

**Harnessing Technology:  
New modes of technology-enhanced learning  
Action research**

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## Introduction

This document draws together five action research projects. The projects took place in a variety of locations, from infant and primary schools through to two collaborating further education (FE) colleges and higher education (HE) lecturers at locations across Europe and Africa. The connecting thread is that all have involved harnessing technology in order to effect change through the adoption and use of new technologies in a range of settings.

The next section of this report is:

- **Framework:** We set out a framework for the action research commissions.

Followed by the five action research reports:

- **Southwark Primary School**
- **Fast Forward Hull** (FE adult literacy)
- **Olney Infant School**
- **Open University** (educational resources)
- **Djanogly City Academy Nottingham** (Key Stage 3).

And finally:

- **Synthesis and insights:** We revisit the projects to tease out the similarities and differences, drawing fresh insights about the nature of technology and change in education.
- **Concluding observations:** Finally, we draw some concluding observations about the management of change.

## Framework

Some technologies have been adopted widely in specific sectors – for example, virtual learning environments (VLEs) in higher education, and interactive whiteboards (IWBs) in schools. A few technologies for learning – for example, presentation software and data projectors – have been widely adopted across all sectors. Technology continues to be increasingly adopted and used by educational institutions across the country, but examples of cutting-edge technology being harnessed to transform teaching and learning remain the exception rather than the rule (Becta, 2008).

Problems of changing long-embedded pedagogical practices and perceived threats to existing professional identities mean that for technological innovation to be sustained within the mind-sets and practices of individuals and organisations, or indeed disseminated beyond, supportive and forward-looking leadership and wider support are also required (Hargreaves and Fullan, 1998). Technological innovation that challenges historical teacher–learner and teaching learning relationships often requires changes of attitudes, roles, and relationships between teachers and learners, as well as the acquisition of new skill sets. Moreover, although enthusiasts (early adopters) are necessary for successful organisational change, they may present problems of knowledge transfer where the enthusiast(s) are not themselves effective leaders, skilled in processes of social influence.

There are a diversity of purpose and practices across the five action research projects, as discussed in the following sections. There are also two common characteristics across the projects:

- the presence of technology champions (albeit of very different backgrounds and characters) keen to meet a challenge or make improvements
- a range of leadership support and/or wider agencies.

Successive top-down initiatives have succeeded in increasing adoption of a range of technological software and hardware within education. However, their organisation-wide impact on educational practices is less apparent (Ofsted, 2004; Ofsted, 2007).

Increasingly it is being acknowledged that practitioners need to become not only rationally persuaded of the advantages of harnessing new technologies but also emotionally committed if teaching and learning is to be transformed. Action research offers a way forward to this end (Somekh, 2006).

Although attempts to define action research vary and are often problematic, all tend to emphasise the role of the practitioner as a researcher, and hang on the maxim ‘if you want to understand something, change it’ (Lewin, 1946). For a brief and

accessible overview of technology-focused action research within educational contexts, see Selwood and Twining (2005).

## **Southwark Primary School**

**Authors:** Ian Jones, University of Nottingham; Louise Bussell, Southwark Primary School.

**Context:** A large inner-city primary school due to move to new specially built premises and undergoing transformation of curriculum and teaching and learning.

**Aim:** To enhance teaching and learning through ICT.

**Outcome:** An uncertain ICT co-ordinator transformed into an innovative practitioner.

## **Introduction and background**

Southwark Primary School in Nottingham is a split-site infant and junior school that will be moving to new specially built premises in February 2010 as part of the Building Schools for the Future programme. The new build will include unconventional features such as a courtyard, hub spaces and relaxation areas, to promote new modes of teaching and learning. Preparations for the move include revising the curriculum to this end, and investigating how ICT can help to foster and enhance new modes of teaching and learning.

The current ICT provision is as follows. The school has two ICT suites, both in the juniors' building; they contain approximately 16 computers plus one linked to a projector for teacher demonstration. At the infants' site there are 15 laptops for use in classrooms. These laptops contain the same software as all other computers and connect to the school wireless network in order to allow access to the internet and saved files. The laptops are stored in a locked laptop trolley in the ICT room (the key to this is in the office) and can be booked out using the timetable displayed on the laptop trolley. The computers run on two separate networks – one for each building; all computers are linked to these networks. Each building has a server computer situated in the ICT suite.

All classes (including nursery and reception) have an interactive whiteboard (IWB) which is attached to a computer. In all Key Stage 1 classrooms there is also an additional computer for the children to use. All classroom computers and IWBs have internet access and are linked to a choice of laser printers. At the infants' building there are printers in the library area.





Images taken from: <http://www.building.co.uk/story.asp?sectioncode=745&storycode=3130698&c=1>

**Figure 1: Southwark Primary School**

## Research focus

The focus of the research was on harnessing technologies to support the revised curriculum and new modes of learning and teaching when the school moved to a new building in February 2010. The research aimed to find out:

- Which technologies (hardware and software) should the school obtain for the move to the new building?
- How are technologies currently being used by teachers?
- How can these technologies transform learning and teaching?

Certain external constraints needed to be acknowledged. First, there was a budget restriction on the hardware and software that could be bought. For example, if the school decided to provide all pupils with a handheld learning device, this would severely restrict the number of station-based PCs that could be bought. Second, the school has only external technical support and no on-site technician in the new build, therefore the physical sustainability and robustness of ICT infrastructure and equipment had to be considered from the offset, and solutions found that would work without the need for much technical support. Third, there was limited support available in terms of consultation and expert advice on the decisions that needed to be made. Most of the main decisions fell upon the school's ICT co-ordinator, Louise Bussell. This final constraint was the key justification for taking an action research approach to investigating the questions.

## Participants and methods

The principle researcher was Louise Bussell, who is the ICT co-ordinator of Southwark Primary School. Louise was supported by Ian Jones from the Learning Sciences Research Institute, University of Nottingham. Other principal participants included Michaela Saunders (headteacher), Hayman Mak (Year 4 teacher) and Claire Jones (Year 2 teacher). There was also involvement from other Key Stage 1

teachers, Professor Chris Day (University of Nottingham), Janet Simner (Nottingham e-Learning Centre) and Martin Rinvolutri (Nottingham City Council).

The methods employed in the research involved:

- visits to other schools considered to be innovative
- talking with innovative practitioners, as well as educational technologists and advisors
- attending the BETT show
- surveying the current usage of ICT by teachers at Southwark Primary
- holding workshops and INSET days for teachers at Southwark
- conducting lesson observations of teachers at Southwark, when trying out new approaches with ICT with their classes
- written reflections of teachers who had tried out new approaches.

Most of the above methods were planned and carried out by the principal researcher, Louise, with assistance from Ian Jones and Chris Day where and when required.

The data was collated and used to make informed judgements in an iterative and reflective manner. How this happened is described in the following section.

## Findings

The findings are presented for each of the three research issues.

