well-established Virtual Classroom Tour (VCT) which showcases the project in a PowerPoint presentation format.
- 1.2 The PIL Challenge Fund has supported a range of innovative proposals from teachers in schools. In 2005 it supported 22 projects (total value £35K) and in 2006 it supported 11 projects (total value £16K). The funding provided to teachers enabled them to explore new ways of learning and teaching in their classrooms and to share their experiences with others through participation in the Microsoft Innovative Teachers scheme. Proposals included: the use of podcasting and MP3 players, class voting systems, making videos in class, animation projects, providing learning support for pupils and using PDAs with data logging equipment. Teachers were encouraged to share their experiences of introducing innovation into their teaching and the successes they achieved.

2. Challenge Fund and Other Initiatives in Education

- 2.1 These Challenge Fund projects have been carried out in a period of considerable change within Scottish education. In both 2004/05 and 2005/06 the Scottish Government had provided £20M in each year to improve ICT infrastructure in schools. By the end of 2005 almost 93% of all Scottish teachers had received basic training in the use of ICT through the National Opportunities Fund (NOF) and a further £21M had been provided by government to Learning and Teaching Scotland (LTS) for a programme of development of digital resources. In addition LTS had delivered a programme of Masterclasses and Leadership for Learning that had a significant impact on the drive for increased use of ICT across Scottish education.
- 2.2 The Challenge Fund project complemented these broad initiatives well, by focusing on the requirements that individual teachers had to translate their training into changed practice in the classroom. For too many teachers, the benefits of NOF training were short-lived as they had no opportunities to put into practice what they had learned. The Challenge Fund provided teachers with the opportunity to bid for resources that would help them turn ideas into reality, and around 150 teachers made application to the Fund over the two rounds.
- 2.3 The Scottish Government was also promoting *Excellent, Ambitious Schools* – a programme to stimulate schools to think of ways in which they might produce a step-change in their culture and success. One of the Challenge Fund projects was in a “School of Ambition” and made a good contribution to the overall improvement in the school.
- 2.4 The most significant change in this period was to the thinking about the curriculum. The government’s proposals for *Curriculum for Excellence* has unified a set of purposes and principles for the whole curriculum to enable young people to become successful learners, confident individuals, responsible citizens and effective contributors. Developing these four

capacities will depend on the environment in which children learn, their choice of learning and teaching approaches and how their learning is organised. The Curriculum Review Group has stated that *'New technologies are making information available as never before and offer exciting potential to enrich learning.'* By transforming learner's experiences in the classroom, these Challenge Fund projects are helping teachers and schools to develop these desirable capacities in young people.

3. Challenge Fund and HMIE Report on ICT in Scottish education

3.1 In 2007 HMIE published a report into the use of ICT in Scottish Education, identifying that new ways of acquiring and accessing information were having an increasingly important impact on learning and teaching in Scotland. It noted that the use of non-textual approaches to presenting learning could lead to improved learner engagement and motivation. HMIE also judged that good progress had been made in capacity building for use of ICT in Scottish education in recent years, with increasing teacher confidence and competence - but that fully effective practice in the use of ICT was not yet the norm. Where good examples of ICT use were found by HMIE to promote and enhance learning, they tended to be in primary schools or in the support for learners with additional support needs.

3.2 HMIE identified a number of areas for improvement in the use of ICT in Scottish education. For the purposes of this report, the key areas included:

- Schools taking more opportunities to develop learners' ICT skills through the wider curriculum, for example, through the subject disciplines.
- More teaching staff considering carefully how to make best use of ICT resources to gain maximum educational gain from such use in their teaching.
- Using ICT to transform learning and teaching (more than just the extensive and intensive use of ICT)
- Teaching staff using a wider range of ICT-based teaching approaches to maintain and increase learner motivation.

3.3 The Challenge Fund project speaks well to these HMIE recommendations, albeit in a limited way. By promoting innovation at teacher level, the project has helped innovative teachers carefully consider how to make best use of the ICT resources for educational gain and to do so in the context of their own subject curriculum. For almost all of these projects, the teachers have confirmed that their approaches to learning and teaching have been transformed, and that the motivation and engagement of their learners has been increased.

4. Challenge Fund and GLOW

4.1 Mention has been made of the general improvement in ICT infrastructure in Scottish schools over the period of the projects. But at national level further improvements to infrastructure were in train, with the development of a Scottish Schools Digital Network (itself a follow-on from the National Grid for Learning initiative). This development of a broadband interconnect between the 32 local authorities in Scotland, and a content delivery infrastructure to deliver media-rich learning resources (such as video clips and software) across the country is now branded as **Glow**.

- 4.2 One of the intentions of the Challenge Fund initiative was that the facilities offered by Glow would be harnessed in support of the projects. Firstly, it would have provided a secure and reliable online communication channel for teachers engaged in the project sharing experiences and seeking advice. And secondly it would have provided the ideal repository for the packages of project descriptions and experiences that teachers were capturing through the Virtual Classroom Tours (VCTs) and thus become available to all teachers in Scotland, and beyond. Given the proposed ubiquitous nature of Glow in relation to all things ICT in Scottish education, this seemed a natural proposal.
- 4.3 However, significant delays in Glow implementation and roll-out have brought us to the close of the Challenge Fund projects with no immediate prospect of either of these objectives being realised. Instead, use was made of available Web 2.0 services for teacher group communication and of the SQA website as the repository for VCTs.