### **Which technologies (hardware and software) should the school obtain for the move to the new building?**

The school began with endorsements from e-learning consultants about the value of PDAs. Despite this expert advocacy of handheld technologies, the researchers were concerned that personalised devices would encourage a constructivist view of learners as 'lone scientists' (Bruner and Haste, 1987) working in isolation and at their own pace under teacher direction. This stood at odds with the socio-cultural view of learning which is central to Southwark's philosophy and the new Primary Framework (DCSF, 2006) and values working as a team to achieved shared goals, and listening and speaking together with other pupils. In order to be reassured of the value of handheld devices for supporting a socio-cultural approach to teaching and learning, Southwark needed to see working examples in other primary schools. Louise spoke to the deputy headteacher of a primary school that uses PDAs (called 'School M' in this report) and optimistically reported that:

"I am assured that these small devices encourage and engage children tremendously. Children can take video footage, stills and voice record all in one...

This could really help group work and speaking and listening. Linking this with theme weeks, science experiment[s] and... English work seems seamless.”

However, despite this promising start, when Louise arranged a visit to School M she was informed that it was experiencing significant staff training issues and that PDA use was not happening. Louise attempted to arrange a visit to another school that uses PDAs (‘School A’), but it was somewhat unresponsive and nothing came of it. Various other schools were identified but none could be found that were beyond a pilot phase.

Unable to see an example of a primary school using handheld devices in an established and demonstrable sustainable way, Southwark Primary began to consider whether the pedagogical benefits claimed for small, all-in-one devices were achievable using the school’s existing technologies. Louise investigated Southwark’s existing hardware and software and discovered:

“We have the technology to do this already. Our digital cameras take stills and 11 minutes worth of video footage.”

It also became apparent that the existing equipment had affordances that perhaps would not be possible with all-in-one devices:

“Children can upload [stills and footage] easily and quickly onto laptops or desktops and then manipulate them as they see fit. Is this possible on a PDA?”

In this way, the researchers’ focus shifted from the pedagogic potential of all-in-one handheld devices, which remained from the school’s point of view hypothetical due to the lack of working examples in other primary schools, and on to harnessing the technology the school already possesses in more transformative ways. This shift began gradually with Louise cataloguing and making more available equipment for the junior school. She soon found that the digital cameras were being regularly booked by junior teachers. (The question of making existing ICT more accessible to teachers is addressed more fully in the next section.)

The school had to decide whether to opt for all-in-one portable devices or traditional computers (laptops or desktops) that would be based throughout the school and support uploading of data from discrete peripheral devices (cameras, data-loggers, voice-recorders). The latter option proved attractive because of the:

- purely hypothetical (from Southwark’s point of view) nature of claims made for all-in-one handheld devices, as discussed above
- clear enthusiasm for, and take-up by teachers of, existing equipment when tested, catalogued and made more accessible by Louise

- familiarity of traditional computers to staff and pupils, especially in terms of existing educational packages and standard activities such as word processing
- emergence of smaller laptops that are portable to a reasonable extent, yet still fully functional
- lack of on-site technical support in the new building, which meant the school needed equipment that was familiar and tried and tested – staff and some pupils were versed in at least basic trouble-shooting with traditional computers, whereas handhelds would be unknown territory for most.

### **How are technologies currently being used by teachers within the school?**

This second question was addressed in three ways, by:

- **Key Stage 1 teachers' use of laptops:** The infant department (Key Stage 1, children aged 5–8 years) of Southwark Primary School has a trolley of 15 laptops that can be booked and used by teachers in their classrooms. The researchers were interested in how teachers used these laptops, and in particular in the autonomy of younger pupils in getting out, operating and putting away the laptops in lessons. To this end, a survey sheet was designed for teachers to complete every time they used the laptops in a lesson. The sheet was designed to be quick and simple for the busy teachers (or their teaching assistants, where appropriate) to fill in at the end of a lesson. A copy of the survey sheet is shown in Appendix A1. The sheets were filled in by teachers over a six-week period from late October 2008 to early February 2009. In total, 17 sheets were completed by five teachers of Year 1 and Year 2 children (12 of these sheets were completed by a single teacher, Claire Jones). The findings are summarised in Appendix A2.

The key finding was that even pupils as young as five are capable of getting out, operating and putting away the laptops. Moreover, teachers used the laptops in a variety of ways, as discussed in the bullet point 'Classroom observations of teachers using technologies' below. In many cases, pupils worked two to a laptop because of the limited number of laptops available. This was not ideal; in a lesson where only ten pupils were present, a teacher commented:

"Had enough laptops (plus the class PC) for one each, and this was amazing! Hadn't realised just how nice [this] would be!"

(Similarly, a Key Stage 2 teacher noted that laptops fitted into lessons much better when used by small groups than by the whole class. In fact, this teacher aspires to her pupils seeing a station of laptops as a continually available extra resource, rather than distinguishing between 'laptop lessons' and 'normal lessons'.)

- **Testing, cataloguing and making more available to teachers the existing technology within the school:** Louise tested, catalogued and made more available to teachers existing software and peripheral devices (cameras and data loggers). A class set of voice recorders was also ordered. A staff ICT day was held and attended by three Southwark teachers (Louise Bussell, Claire Jones, Hayman Mak) and Professor Chris Day. The day was spent looking at software and hardware, discussing implementation issues, including basic skills such as typing for younger pupils and pupils with special educational needs (SEN), and looking for opportunities to incorporate ICT in planning. The teachers also agreed to try something out with their classes following the ICT day. Some of these lessons were observed and the teachers also reflected on their experiences.
- **Classroom observations of teachers using technologies:** Lessons were observed. An example of the observation notes taken are provided in Appendix A3, and an example of some written reflections by a teacher are provided in Appendix A4.

Two key uses of ICT can be seen in the data (as well as the Key Stage 1 laptop survey data):

- The use of specialist educational software to foster pupil engagement with subject content, notably mathematics.  
However, one teacher noted that engagement may be partly linked to the novelty factor (see Appendix A4, 'Use of laptops'). However, she saw this as an opportunity for pupils to gain skills finding specified networked and online activities themselves.
- Collecting and processing data.  
For example, in Appendix A3, a Year 5 class used handheld voice recorders to record their observations in a local park as part of field work for a science lessons. However, this was the first time the pupils had used the audio equipment, and the focus was more on pupils' ICT skills in using it; the teacher was unsure what would be done with the audio data in follow-up lessons. In some lessons, pupils uploaded their photographs and movies, and even attempted some editing in Windows Movie Maker (see Appendix A4). However, the theme throughout all the data we collected on teacher's existing uses of ICT is that of skills rather than transforming learning and teaching.

## How can these technologies transform learning and teaching?

It was established that the school's existing technologies could be used innovatively, and that teachers would be prepared to use them if made accessible (see previous section). However, Louise was concerned that more needed to be done to ensure

that learning and teaching would be transformed by the use of ICT. ICT was used to foster engagement and to collect data and process data in the context of individual lessons, but additional thought was needed as to how teachers might take these lessons beyond an explicit focus on ICT skills. For example, how might pupils engage with subject content (see Appendix A4) beyond the use of specialist educational software? How might audio data collected on a field trip (see Appendix A3) be used to enhance the learning and teaching experience in later lessons?

There were some innovative examples beginning to happen within Southwark. For example, one Year 4 teacher used voice recorders as a tool to support reading for low-literacy-achievement pupils in her class. In a lesson requiring children to gain information from text, she pre-recorded the script using a voice recorder, so that SEN children could listen and pick out the information they needed without struggling to read the text.

However, such exceptions aside, Louise identified a clear need to ensure that ICT was considered at the planning stage to ensure it maximised pupils' access to and experience of the National Curriculum. However, there exists quite a gulf between seeing the need and opportunity to innovate further, and thinking of practical and effective ways to go about this.