5. Challenge Fund Projects and EMIT

- 5.1 The small number of successful funding application in June 2006 released funding to help support all Challenge Fund projects in the recording and spread of good practice in the use of ICT in classroom practice. It was recognized that promoting good practice through the medium of a VCT did not effectively capture the “dynamic” of a project – i.e. the things that made it exciting for pupils or the quality of their learning experience.
- 5.2 A publication by FutureLab of a handbook on *The Learner Voice* stimulated ideas for the PIL team, with the following quote from this document influential in determining a way forward. *‘Digital technologies can be used to support learner voice and discussions around issues of importance to individuals and groups. With these tools, learners can create powerful visual or audio narratives, or ways of representing their views, feelings or ideas. These open up possibilities for greater and better dialogue between learners and staff. These may be of particular use for those learners who are reticent, for one reason or another, to represent their views through more traditional means’.*
- 5.3 This led to collaboration between the PIL team and the creative design company *55degrees* to develop a solution. This company had already established a track record of capturing user experience (the ‘vox pop’) through the use of a ‘suitcase acquisition system’. This collaboration resulted in the EMIT project (Evaluation and Monitoring of Innovative Teachers) and the development of a mobile video booth. This consisted of a heavy duty (yellow) suitcase containing a laptop, lighting rig and speakers. The system was fully automated so that it could be used without any technical expertise on the part of the participating schools. Teachers and pupils could easily record (and re-record) their responses to a set of predetermined prompts about their school experiences.
- 5.4 The EMIT video booth was deployed across several PIL projects. It provided teacher and pupil feedback from eight of the Challenge Fund projects. This video evidence has been made available to the participating schools and to the evaluation. The available video footage provides strong confirmation of the enthusiasm that pupils had for their ICT project and of the benefits that they perceived.
- 5.5 The success of EMIT was celebrated in an invitational seminar at the Scottish Learning Festival in 2007 and a subsequent report in a national newspaper (see Appendices B & C).

6. Challenge Fund Projects – An Overview

- 6.1 The first Challenge Fund round was held in December 2005. Around a hundred applications were received and these were judged on the basis of an agreed set of criteria. In this round a total of 22 projects were funded to a total of £35,000. A second round was held in June 2006, but the number of applications was only about fifty. Of these, 10 projects were funded to a total of £16,000. A further project was supported in the summer of 2007, bring the total to 33.
- 6.2 The successful projects are listed in Appendix E and include schools from the nursery, primary, secondary and special sectors in Scotland. In some projects the school matched funding was in excess of the Challenge Fund contribution giving a total value of the 33 projects of around £110,000.
- 6.3 The secondary projects enhanced teaching and learning in a wide range of subjects including maths, science investigations, podcasts in geography, RE and modern foreign language revision. Two projects involved the use of digital drumkits in music, and video/audio recordings were used in physical education, religious education and in drama. In one secondary, ICT projects were used for additional support needs pupils transferring from primary into secondary.
- 6.4 In the primary schools, ICT was used creatively to produce animations on the issue of bullying, to create projects for modern foreign languages, to produce CDs to promote the school, and to produce a health promoting video. One project provided teacher training in Digital Blue Movie Creator for use in the learning community. In a nursery setting CCTV allowed nursery pupils to interact with their external environment, while in another the use of voting systems helped early years children with the assessment of their progress.
- 6.5 In special schools, podcasting was valuable for young people with behavioural and learning difficulties, while in another specialised communication equipment helped children with serious disabilities participate in social interchange. Some of these projects are summarised in the following paragraphs.
- 6.6 **Geography podcasts (Geocasts)**
The initial outcomes of this project were a set of downloadable audio and video revision resources for the SQA Higher Geography curriculum which could be played on mobile devices or on a PC. They were used both in the originating school and also in other schools in the same local authority. These podcasts were also made available for universal download and quickly gained popularity as an educational podcast used by learners around the world. This success stimulated the teacher and pupils in the school to collaborate in the creation of similar materials for the Standard Grade course and then to extend to Standard Grade Physics (Physicasts). The innovative teacher showcased his work at SLF 2006 and has presented at national and international conferences.
- 6.7 **Addressing sensitive issues through podcasting**
This project took place in a school that provides education and 52-week residential care for boys experiencing significant social, emotional and behavioural difficulties (SEBD). As well as delivering the curriculum, teachers at the school had a responsibility to provide personal support and consider for the care and welfare of their pupils and the challenge of providing wider contexts (from which these young people are often excluded), and maintaining their motivation and interest. The project used MP3 technology and podcasting to improve the access which pupils had to important information for their development as responsible

young adults. In particular, it allowed the transmission of information about health and personal matters in a sensitive, private manner. By involving the pupils in the acquisition of this material and in the preparation of the broadcasts, they developed podcasting skills that have since been harnessed in a wide range of other contexts, including materials for use by their local community. This successful project was showcased at SLF in 2006 and the innovative teacher has since gone on to become a prolific podcaster and contributor to Scotland's vibrant edu-blogging community.

6.8 Using digital video to promote healthy lifestyles

P7 pupils at this primary school made their own choice of topic to promote to the whole school through the planning, scripting, shooting, editing and production of a digital video. The topic chosen (Healthy Lifestyles) was researched by the pupils and the teachers acted as facilitators in the storyboarding, shooting and editing to produce the final DVD. The project developed pupils' skills in communication, team working, ICT and planning. The school has now gone on to use digital video to support teaching and learning, to motivate pupils in different projects and to provide evidence and feedback for pupils' learning. The innovative teacher showcased her work at SLF 2006 and again in SLF 2007. She was the subject of a short video documentary in 2007, now used in promotional material for ICT in schools.

6.9 Using digital video to promote the school in its community

This primary school was located in an area of social deprivation and used digital video technology to engage pupils across all stages of the school to "tell the story" of the school to the local community. The ease of use of the set of Digital Movie Creator cameras allowed pupils from nursery to P7 to contribute to the whole school DVD. The school has made further progress in using the cameras to ease the process of transition to secondary school for a group of vulnerable pupils. The cameras have also been used to assist in community projects, with parents receiving help from the school to record community views on local issues. The innovative teacher showcased her work and the school DVD at a Microsoft parliamentary reception in the Scottish parliament building at Holyrood (2008).

6.10 Using ICT to aid communication with pupils with severe multiple disabilities

This project enabled a school for pupils with severe multiple disabilities to improve communication between the school and its pupils, between the pupils and their parents and between the school and parents. The provision of Step-by-Step switches, which recorded a sequence of recorded audio, allowed more of a "conversation" to take place with the pupils and opened up the way for pupils to take part in "performances" played out by sequencing their audio pieces. This led to significant progress in social interaction among the pupils. The innovative teacher presented the work of the school and pupil use of the switches at a Showcase event held in SQA Optima building (2007).

6.11 Motivating boys and improving their learning in S Grade maths

This project centred on the use of an IWB to help motivate a class of under-performing boys in S Grade maths, and to provide contexts for them in which the maths would be meaningful (such as financing the purchase of a car). In addition to creating a boys-only class, and choosing topics that would engage and interest them, the teacher created a website through which pupils could access resources for revision or for further learning, and encouraged them to do so. The project has produced several VCTs demonstrating the teacher's approaches to different topics and a comprehensive analysis of the attainment performance of this class and the other classes taught more conventionally. The work of this teacher was presented at a Showcase event held in SQA Optima building (2007).

- 6.12 **Podcasting to support religious education**
This project made extensive use of ICT to record significant events in the religious life of the school, such as a visit by senior church dignitaries. These audio, video and picture records were published on the project website, and became part of the resources used by RE teachers in the school. In addition, pupils carrying out RE projects were encouraged to capture evidence in multi-media formats and incorporate these into their reports. The innovative teacher presented the work of his school at an SQA showcase event in 2007.
- 6.13 **Class voting system in nursery education**
This project initially aimed to provide pupils in the early years (nursery, P1/P2) with experience of an IWB and a set of class voting handheld systems. As the school was small, the teachers quickly realised that the equipment could be beneficial to all pupils in the school. This led to P7 pupils being given responsibility for creating some of the quizzes to be used with the early years pupils. The younger pupils quickly became familiar with the voting systems and used them on a daily basis both for assessing their own progress and for routine things such as choosing their daily snack.
- 6.14 **Supporting the Access Network through Flashmeeting**
The Access Network is a group of teachers across Scotland who teach courses at Access level (SCQF Levels 1,2 and 3) and who meet to share experiences and resources. As face to face meetings became more and more difficult to organise, the Network turned to Web 2.0 technology to allow it to hold virtual meetings. The technology adopted was Flashmeeting (as used by the OU) and through it the Access Network has been able to hold meetings to allow teachers to “show and tell” or to hear a speaker present on a topic of interest to the Network. The teacher has set up a corresponding blog through which virtual meetings are scheduled and resources shared among the fifty or so innovative teachers. The innovative teacher has also presented this work at the Scottish Learning Festival in 2008.
- 6.15 **Drama productions enhanced by use of technology**
The drama department in a Secondary School used the project funding to adapt its small drama workshop space into an innovative performance area through the use of a back-projection screen linked to multi-media ICT equipment. This enabled drama productions that were stimulating and exciting, with the result that the drama department significantly increased the number of pupils opting for drama. The project involved all of the teachers of drama and enabled them to create new interpretations of classical drama scenes. Pupils were enthusiastic about the opportunities they had been afforded through this project.
- 6.16 **School and community celebration of 50th birthday of school**
A primary school in a remote location in rural Scotland provided pupils with access to ICT equipment for recording images and audio in order to create a set of interactive presentations for use in the school’s celebration of its 50th birthday. The celebration event involved pupil use of the IWB including a video conferencing exchange with the Director of Education. This gave pupils and their parents a sense of belonging to a unique community, but also provided pupils in this remote area with connection to the wider world through the IWB and Internet links. The innovative teacher showcased the work of the pupils at an SQA event and subsequently to an international conference in Paris in 2007.