A breakthrough came when Louise and Ian Jones went to visit Tom Barratt, an innovative practitioner in a nearby school. Tom is well known among the innovative community and keeps a popular blog (see <http://edte.ch/blog>). The intent was for Louise to see an example of innovative practice in action. Due to unforeseen events at Tom's school, the visit had to be put; Louise then visited on a day when Tom was not using technology as part of a lesson. Nevertheless, Tom introduced Louise to Twitter, and in particular to a Twitter community that he is a member of.

Louise joined the Twitter community, and this proved to be an unanticipated breakthrough that could not have come at a better time. Louise was able to interact synchronously and quite effortlessly with a wide group of supportive, innovative and experienced practitioners. (An example screen grab from her Twitter page is shown in Appendix A5). This boosted Louise's knowledge, confidence and sense of identity as an ICT co-ordinator to the point where she started a blog called The life of an ICT co-ordinator (see example excerpt in Appendix A6), which quickly received five comments in response to her first post. Moreover, these comments were supportive yet substantive, enabling Louise to get feedback and ideas quickly, if asynchronously. It soon became obvious to Louise that in many cases it is not necessarily the device that transforms the curriculum but the way it is used and the software used on it. Through the Twitter network, Louise sourced a number of free software programs that have been invaluable. The links Louise continues to make have increased her subject knowledge and confidence. She has been able to read blogs such as <http://ideasandthoughts.org>, which have helped shape how she now views teaching in general, not just ICT.



Louise has had much success in finding content specific resources through the use of her Twitter account, which include the BBC motion picture gallery, Scratch and TeacherTube. There is a lot of give and take on Twitter, and Louise has begun to recommend resources to other Twitterers such as the ‘... nice number generator’ (Appendix A5) as her confidence has grown. The community that Louise has become a part of gives her chance to hear about things that are already working in other places. For example ‘stevebob79’ posted a link to a whole scheme of work on e-safety, with progression through the school years. Louise is now planning to use this to form Southwark Primary’s e-safety scheme of work.

A number of online interactions with innovative practitioners through Twitter enabled Louise to find technologies that aided learning concepts rather than being content-led. One instance was when a colleague (Cat) asked Louise for assistance with an email project she was about to embark on with her pupils. Cat expressed security concerns about children having access to email logins and passwords. Cat had approached this problem by creating a class email account which all the children would be logged in to before the lesson started in the ICT suite. Cat was disappointed with the results, as the site continually crashed and the whole process seemed very ‘forced’ rather than having the seamless flow that should be expected. It almost seemed that writing letters and posting them would be easier. Louise posted a query on Twitter (Appendix A5) and within hours was advised about a free filter system which children can use and teachers can monitor. This advice was both fast and reliable, because it came from someone who was already using it and could answer all her questions (“Do you get loads of [advertisements]?” and “Are they appropriate for primary children?” and so on).

Other software that aided learning is the Smart screen recorder, Jing, mind mapping, VoiceThread, Delicious and Prezi – all of which were recommended or talked about on Twitter. In planning for literacy across Southwark Primary School, Louise included a short video clip showing how to use the thesaurus in Microsoft word and the ‘Read Please’ packages. These were warmly received by colleagues. Louise was very encouraged that staff were helped by the videos; she intends to make videos as part of her ICT planning, to show teachers how to operate complex software even when she is not at school. Louise set up her own Delicious account ([http://delicious.com/lou\\_1](http://delicious.com/lou_1)) which helps her to bookmark web pages. She found this to be a great help when showing colleagues different websites. Without having to remember a long web addresses, staff can access Louise’s Delicious account and find the correct website and revisit the site quickly and efficiently. In the coming months, the school will create a Delicious account so children can access a good range of educational web address through one web address.

Louise plans to continue supporting staff through disseminating the findings of this action research. There are lots of things she thinks she can share with the staff, but is keen not to overwhelm them and to select issues and technologies carefully.

Louise is involved with weekly EdTech video conferences (<http://edtechroundup.wikispaces.com/Meetings>) with other teachers on Sunday evenings, one of which was about disseminating technology-based innovative practice to colleagues within a school. Louise and some of her colleagues planned to attend the TeachMeet conference, which is arranged by teachers for teachers, and held at the National College for School Leadership in May. (The Midlands 2009 TeachMeet is here: <http://teachmeet.pbwiki.com/TeachMeet-Midlands-2009>)

## Discussion

Louise was satisfied that the existing technologies (software, peripheral devices, laptops) had great potential for teaching and learning, and that the budget should be used to build on and enhance these in the new school premises. This would mean buying laptops for the school, particularly as it had been demonstrated these could be cared for and operated by pupils themselves, including the youngest. Moreover, teachers showed enthusiasm for using equipment when it was made more available, and some modest training and development was provided by Louise in the form of staff meetings, INSET and video tutorials.

This was a positive start: having technology in place and teachers willing to try it out is of course an essential foundation. Nevertheless, Louise realised through her research that the technology was not having a particularly transformative effect on teaching and learning nor adding obvious value to curriculum and planning. The laptop surveys, teacher reflections and lesson observations were encouraging but also showed an emphasis on ICT skills and working through specialist software lesson by lesson. Where teachers tried out more ambitious activities, such as getting their pupils to collect data, they were unsure what to do with the data or how to provide continuity into following lessons.

The breakthrough came when Louise became involved with a community of innovative practitioners both in Nottingham and further afield through Twitter, blogs and video conference (EdTech) meetings. This has resulted in a transformation for Louise in her role as ICT co-ordinator and classroom practitioner. As she commented in a recent blog post:

“Wow, what a two weeks. My confidence in ICT for the primary classroom has been completely re-energised.”

Louise now feels in a strong position to disseminate not just the use of ICT but innovative, transformative practice to her colleagues.

## Concluding comments and further work

It has been reported in the literature individual (eg Zhao *et al.*, 2002) that institutional and practitioner transformation often depends on the presence of an enthusiastic and innovative individual. There has been much focus on how innovative practice



might spread from such individuals within institutions and to other institutions. However, less work has been done about how an individual might go through the process of becoming an enthusiastic innovator themselves. This research project has provided one such case, and no one has been more surprised by the dramatic transformation than Louise herself. It is without doubt that the support of the Headteacher and the openness of many of Louise's colleagues were enablers in this process. However, the epiphany came relatively late in the research process when Louise became part of a larger, informal, grassroots community of practitioners who interact continuously online.

Much remains to be done, and it is in the nature and intention of action research that, ideally, transformations continue long after the official research window has closed. However, Louise is armed with knowledge (ie the findings from this research), a support network and confidence to take things forward as Southwark Primary School readies itself for the move to new premises. It is clear that this would probably not have been the case had Louise not had opportunity to engage in this research.

We finish with a comment on the research from the Headteacher at Louise's school:

"This has been an important and successful project for the school and the support of the university has proved invaluable. Firstly it has enabled us to audit our current practice thoroughly and also consider the options in terms of future technology. This has given us a far greater knowledge base to draw upon in our decisions about ICT provision for our new building.

The impact of the project as a model of action research as a future for subject leadership has also been considerable and extended beyond our current ICT subject leader, facilitating a distributed team approach. The impact on the use of technology in classes is already apparent and is set to continue in the future as we prepare to move into new facilities."