- 6.17 PDAs enabling collection and analysis of experimental data in science
The Science Department in a Secondary School purchased PDA-based data-logging systems to improve the “hands on” use of science specific ICT equipment by pupils. This replaced ageing BBC systems and enabled pupils to do experiments that would not have been practical before and carry out measurements to a much better resolution and accuracy. Although initially used for physics experiments other science teachers had made use of the data-logging systems in both chemistry and biology and learner feedback was very positive.
- 6.18 Use of Programmable Toys to support delivery of 5-14 curriculum
A set of programmable toys was used through nursery stages up to P3 to enable school to deliver learning outcomes linked to the 5-14 ICT curriculum. The innovative teacher trained a total of six staff members in the use of the equipment to provide pupils with experiences in relation to position and movement and also to promote taking turns and sharing and develop leadership and pupils’ self esteem. The planning of journeys was linked to other aspects of the curriculum (e.g. a Treasure Island journey to link with a pirate theme). The success of this project had led the school to purchase further programmable toys for use in P5 and P6.
- 6.19 However, not all projects supported by the Challenge Fund Project were wholly successful. A set of laptops were purchased for a rural primary school that did not have a computer suite, in order for pupils to complete an ICT-based project. However shortly after their purchase the local authority refurbished a classroom in the school and provided it with a suite of networked computers. At the same time the innovative head teacher retired, and her successor found the laptops still boxed and unused, so simply distributed them around the classrooms. The initial aims of the project were not fulfilled and no VCT was produced.
- 6.20 In another example the Challenge Fund supported a special school project to use GPS systems to locate areas round their school where there had been accidents and thus create a map that could be used both by pupils to guide their own safe behaviour and also by the local community. The key data for this project had been promised by the local police office, but there was along delay in the release of this data and when it came it proved difficult to use. Additionally, the local authority ICT department initially blocked installation of the software on the school ICT systems, and its subsequent update of the school ICT equipment rendered the software unusable. No VCT was produced.
- 6.21 The Challenge Fund Project supported a secondary school in the purchase of digital video equipment to be used in a joint project involving both the drama department and the PE department. The project was significantly delayed when the local authority ICT department initially purchased the wrong equipment. By the time this issue was finally resolved both of the Principal Teachers involved in the project were on a long term sickness absence. Although the school has been able to make use of the ICT resources, the project has not fulfilled its initial aims and no VCT was produced.

7. Challenge Fund Projects – Evaluation

7.1 Innovative teachers were interviewed, either through a visit to the school, or (in the case of some remote schools, such as Shetland) through a telephone interview. In all, a total of 19 projects were visited and the remainder were interviewed by telephone. The visits and interviews were conducted in line with the agreed Quality Indicators set out in Appendix A.

QI 1 Objectives: *(Project objectives have been clearly defined and set targets that are challenging but achievable. A plan is in place to guide the development of the project).*

The application process ensured that all projects were well specified from the outset. Applications had to show that the innovation proposed was transferable and sustainable beyond the initial funding, and that the teaching and learning approaches were well considered. At the outset of each project the targets were well scoped and judged to be achievable. However, not all teachers successfully translated their overall objectives into a detailed planning document with notional timescales to guide their implementation. As a result, some projects were slow to show progress and teachers found it difficult to say whether they were “on track” or not. In only a few cases was an implementation timeline shared with the PIL coordinator.

QI 2 Learning Tasks & Activities: *(Learning activities make innovative use of ICT and provide learners with opportunities to manage their own learning. Learners are stimulated and motivated to improve their performance).*

All of the projects provided opportunity for learning activities that were new to the learners and represented a departure from the traditional forms of learning in that subject. Examples of this included the use of ICT in learning activities that presented learners with the means of organising their own learning, such as pupils accessing music instruction videos as they required, or engaging in creative activities such as making animations, or recording digital video. In some projects the use of ICT was directed by the teacher, such as in the use of Interactive Whiteboards (IWBs), or in creating podcasts for pupil download. Of the projects which reached completion, almost all teachers reported increased levels of pupil motivation for learning, but in only one was there any data-based evidence to show improvements in pupil performance (mathematics for boys).

QI 3 Teaching strategies: *(Teachers have carefully planned their teaching strategy to make innovative use of ICT and engage students in their learning. They are successful in delivering this strategy).*

For all completed projects (28 of the 33 funded projects), the introduction of ICT into the teaching and learning was underpinned by carefully constructed lesson plans and worksheets (often included as part of the project VCT). Teachers had taken steps to collect evidence that the objectives of their innovative strategies had been successfully overtaken, and these were made available to the evaluation. The evidence included learner videos, animations, performances, image portfolios, school DVDs as well as pupil questionnaire responses relating to their perceptions of the new approaches. For a few schools the EMIT video booth provided further evidence of the learner voice.