## **References: Southwark Primary School**

Bruner, J. and Haste, H. (Eds) (1987). *Making Sense: The Child's Construction of the World*. London: Methuen.

Zhao, Y., Pugh, K., Sheldon, S. and Byers, J. (2002). 'Conditions for classroom technology innovations', *Teachers College Record* 104(3), 482–515.

## **Fast Forward Hull**

**Authors:** Julie Hooper and Wendy Mayes, Sheffield College.

**Context:** Further education (FE) tutors from Sheffield College with a history of successful innovation assisting tutors in Hull to develop a personalisable ICT resource for adult literacy.

**Aim:** To transfer innovation from one authority to another.

**Outcome:** Multiple agency support and keen tutors enabled successful transfer.

### **Introduction and background**

The Fast Forward Hull (FFHull) project originated with the Made in Sheffield programme devised by Sheffield College. The action research reported here investigates the success of an attempt to transfer the resource from Sheffield to Hull.

The focus of Made in Sheffield is on teaching life skills, including digital skills, to improve independent living. (Some of the students have learning difficulties.) The programme is built around the theme of living in Sheffield, and topics include moving around the city using different forms of transport, map reading, Sheffield people and Sheffield places. By encouraging the use of online resources, the course improves digital literacy. The course is available both on the Sheffield College intranet and in the form of paper booklets. Students work towards the Adult Literacy Core Curriculum qualification by passing national literacy tests at Entry Level. Made in Sheffield was originally aimed at 16- to 18 year-olds, but has also proved popular with many young adults.

The action research reported here began when the FFHull resource had been designed and published (the design process is described in the section 'How can an innovation be transferred?') and was being disseminated 'cold' to tutors in Hull. The research enabled the designers (who were from Sheffield College and Hull College) to find out whether and how the resource was being used, and to intervene accordingly. The specific issues for research are detailed in the following section.

### **The Fast Forward Hull resource**

FFHull is an e-learning resource for use by FE tutors in Hull who are delivering the Adult Literacy Core Curriculum (DIUS, 2000). Participants are adults outside of paid employment, with limited qualifications and work experience. Specific learning aims of the resource are to improve learners' literacy, including digital literacy, and help prepare them to seek and apply for jobs in Hull.

The resource comprises PDFs, on a memory stick, with spaces for learners to type (see Appendices B1–3). There are also accompanying printed workbooks of the PDFs. The PDFs are contextualised to the Hull region and contain case studies of real local people, including local celebrities (see Appendix B1) and people with backgrounds and stories similar to those of the participants themselves. Some of the PDFs mimic real application forms, job adverts, and so on – learning to fill in forms in paper and digital formats is a key skill for learners to develop. Learners keep the memory stick and can store further information on it.

## **Research focus**

The research focused on the following three issues:

- **How can an innovation be transferred?**

This was the overarching issue of the research: could the successful Made in Sheffield innovation be transferred to Hull?

The issue of transfer is particularly interesting as the Made in Sheffield resource was contextualised to the locality, backgrounds and needs of learners in Sheffield. The resource needed to be redesigned for different people in a different location. This required not just changing the locations used from Sheffield to Hull but also accounting for the different needs of learners in Hull. For example, the Made in Sheffield resource was designed for people who had been out of work for a relatively short period and needed refreshed or different skills. The typical learner in Hull, however, might never have been in work and might even come from a family and culture where people had not been in work for some generations.

- **What barriers to take-up are encountered?**

Once the resource had been redesigned for Hull and disseminated to tutors, there was no guarantee it would be used. We were keen to find out about the process of transition from tutors getting the resource to them using it in their lessons. Many of the barriers might be expected to be quite basic, for example there could be a mismatch between the technology that designers expected and assumed to be present and the technology that tutors have in their classrooms.

- **How are tutors using the resource?**

Assuming that some tutors would use the resource, there was the important issue of how tutors would use it. We were concerned that inexperienced tutors, in particular, might just go quickly through each section of the resource rather than use it as a springboard for deeper, more engaging learning. In fact, as discussed below, this concern proved ungrounded, and tutors were inspired to use the resource in a variety of

innovative and inspiring ways.

## **Participants and methods**

The principal researchers were Julie Hooper and Wendy Mayes from Sheffield College. Key participants were Lisa Garfitt and Greg Poole from Hull College, as well as Ian Jones, David Kay and Kim Balmer from the project team.

The methods employed in the action research involved:

- surveys of tutors' e-maturity
- discussions and interviews with the FFHull resource designers
- expert feedback on the resource from a personalised learning environment sandpit event at the University of Nottingham
- a workshop in which tutors from Hull discussed the resource
- forms filled in by tutors at the workshop
- feedback forms from tutors who had tried the resource in their lessons.

Most of the above methods were carried out by the tutors from Sheffield College (Julie Hooper and Wendy Mayes), with assistance from project team members Ian Jones and Kim Balmer as required.

## **Findings**

The findings can be considered in light of the three areas of research focus.

### **How can an innovation be transferred?**

How can a resource that is contextualised to one particular location and set of learner needs be redeveloped for a different context? Three aspects were key to this:

- Redesign of the resource
- Collaboration of various institutions and bodies
- Innovative tutors.

#### *Redesign of the resource*

In March 2008, tutors from Hull met with the Sheffield tutors on several occasions to discuss the resource: what was needed, the levels it should be aimed at, and its content. The Sheffield tutors had already produced *Made in Sheffield* and so had an idea of what the Hull equivalent might contain, but the Hull tutors had to bring the local flavour to it. Of course, local can mean different things to different individuals, and some people in Hull may have no connection at all with certain aspects of the city, such as its fishing heritage. The focus needed to be general, and so we used

relatively famous people and well-known situations and landmarks, which might not be recognisable to everybody, but would at least be known across a general mix of the population. (An example of a contextualised page from one of the workbooks is shown in Appendix B1.) We also tended to focus on new and progressive ideas for the exercises, pictures and other content, to give the sense of a vibrant and exciting city, full of opportunities. Our intention was to look forward as opposed to looking back, as reflected in the title, Fast Forward Hull.

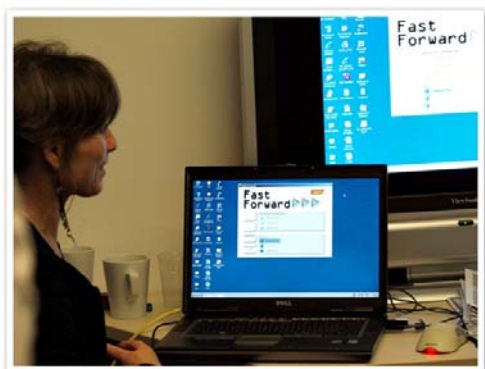
Nevertheless, there are many similarities between the Sheffield and Hull versions. There were clearly a lot of activities and exercises in Made in Sheffield which relate to general things that all employers are looking for. The same went for some of the literacy activities and exercises. For example, an equivalent page to that shown in Appendix B1 exists for the Sheffield resource, but features famous people from Sheffield.

An innovative aspect of the redesign was the use of a memory stick for the electronic version of the materials (see Appendix B2; the materials are also available for download at [www.digital2020.org.uk/skills/resources](http://www.digital2020.org.uk/skills/resources)). The digital version combines literacy with IT skills such as typing, and the use of a memory stick means students can carry the materials and access the content from any machine. The memory stick can be personalised: learners can add their own photographs of Hull, store job adverts, keep digital copies of their CVs, and so on. This personalisation leads on naturally from the activities and exercises; for example, students can use the activity page shown in Appendix B3 as the basis for making their own CVs. In this way, tutors can provide a seamless transition from the supplied pedagogical activities and students' job seeking in the real world.

A technological resource cannot itself guarantee good teaching and learning (Kritt and Winegar, 2007). Nevertheless, the FFHull resource is highly attractive and, as discussed below, elicited positive responses from tutors. Certain key design features help to ensure this, including:

- The memory stick format means internet access is not required.
- Tutors have the option of using paper-based or electronic versions, or both.
- The resource looks attractive and is instantly recognisable to residents of Hull.
- The resource is explicitly linked to the Adult Literacy Core Curriculum (DIUS, 2000).

The resource was also showcased to experts (teachers, academics, developers) in the field of personalised learning environments at a sandpit event held at the University of Nottingham in October 2008.



**Figure 2: Showcasing the resource at the sandpit event (October 2008)**

The expert response to the resource contrasted notably with that of the tutors, and was somewhat muted. Delegates asked questions such as “Is there an automated marking system?” Other questions were about the context: “What is the target age of the learner?” However, it seemed that many delegates had very little knowledge of, or empathy with, adult learners at Entry Level. This made it difficult for some to appreciate the challenges involved in creating appropriate adult materials. There seemed to be a lack of understanding of the complex role played by the adult basic skills tutor in delivering blended materials in a range of often unsuitable environments.

#### *Collaboration of various institutions and bodies*

FFHull is a collaborative project that has brought together colleagues from different organisations, including partners in Hull who did not previously know each other, to work with Sheffield College. These partners are from Hull City Council Adult Education, Hull College and the Humber Skills for Life regional organisation, as well as Sue Hammond from the University of Hull. It is widely reported in the innovations literature that collaboration and support of various bodies is key to success, and that was true here.

#### *Innovative tutors*

There is good evidence that educational innovations and transformations are often dependent on the enthusiasm and commitment of specific individuals. This was certainly the case for the Made in Sheffield programme: its successful transfer to the Hull setting was enabled by enthusiastic practitioners and tutors within Hull – Rebecca North, Caroline Watkins, Lisa Garfitt, Greg Poole, Anne Logan and Anne Berriman – who were heavily involved in the design of the FFHull materials.

One of the tutors, Greg Poole, was asked to draw up some schemes of work and lesson plans to support tutors in their use of the resource. He aimed to produce guidelines that would enable tutors who had never used such a resource before to



make a start with it, but without being prescriptive. In order to achieve this, Greg used a 'backwards' approach of finding out how people were using the resource and capturing this in the documentation. In Greg's own words:

"I didn't produce any lesson plans until we'd had team meetings and discussions with some of the tutors who had used... both the IT resource and the paper-based. ... I think generally people, if they're informed and involved in something which they can see the value of, and I think that's critical, the value of the resource, and saw how useful it could be and then asked them to come back and discuss how they've used it. And then I did the lesson plans from that and the scheme of work from that. So it was almost like a bit of another way round idea really, it was a case of letting them run with it and give me some ideas and we can then discuss and disseminate some of those ideas and then do some actual lesson plans."

Greg's confidence in "letting [the tutors] run with it" was warranted. In fact, tutors in Hull who attended the training day held in January 2009 proved to be enthusiastic and inspired by the design of the resource (as described in the section 'How are tutors using it?' below).

### **What barriers to take-up are encountered?**

Another issue addressed by the research related to the process of transition from tutors getting the FFHull resource to using it in their lessons. In particular, we were concerned that there would be a mismatch between the technology assumed by the designers and the actual technology (and technical support) tutors have at their disposal in the classrooms in which they teach. Many FE tutors teach at locations around Hull, and the spaces they use can contain different equipment. Moreover, tutors' confidence with and attitudes towards using ICT generally and in their practice were unknown.

Happily, the feedback we received from tutors via the e-mature teacher questionnaires (Appendix B4) and January workshop feedback (see the section 'How are tutors using it?' below), while not comprehensive, suggested that initial concerns were overstated. Nineteen tutors completed the e-mature teacher questionnaires, and their feedback is shown in Appendix B4. The 'TOTALS' row, while not to be taken literally as raw figures, indicates that overwhelmingly most tutors felt confident with ICT and its use in practice. Perhaps the only concerning finding in terms of the FFHull resource, which is fully interactive, is that tutors were less confident using a SMART Board (Question a4), but even in that case less than half of tutors said they could not use one. (This must also be set against the fact that many classrooms contain PCs and projectors rather than SMART Boards.)

Tutors who attended the January workshop were also requested to feed back on their use of the resources in their teaching. The response was disappointing: only five tutors had returned their forms by the end of March 2009, and only three of

those had actually used the resources and reported no barriers. (The other two had not used the resources, simply because they were not currently teaching Entry Level literacy students.)

Overall, the anticipated barriers were not as great as initially expected because of the:

- access of most tutors who fed back to us to functioning and usable ICT equipment
- confidence and competence of most tutors in using that equipment
- enthusiasm and willingness of many tutors to enhance their teaching and lessons using new resources
- good design of the FFHull resource and the subsequent positive initial reactions it generated.

### **How are tutors using it?**

The designers were satisfied that tutors were keen on the resource and keen to try using it in their lessons. They were also satisfied that many tutors had access to suitable ICT equipment and the e-maturity required to operate it. However, they were concerned that the resource might have no impact on teaching and learning and not be used in inspired or innovative ways. In particular, they suspected that tutors may just go quickly through the resource as though it was just another set of worksheets. Instead, the resource is intended to provide inspiration for deeper thinking and more innovative ways of delivering the Adult Literacy Curriculum. A superficial approach would also miss the potential for personalisation – the prepared activities and exercises, such as searching for jobs and writing CVs, can be blended into students' actual job hunting and development of CVs.

A workshop was held in January for tutors in Hull in order both to assess how they have and might use the resource, and to encourage them to consider and share innovative possibilities. The workshop was attended by 25 tutors from Hull (including two members of the Hull designers) as well as four tutors from Sheffield College (who planned the day), and two members of the project team. The resource was presented by the tutors from Sheffield College, and much of the time was spent with Hull tutors working in groups four or five to brainstorm and share ideas on how the FFHull resource might be used to enhance teaching and learning. Participants recorded their thoughts on sheets provided (see example in Appendix B5) and then fed back to the rest of the group.

The suggestions for activities that could take place in lessons were diverse. A fairly comprehensive representation of these suggestions is given below, listed by core curriculum competencies:



- Speaking and listening:
  - Group discussions on what employers want
  - Mock/role-play job interviews/career interviews
  - Quizzes and team games about the FFHull book content
  - Trigger discussions related to Hull (slave abolition, music etc)
  - Articulating skills already possessed (child care, reliability etc)
- Reading:
  - Using a dictionary to look up key words (reliable, punctual, flexible, etc)
  - Bringing real job adverts to lessons and identifying key words/key skills
  - Further research on Hull celebrities using the internet
  - Word dominoes (tutors to create using <http://teachers.thelanguagemenu.com/Flashcards>)
  - Eclipse crossword (tutors to create using <http://www.eclipsecrossword.com>)
- Writing:
  - Creating a scrapbook of Hull celebrities
  - Writing a CV for a Hull celebrity
  - Producing a thumbnail sketch of themselves
  - Personal CV building (mind maps, spider diagrams, key words, etc)
  - Making a personal portfolio
  - Filling in job application forms.