QI 4 Application of ICT: *(The way in which ICT is used is innovative to the department and supports the learning objectives well. Classroom practice is significantly transformed).*

The projects provided opportunities for teachers to adopt new approaches to their teaching and learning. In awarding funding to projects the judging team recognised that while very few proposals were novel, they all built on good practice that had been identified elsewhere, and represented changed practice for that teacher or school. For all projects, the availability of ICT equipment, software and resources in the classroom provided a stimulus for teachers to consider permanent changes to their approaches to classroom practice. Those projects based on IWB technology became the most significant contributors to transformed classroom practice on a period by period basis. Other applications of ICT, such as the use of animation to support a particular topic, were only used sparingly to contribute to specific aspects of class work. In many projects the additional ICT resources have been used both by other teachers and for activities beyond the scope of the initial project aims (some details given in section 6 of this report)

QI 5 Implementation of ICT: *(Information about how ICT is being used in the classroom is recorded in sufficient detail to support future analysis and review).*

While most teachers retained examples of pupil work and recorded their perceptions of the project (either through questionnaires or through use of the EMIT video booth), formal record keeping was not particularly strong in this project. This was partly due to the early difficulties in the project of innovative teachers accessing and participating in online forums or groups, and the expected exchange and collaborations that might have fostered more extensive record-keeping did not take place

QI 6 Self-evaluation: *(The teacher(s) have carried out a review process to determine the strengths and weaknesses of the ICT-based approach).*

In all schools, the use of ICT in teaching and learning was included in the self-evaluation processes of the department or school, so that conclusions could be reached about the effectiveness of ICT use and its potential for wider adoption. It was disappointing therefore to find that in only a few projects was there any formal record by the innovative teacher of their personal evaluation of the strengths and weaknesses of the approaches that they had undertaken through the project. With one notable exception, where a detailed and quantitative evaluation had been carried out by the teacher, overall project evaluations by innovative teachers were broad-brush and somewhat ad-hoc and tended to focus on the positive aspects of the project.

QI 7 Teacher as a change agent: *(The teacher(s) are engaging and inspiring and have the potential of motivating and impacting learners and other colleagues).*

In the 28 completed projects, all innovative teachers evidenced personal enthusiasm and interest in their projects and were able to convey this well to their learners. In most cases the success of the projects had aroused interest from other colleagues and the ICT equipment, software and resources were being used in a broader context than that proposed in the project. In some schools the project had quickly engaged all of the staff in a subject department (eg science, drama, music, language podcasting) while in others the equipment or resources had become available to the whole school (particularly in primary school projects).

QI 8 Commitment: *(The support promised by the school in its bid document for the project has been fully realised (staff time; staff training etc).*

In all cases the matching funding support from the school and/or authority had been realised so that equipment, software and other resources could be purchased for the project. In a few cases the stated support for staff release for training or materials development had not been fully realised. In each case there were local circumstances of staffing or other changes that had limited the school's ability to make the full promised commitment. However, with so much dependence on the innovative teacher making the funding application, it was not surprising that in five of the projects a change in the circumstances of that individual teacher resulted in the projects failing to overtake their original aims.

- 7.2 There were some aspects of the Challenge Fund project where the intended outcomes were not fully realised. One of these related to the engagement of the innovative teachers in a community of practice, sharing their experiences of implementing their project in the classroom and seeking advice and help from the community as required. Almost all teachers experienced technical difficulties in accessing resources and community spaces from behind their local authority firewalls, including both the Microsoft Innovative Teacher Network itself and a Web 2.0 group created by the PIL coordinator. In discussion with teachers, it also transpires that they did not feel much compulsion to resolve these difficulties, principally because there were very few projects that shared a common interest, but also because their time and effort was devoted to initiating and maintaining their own projects.
- 7.3 All innovative teachers were provided with training materials to help them develop their own ICT skills (most of these were high quality Microsoft materials), with the intention that this would help them move towards a systematic development of their ICT competence and confidence. As above, for most innovative teachers the time pressures created from their ICT project limited the extent to which they could engage with these materials for the purpose of enhancing their ICT knowledge and skills. Many innovative teachers were content to have their skills improved on a "just in time" basis as their project required.
- 7.4 All innovative teachers were provided with exemplars of VCTs to help them create their own VCT record of their project, along with detailed instructions. In spite of this, almost all of the innovative teachers required considerable prompting and support on the way to providing a VCT that was sufficiently fit for purpose. And a few did not submit a VCT, even where their project had been overall successful.
- 7.5 The non-availability of a repository for innovative teachers' descriptions of their classroom practice led to the creation of a microsite for this purpose within the SQA website (www.sqa.org.uk/vct) in October 2007. This contained VCTs from both Challenge Funds and Local Authority Innovative Teacher projects (over 100 projects as of June 2008). The most recent web traffic report (Appendix E) shows that the website received over 13,000 visits in the period October – May 2008. A further statistic is that teachers downloaded over 4,500 VCTs in that period, with the most downloaded VCT being a Challenge Fund project (podcasting in modern foreign languages) and three other Challenge Fund projects appearing in the multiple downloads data.