The enthusiasm and excitement in the room was palpable. Here are a few quotes from tutors on the day:

“You could use [the FFHull resource] in a quiz type of format. Like, groupwork with a set of two teams who then come back [from using the internet] and present to see who has found out the most information”

“You get each person to find out 10 facts about each famous person [ie Hull celebrities in the FFHull books]. You’d then get them to write their own sentences including structure and punctuation and using paragraphs. And maybe get them to go through some true–false sentences.”

It was hoped that more insights about use of the materials in lesson would be gleaned from the questionnaires given to tutors who attended the January workshop. The response was very disappointing (see the section ‘What barriers to take-up are encountered?’), but one tutor reported using both the electronic and paper versions of the resource with her students, and provided the following comment:

“I think the fact that the materials are all based on the local area and local people gives the students more focus and enthusiasm as they can relate to these more easily than some other materials. Can we have some more please.”

## Discussion

The process to develop the FFHull resource involved the redesign of the Made in Sheffield resource to transfer it to the Hull context. A key innovation during this process was to provide the resource on a memory stick which can be used on any machine by the learners. The Made in Sheffield resource had been made available online and the disadvantage of this was that tutors and learners could only access it from internet-enabled machines, and needed to remember a password. Moreover, the Sheffield resource could not be personalised in the way that is possible with a writeable memory stick.

The outcome of the development process was a product that was attractive to tutors because of its appearance, contextualisation to Hull and clear links to the Adult Literacy Core Curriculum. This attractiveness came about through the collaboration of Sheffield- and Hull-based tutors, and the enthusiastic support of various agencies in Hull. However, good design is not enough to ensure that a resource is taken up and, if it is, whether it will be used in educationally transformative ways. In order to further help this process, one of the Hull tutors wrote a scheme of work and set of lesson plans intended to be guidelines for tutors who were unfamiliar with e-resources and their potential uses in the classroom. Critically, these schemes and plans were informed by feedback from a group of enthusiastic and confident tutors who tried out the FFHull resource early in the process.

Possible barriers to tutors using the resource were identified and evaluated using an e-maturity questionnaire, which was completed and returned by 19 tutors. The findings suggested a more optimistic picture than had been expected, with many tutors reporting access to functioning equipment and confidence in using it. However, caution must be exercised with this result. The sampling was opportunistic rather than systematic or comprehensive, and it may be that those tutors who are happier to use technology and try innovative approaches are also those who are more comfortable returning questionnaires (only five of the 19 tutors chose to return their e-mature questionnaires anonymously, although these tutors did not report being any less confident than those who did provide their names).

The question of how tutors are using the resource was addressed via a workshop and further questionnaires about tutors' experiences of trying out FFHull-based activities in their lessons. The 25 tutors who attended the workshop were enthusiastic about and stimulated by the pedagogic potential of the resource for delivering the Adult Literacy Core Curriculum in innovative and engaging ways. As well as the exercises set out in the PDFs (both paper and electronic copies), tutors saw possible activities based around role-play, learning games, conducting research

and other examples. Moreover, they identified how the personalisation of the resource by learners would enable them to blend many of the classroom-based exercises and activities with the learners' actual experiences of looking for work, completing job applications, writing CVs and going for interviews. However, again the opportunistic sampling of the tutors who attended the workshop must be taken into account. It may well be that those who turned up are to some extent at least more than averagely motivated and innovative with their teaching.

## **Concluding comments and further work**

The difficulties of transferring a successful innovation from one context to another are well known (Frank *et al.*, 2004; Fullan and Stiegelbauer, 1991). One such example has been provided here. Although success cannot yet be fully confirmed, the indications are that the transfer has worked in terms of the design of the FFHull e-learning resource, the take-up by tutors across Hull, the potential tutors see for using the resource, and the way they are in fact using it.

The conclusions that are drawn here must be qualified, however. As noted in the discussion, the sampling of the e-maturity questionnaires, attendance at the January workshop, and the return of the questionnaires about tutors' experiences using FFHull in their lessons are opportunistic. It is likely that those tutors who engaged with the research are those more open to innovation generally and the use of technology to enhance practice more particularly. This by no means invalidates the findings, and in fact it was both surprising and reassuring to us to find that so many tutors were of an open-minded, supportive and enthusiastic disposition.

There is further work to be done to find out how other tutors in Hull are using the resource (if they are doing so). Further monitoring is also required to find out whether the enthusiasm and usage generated by this research continues in a sustainable way into the future. Moreover, it would be immensely useful to find out whether, in given institutions and departments around Hull, use of the resource spreads from those tutors who engaged with the project to those who did not.

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## **Olney Infant School**

**Authors:** Steve Dunning, Olney Infant School; Ian Jones, University of Nottingham.

**Context:** Large suburban infant school adopting a school-wide technological innovation.

**Aim:** To introduce and assess impact of a virtual learning environment on literacy across the school.

**Outcome:** Enthusiastic staff and supportive headteacher meant smooth introduction.

## **Introduction and background**

This report discusses the progress made to date with an investigation into the impact of a new virtual learning environment (VLE) on teaching and learning in a large infants' school, with a particular focus on raising the levels of achievement in children's writing. At the time of writing this report, the VLE has been live for just 12 days, so it is not possible to judge the impact on achievement in writing; however, the process of getting to this point has raised a number of issues which will be of interest to other schools about to embark on a similar project.

Olney Infant School is a large (three-form entry) infant school in Olney, a small market town a few miles north of Milton Keynes. At its most recent Ofsted inspection (October 2008), it was judged to be outstanding.

The school is a member of the Primary School Learning Network, which was formerly a National College for School Leadership 'Networked Learning Community'. Currently six schools are members of the Primary School Learning Network and work together to support one another in their individual action research projects. The group is also supported by Professor Christopher Day from the University of Nottingham's School of Education and Andrew Townsend from the University of Warwick.

In 2009, the school has chosen to link its action research to Becta's Harnessing Technology project in order to give added impetus to the introduction of a VLE.

## **Research focus**

In the last 18 months, the school has made a significant improvement in its ICT facilities for pupils and staff, with new laptops, laptop docking stations, a suite of PCs, interactive whiteboards and projectors in all rooms, and a wide range of peripherals. In addition, the headteacher has made a commitment to improving ICT throughout the school; an ICT co-ordinator has been appointed to work one day a

week (without a teaching commitment), and a new technician/ICT teaching assistant works four days a week.

To capitalise on these new physical and human resources, the school aims to be assessed for Becta's ICT Mark in the summer term 2009. In addition, because of the momentum gained in recent months, the school decided it was the ideal time to put the school forward to be one of the first pilot schools to develop a VLE. On hearing of the Harnessing Technology project, the school decided that the timescale involved would give an extra push to ensuring that the implementation of the VLE didn't drift and take longer than necessary.