8. Conclusions

- The overall project has demonstrated that the use of ICT can have a positive impact on the learning experiences of young people at all stages of their education (from nursery through to secondary) and particularly for those with additional support needs.
- Challenge Fund projects have been successful in improving the ICT resources available to the individual innovative teachers in their classrooms.
- For most innovative teachers the changes to their learning and teaching approaches have become permanent (i.e. transformational change).
- The projects helped improve the confidence and competence of innovative teachers to make use of ICT in their classroom. However most innovative teachers did not make full use of the opportunities open to them to make further improvements to their ICT skills.
- Innovative teachers reported successful outcomes for their learners in terms of improved engagement and motivation in their learning, particularly where the learners were in control of the use of the technology (such as creating digital video, directing programmable toys, or using class voting systems).
- Innovative teachers managing projects for which they have bid as individuals are unlikely to receive much support from their local authority ICT division. In some cases they have encountered difficulty in mounting educational software on the school systems or in purchasing specialist equipment.
- An initial anxiety that the positive experiences of innovative teachers in their classrooms would not be spread to their colleagues has been partially removed. Some innovative teachers have been prolific in their promotion of their experiences both in their school and beyond, while others have shared their good practice and their resources with school colleagues.
- Some 70% of innovative teachers have fulfilled their obligation to spread good practice through the production of a Virtual Classroom Tour (VCT) for their project. Some of these have been of sufficient quality to be showcased both in the UK and at international events.
- In at least half of the projects the innovative use of ICT to transform classroom practice has been extended beyond the original project brief and to other groups of learners, thus continuing the spread of good practice and innovation.

9. **Recommendations** (for future projects supporting grass-roots innovation in schools))

Prerequisites. The project should:

- favour the innovative teacher who can demonstrate support from close colleagues as an integral part of their proposal.
- require local authority confirmation that the proposed hardware and/or software will be permitted and supported on the authority school network (if required).

Plan and monitor. The project should:

- require that successful initial proposals for funding are developed into a plan with actions and timescales.
- encourage formal record keeping of progress against the plan, and of the resources created by the innovative teacher.

Professional development. The project should:

- allocate resources to develop innovative teachers in their role as change agents in their school.
- require a minimum level of engagement by innovative teachers with a community of practice for the project.
- require innovative teachers to identify how their participation will be recorded in their formal CPD record.

Record and disseminate practice. The project should:

- provide a powerful and flexible template for innovative teachers to record the essentials of their work and share it with others, along with exemplars demonstrating the use of this template.
- allocate resources to support innovative teachers who participate in national or international events for the promotion of innovative practice.

APPENDIX A

Framework for evaluation of PIL Challenge Fund projects in schools

[Note: Use QIs to guide the discussion with the teacher(s) leading the project in each school, rather than as a formal Q&A session]

QI 1 Objectives

Project objectives have been clearly defined and set targets that are challenging but achievable. A plan is in place to guide the development of the project.

QI 2 Learning Tasks & Activities

Learning activities make innovative use of ICT and provide learners with opportunities to manage their own learning. Learners are stimulated and motivated to improve their performance.

QI 3 Teaching strategies

Teachers have carefully planned their teaching strategy to make innovative use of ICT and engage students in their learning. They are successful in delivering this strategy.

QI 4 Application of ICT

The way in which ICT is used is innovative to the department and supports the learning objectives well. Classroom practice is significantly transformed.

QI 5 Implementation of ICT

Information about how ICT is being used in the classroom is recorded in sufficient detail to support future analysis and review.

QI 6 Self-evaluation

The teacher(s) have carried out a review process to determine the strengths and weaknesses of the ICT-based approach.

QI 7 Teacher as a change agent

The teacher(s) are engaging and inspiring and have the potential of motivating and impacting learners and other colleagues

QI 8 Commitment

The support promised by the school in its bid document for the project has been fully realised (staff time; staff training etc).

APPENDIX B : Presentation at Scottish Learning Festival 2007

Seminar Title:

The Yellow Box – capturing the learner voice through a portable “diary room”

Seminar Description

Publication (50 words)

The importance of the learner voice in evaluation of the quality of education is now universally recognized. Digital technologies offer great potential in capturing visual or audio narratives that open up the way for better dialogue between learners and staff. The mobile video booth has been developed for this purpose.

Website (up to 300 words)

The Microsoft/SQA Partners in Learning projects support innovative teachers in the adoption of ICT in learning and teaching in their classrooms. The projects and their outcomes are presently summarised in a Virtual Classroom Tour (VCT) and then made available to other teachers through various means of distribution. It was recognized that in promoting good practice through the VCT there was no means of capturing the “dynamic” of the project – what made it exciting or what the quality of the learner experience was.

This led to a collaboration with the creative design company 55degrees, who had already established a track record of capturing the user experience through the use of technology. This involved the creation of a “suitcase acquisition system”, and the success of this implementation has led to the creation of a mobile video booth for the PIL project. This consists of a bright yellow suitcase containing a laptop, lighting rig and speakers. The system is fully automated and can be used without any technical expertise. This presentation will describe the concepts that underpin the system design, and how they have been realized through the mobile video booth. A PIL innovative teacher will speak about her experiences of using the video booth and the impact that this has had on designing better learner experiences.

Extract from – The learner voice, a handbook from FutureLab

“Digital technologies can be used to support learner voice and discussions around issues of importance to individuals and groups. With these tools, learners can create powerful visual or audio narratives, or ways of representing their views, feelings or ideas. These open up possibilities for greater and better dialogue between learners and staff. These may be of particular use for those learners who are reticent, for one reason or another, to represent their views through more traditional means”

Speakers

Gillian Graham, Acting Depute Head, St Cadoc’s Primary, East Renfrewshire

Russell Henderson, Director, 55 Degrees, Glasgow

Please come to the diary room

By Henry Hepburn

A "DIARY ROOM" similar to that used on Channel 4's *Big Brother* is helping children open up and express themselves in the classroom.

The Yellow Box is a portable diary room, including a laptop and a camera inside a toolkit-style box, which has been used in about 12 Scottish classrooms.

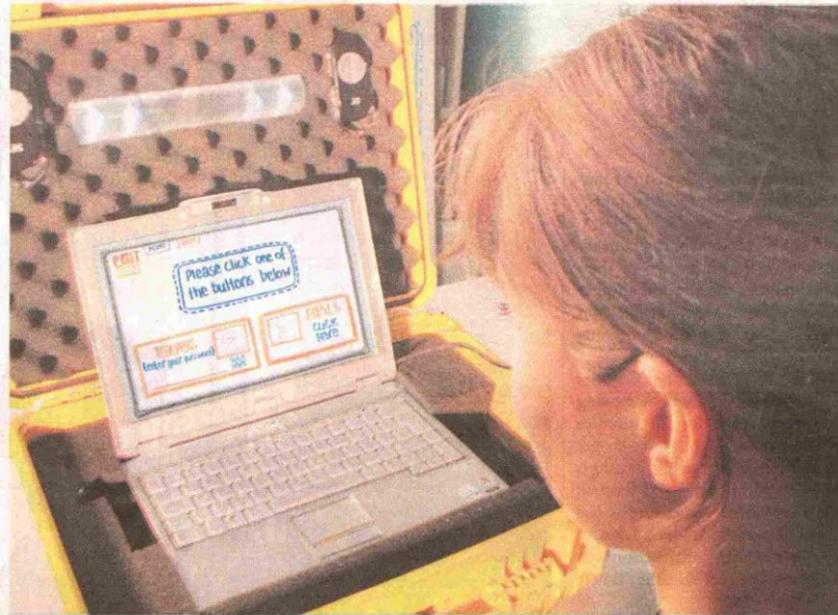
Gillian Graham, who recently became depute head at Crookfur Primary in Newton Mearns, was impressed with the impact of the Yellow Box when she used it in the classroom for health promotion work while she was at St Cadoc's Primary in Glasgow.

It was easy to use – she got it on a Monday, learned how to work it that night, and by Tuesday afternoon the pupils had used it themselves and were looking at the results.

The box was used by the children to look back on how their work, involving animation, had gone.

Pupils were enthusiastic about being able to record their own views and play them back almost immediately. One pupil said: "You can get nervous talking in front of people. If you are doing it in front of the booth, it's not so bad because it's not a person."

Staff found that the box encouraged self-evaluation and that chil-



The Yellow Box, a portable diary room, is easy to use and allows pupils to open up about themselves, should they need to

dren expressed their views independently. It was also seen to support Assessment is for Learning.

The Yellow Box works well with youngsters who are growing up well acquainted with what has become known as "user-generated content".

UGC, as it is most frequently referred to, is best known through websites such as YouTube and MySpace, which rely on the public for their content.

The project was presented at the Scottish Learning Festival last week, where a group of teenage

girls were among those to be impressed in the audience.

They felt the Yellow Box would work well in many school situations, as pupils are often uncomfortable talking directly to teachers.

"If a child is bullied, it might be easier to talk to than a teacher," said

one girl. "If you're criticising (teachers), it might be easier to say it to a computer," said another.

Officially, the project is called Education and Monitoring for Innovative Teachers, but the yellow box in question – an almost indestructible container of toughened plastic – has firmly embedded itself into the minds of those who use it. Hence it is usually referred to as the Yellow Box.

The idea was developed by Glasgow-based design company 55 degrees before the first series of *Big Brother* in 2000 ingrained the idea of the diary room into the public consciousness.

The Yellow Box project only started in schools in 2006, as part of the Partners in Learning project between the Scottish Qualifications Authority and Learning and Teaching Scotland, which promotes use of ICT in learning and teaching.

Schools were asked to submit bids for grants that would allow them to use the Yellow Box for work in various topics. Successful bids cover subjects including health promotion, geography and music.

The Yellow Box should become commercially available to schools next year, although it is not yet known how much it will cost.

● www.55degrees.co.uk/solutions/learning/index.php

APPENDIX D: VCT website traffic data

Virtual Classroom Tour Stats from SQA website 2007 & 2008

Page	October		November		December		Totals (2007)	
	Visits	Page Views	Visits	Page Views	Visits	Page Views	Visits	Page Views
Virtual Classroom Tours Home	42	78	51	91	163	296	256	465
What is a VCT?	13	23	12	26	41	71	66	120
Challenge Fund	20	44	14	24	42	75	76	143
Innovative Teachers Project	31	127	51	174	112	258	194	559
	Overall						592	1287