The school thinks that the use of sophisticated technology to engage and motivate young children (and their parents) is particularly innovative. Rather than make the research purely ICT-based, it was thought that there should be a link with the school's focus on raising standards in children's writing, an area picked out as a priority by the school's self-evaluation process. Accordingly, the aims of the project are to:

- investigate the impact of the VLE on teaching and learning: in what ways are teaching and learning enhanced, how can learning be extended beyond the classroom, and what effect is there on parental involvement?
- raise levels of achievement in children's writing.
- use the evidence collected throughout this project to inform future practice.

The research needed to be relevant to Becta's Harnessing Technology strategy, the curriculum and pedagogy. The potential outcomes, in terms of the Becta system outcomes, can be categorised as:

- Engaged and empowered learners:
  - The use of ICT, and in particular the VLE, is hoped to engage and motivate the pupils in their learning.
  - Involvement in the project would provide children with skills for their future ICT work and help prepare them for the future (in line with the Every Child Matters agenda).
- Enabling infrastructure and processes:
  - The new, improved infrastructure and software should enable teachers to teach and learners to learn in new ways, with the aim of raising achievement in all groups of children.
  - Any time, anywhere access should be facilitated.
- Improved personalised learning experiences:
  - The VLE should facilitate more and improved personalised learning experiences through any time, anywhere access to tasks, and allow

individualised responses to those tasks at a pace to suit pupils.

The project has a natural link with the national drive for community cohesion. In addition, it was thought that the project could contribute to institutional or social change by:

- challenging teachers to change the way they teach and set tasks for the children
- increasing the potential for home–school interaction
- giving the opportunity to open up the facilities to allow access for those parents without internet access
- the possible opening of new links with people of other cultures.

## **Participants and methods**

It was essential that this became a whole-school project. This would involve 250 children aged from four to seven, their parents, between 35 and 40 staff and 15 governors. As part of the ongoing membership of, and commitment to, the Milton Keynes Primary School Learning Network, the core School Inquiry Group was to push forward the project. Membership of this group is flexible and includes teaching and non-teaching staff. Many of them have previous experience of undertaking action research.

The support and commitment of the headteacher is seen as essential for a project of this nature to flourish and to have an impact on whole-school outcomes. This allows for the appropriate deployment of staff and other resources, with classroom release when necessary to carry out specific tasks. In addition to the School Inquiry Group, the roles of the ICT co-ordinator and the ICT technician/teaching assistant are particularly important. Their detailed and specific knowledge of the technical aspects of the project is key.

The methods used in this project are those used by much action research, and include:

- observations of teaching and learning
- discussions/interviews with pupils and staff
- scrutiny of planning
- questionnaires for parents and staff
- *ad hoc* and anecdotal evidence from conversations, emails, etc.

## **Findings**

At the start of this project, some risks were identified, namely:



- Technological risks, ie initial setting-up of the VLE and its ongoing maintenance
- Training for all staff, who have different levels of ICT ability
- The short timescale for this project, given the newness of the technology in this school.

At the time of writing, these risks have proven to be significant; the VLE was not launched until 11 March 2009 (after several delays). Consequently, it is still not possible to evaluate the success of the project's outcomes in the terms specified in the initial proposal. However, the data and evidence collected to date should be of use to others by highlighting the activities and processes carried out.

## Training

The technological risks have been fundamental, starting with the lack of training in all aspects of setting up a VLE. The local authority organised an initial two days looking at Fronter (the chosen VLE provider), but sadly the first of these clashed with the school's Ofsted inspection and the two members of the senior management team who would have benefited most were unable to attend. The outcomes of the training, taken from the initial flyer, were to be that:

- the participants... should feel confident in using some of the most common tools in Fronter and know how to administrate the basics of the system
- after the first day, the teacher should have completed a classroom ready for use among the students
- the lead teacher will ultimately deliver training to other staff at school.

The school thinks that some follow-up training or regular visits from an expert would have been hugely beneficial, as for one person to attend a short training session and then cascade that training to approximately 35 other staff is a challenge. The lack of follow-up has been a significant factor in stalling progress. A part-time officer from the local authority is charged with giving schools in the VLE pilot some overview on its scope and capabilities. This has consisted of two, two-hour visits which, while giving an idea of what a VLE can do, has been of little practical use in helping staff understand how to do it. As in most primary schools, the staff are trained and have experience in teaching and learning, but they are not technicians.

There have been no problems with the hardware or accessing the web-based software. However, there has been no training or support available to explain how the VLE is set up (other than a 400-page written manual). As one teacher commented, "it's the technical side for us; as teachers, that is the really hard thing." She went on to say that "we can cope with ICT to a certain degree but this... this is a whole other thing." Without the hard work and dedication of the ICT technician, who has taught himself how to operate the system, the project would not have got off the ground. As Olney is a relatively large infant school, the budget has allowed for the



appointment of this technician; it is difficult to see how colleagues in smaller schools, without the resources or personnel, could proceed.

The technician has been employed for four days a week and, since November, he has worked almost solely on the learning platform. One of his first tasks was to work with the ICT co-ordinator and senior leadership team to produce a Fronter implementation plan, which included a list of the types of content which could be included (related to the focus on achievement in writing). He has become sufficiently proficient to enable other members of staff to begin to work on the content to be put on their own areas of the VLE. Part of his work has been to produce some simple guides to how to log on to and navigate the learning platform.

A statement regarding the learning platform was included in the school's ICT vision statement, which reads:

'Establishing our virtual learning platform, in line with government policy, will:

- provide every child with access to a safe and secure personalised space for their learning potential
- provide co-ordination and sharing of resources
- provide communication tools for the school/home community
- integrate management and learning
- share a range of resources and tools for a range of topics
- develop and manage digital content
- allow pupils to create their own individual areas and store safe and secure e-portfolios of their work
- enable collaboration and motivate other pupils to engage with technology
- allow pupils to take ownership of their learning.'

At an interview led by Professor Christopher Day and Ian Jones (both from the University of Nottingham), the headteacher was asked how much prescription he was getting from the centre, in terms of the learning platform. The response confirmed that although Milton Keynes Council had chosen Fronter as a common platform, beyond that there was no prescription at all. The ICT co-ordinator and the technician have been able to keep one step ahead of their colleagues and have run a series of four staff meetings (to date) for teaching staff and two for non-teaching staff. These meetings gave a general overview of how the VLE works and, most importantly, included a step-by-step guide to how staff can create and upload content.

The senior management team meet regularly and discuss the nature of the content, which to date includes many pieces of information for all year groups on how writing is taught in the school. This includes video clips of lessons in action, such as Write Dance and Talking the Text. Children's activities have also been devised but, once