Page	January		February		March		April		May		Totals (2008)	
	Visits	Page Views	Visits	Page Views	Visits	Page Views	Visits	Page Views	Visits	Page Views	Visits	Page Views
Virtual Classroom Tours Home	3979	8226	646	1269	578	1109	253	483	580	958	6036	12045
What is a VCT?	869	1478	143	292	125	270	69	147	123	201	1329	2388
Resources	n/a	n/a	n/a	n/a	320	801	293	711	544	1180	1157	2692
Other contributed resources	34	67	61	99	35	72	23	46	37	71	190	355
Challenge Fund	1174	1668	172	275	37	66					1383	2009
Innovative Teachers Project	2024	5071	371	797	100	218					2495	6086
	Overall										12590	25575

APPENDIX E: Details of Challenge Fund Projects 2005 & 2006

Name of school	Education Authority	Lead teacher	Project Title	Amount	Year
PRIMARY					
Auchenback PS	East Renfrewshire	Kirsty Macdonald	Using ICT creatively to produce animations on issue of bullying.	£1,200	2005
Dunrossness PS	Shetland	Mrs Alex Thorp	IWB & Laptop in the teaching of pupils with Additional Special Needs	£2,000	2005
Morebattle PS	Scottish Borders	Miss J Nimmo	Portable ICT equipment to enable pupils to create Europe project (in small rural school) (Sandra Davidson now HT)	£2,000	2005
Knightswood PS	Glasgow City	Geraldine O'Sullivan	Production of French Language CDs by P6/7 pupils	£1,250	2005
Park PS	Dumfries & Galloway	Sheila Baillie	School handbook DVD produced by pupils (P1-P7)	£1,000	2005
Mossneuk PS	East Renfrewshire	Craig Connon	Interactive mental maths using IWB	£2,000	2005
Glentrool PS	Dumfries & Galloway	Mrs Andrea Kay	Celebration of school history through multimedia	£1,400	2005
St Cadoc's PS	East Renfrewshire	Gillian Graham	Health promoting video produced by pupils	£1,900	2005
Langlee PS	Scottish Borders	Mrs Caroline Belleville		£1,000	2006
Inverurie PS	Aberdeenshire	Cara Shinnie	Digital Blue Movie Creator used for training teachers and taking ICT around primary schools in Inverurie area.	£1,000	2006
Luthermuir PS	Aberdeenshire	Marjory Smith	Animation project for MFL in primary	£1,800	2006
SECONDARY					
Bankhead Academy	Aberdeen City	Kevin Simpson (PT Maths)	Class voting system for the development of maths teaching	£2,000	2005
Campbeltown Grammar School	Argyl	John Watson (PT Science)	Pocket PC dataloggers in science investigations	£2,000	2005
King's Park Secondary	Glasgow City	Aileen Monaghan (PT Music)	Digital Drumkits to enhance repertoire of music pupils	£1,700	2005
Dunbar Grammar School	East Lothian	Ollie Bray (PT Geography)	Podcasts on revision topics in Geography	£2,000	2005
St Ninian's High School (Art)	East Renfrewshire	Monica Durning (PT Drama)	Pupil Design Company to design & create using ICT	£1,000	2005
Aberdeen Grammar School	Aberdeen City	Lorraine McKay (Modern Lang)	French language podcasts for MFL revision	£1,000	2005
Forres Academy	Aberdeenshire	Emma Harris (Modern Lang)	German language podcasts for MFL revision	£1,500	2005
Larbert High School	Falkirk	Paula Gander (PT Art)	Animation project in support of Music Video Academy project	£1,900	2005
Paisley Grammar School	Renfrewshire	Andrew Dickie (PT Music)	Digital Drumkits to enhance repertoire of music pupils	£1,600	2005
St Ninian's High School (ASN)	East Renfrewshire	Gerry Struth (DHT)	ICT projects for ASN pupils transferring from primary to secondary	£1,500	2005
Larbert High School	Falkirk	Andrew McLean	Music instruction videos to help widen repertoire	£1,000	2006
St Ninian's HS	East Renfrewshire	Ms Linzi Mitchell	Video recording and back projection screen for drama productions	£2,000	2006
The Gordon Schools	Aberdeenshire	Mr Sandy Forrest	Maths initiative using IWB to engage boys in S Grade maths.	£1,400	2006
Banff Academy	Aberdeenshire	Mr Alan Dunnet	Video recording to help learning in drama and PE	£1,500	2006
St Stephen's High School	Inverclyde	Mr George Gallacher	Use of video/audio recording to create podcasts for RE	£2,000	2006
SPECIAL & NURSERY					
Hillside School	Independent	David Noble	Podcasting of sensitive information for youths in care	£1,500	2005
Mavisbank School	North Lanarkshire	David Smith	Communication equipment for young people with serious disabilities	£1,000	2005
Richard Stewart Nursery	North Lanarkshire	Margaret McCluskey	CCTV to allow nursery pupils to interact with their external environment	£1,500	2005
Seaton School	Aberdeen City	Eleanor Sheppard	Digital mapping to enable pupils to understand their local environment	£1,400	2005
Clippens School	Renfrewshire	Ms Fiona Catterson	Project stalled due to teacher being seconded out of school.	£1,200	2006
Drumblade Nursery	Aberdeenshire	Ms Jenny Gregory	Formative Assessment in Nursery using Activote system.	£2,000	2006
Hillside School	Independent	David Noble	Using Flashmeeting to support group of teachers (The Access Network)	£600	2007