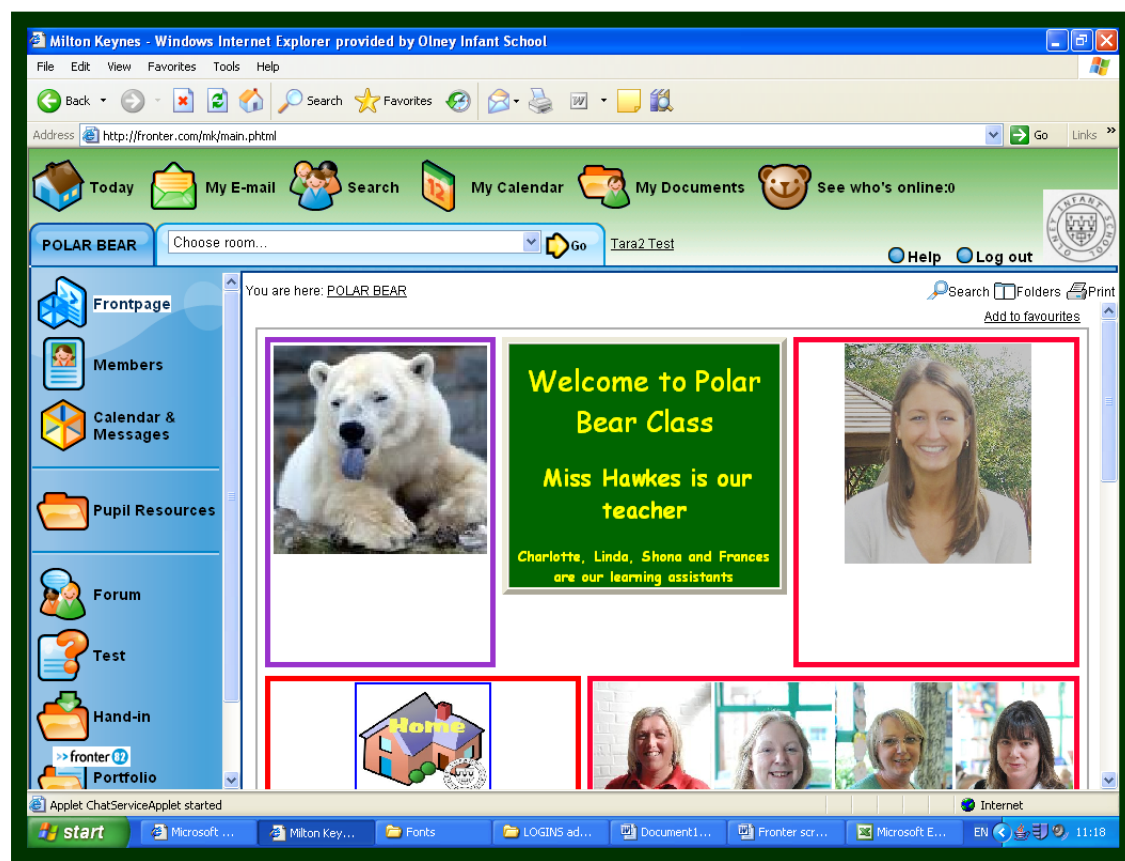
again, a lack of technical expertise has led to some problems in this area which are not yet fully solved. Devising and uploading the activities is relatively straightforward; how the children then save their work and return it to the teacher is surprisingly complex, and certainly appears too difficult for four- to seven-year-old children. By working together, with the support of the technician, the senior management team have been able to ensure that all parts of the VLE have a similar look and feel in terms of backgrounds, colours and other design features.

The traditional literature on innovation would say that, at least for the first phase of the innovation, there is a larger workload because it is new and you have to give more energy to it. This is well understood and acknowledged at Olney Infant School, as there has been a history of innovation and research over the last few years. The Headteacher has been able to give the senior management team some classroom release to work together on creating the VLE, and more such release will follow. The funding attached to this research has been vital to enable it to happen. There has also been a need for several staff training sessions. The school has tried to ensure that such sessions take the place of other staff meetings rather than become an extra burden; of course, this will be possible only in the early stages, as new pressures and priorities will arise. However, even with such support, the workload and corresponding stress should not be underestimated; the timescale for this research has had a positive impact on the speed of the learning platform's introduction, but has definitely caused a degree of anxiety. One of the teachers commented that "it tends to be time-consuming; that's what worries me... we already have to keep the school website updated... I have to give two colleagues time each week to do that... and now with Fronter as well..." However, she went on to comment that "Once it's up, I think it's going to be more manageable."

There has been some considerable debate in school about the purposes of, and differences between, the website and the learning platform. At the time of an interview with teachers in January 2009, one said, "The website is for information, whereas (the learning platform) will be more interactive and the children and their parents will be able to use what we put on there." Ironically, at the time of launch in mid-March 2009, it was thought that the learning platform was possibly too information based. A local authority support officer visited in the days prior to launch to offer his view; his initial reaction was that the site was geared too much towards the parents rather than the pupils; this can partly be explained by the technical problems (and resulting lack of staff confidence) around saving and returning pupils' work. Some further ideas have been given, which will be explored.

The Headteacher and technician wrote a guide for parents to explain how to access and use the site, which was sent home on the day of the launch. Just prior to this, all teachers demonstrated the VLE to their pupils, so they had some familiarity before sharing it with their families.

An issue is parents' access to the internet. A survey has shown that around 90 per cent of them have access at home. For the remainder, the school is initially opening the computer suite one afternoon a week after school for parents to come in with their children. The popularity of such sessions will be judged over time and, if necessary, the computer suite will be opened more frequently.



**Figure 3: The Polar Bear Class (Early Years Foundation Stage) home page**

At the interview, the Headteacher was asked “How do you see the VLE affecting everyday life in classrooms, if at all?” This raised several issues for teaching and learning, a key one being the implication that if a child is going to the trouble of posting a piece of work on the platform, then there is an accompanying expectation that it will be read and marked (if appropriate) by the class teacher. In addition, the Headteacher pointed out that there are ongoing activities such as blogging, Stickies (a messaging tool), other messages, online voting and so on. Unlike homework, these activities don’t have a set hand-in date and will require the teacher to pay attention to the VLE frequently – indeed, daily. This is a change of culture from a situation where teachers use ICT as and when needed for a specific task to one in which they are likely to need to switch on the computer and open up the VLE every morning.

Professor Day raised one of the claims for learning platforms in that, if a child is absent from school, he or she can still access the work they would have done in the classroom. This in itself raises several questions about the role of the teacher and the nature of teaching and learning. However, if it is accepted that virtual learning is second best to learning in the hands of a good teacher, then there are still implications about making lesson planning and other support materials available on the platform. While the school has for many years made broad outlines of long and medium-term planning available to parents, through the prospectus, newsletters and wall displays, it would be a massive shift for staff to be expected to post short-term lesson plans and a bank of activities. There would still need to be careful differentiation to make the work valuable, and this would raise further issues of openness; for example, if the full medium-term plans were open to all, but short-term activities were differentiated, then some parents might question why their children were missing out on work that other children were getting.



**Figure 4: The Year 1 front page – by clicking ‘English’ the pupils are taken to their activities and information for parents**

Professor Day also referred to schools he has observed in Belgium. In talking to the pupils, he heard their claims that they can now communicate with their teachers at any time (and the same would obviously apply to parents, too). This is certainly not something that has been considered at Olney Infant School; the school has a good

reputation for its openness and communication with parents, but round-the-clock access is another layer altogether. It would rely, of course, on the teacher being at their computer day and night, and there should be no expectation that this would be the case.

The teachers were asked if they had any fears over and above the technological and time aspects. One said:

“It’s not the work side of things, it’s the fact that eventually everything is going to have to go on here. All the planning, all the assessments and parents are going to have access to everything. I feel we have considerable pressure from parents anyway. I feel that if they can access the child’s assessment any time of day, if it hasn’t been updated that week, instantly, they’ll want to know why. I just feel that it could possibly open up a can of worms...”

At Olney Infant School, there is a culture of openness and regular face-to-face communication with parents – often daily – and it is thought that the learning platform may lead to this happening less. Parents could possibly misinterpret data or jump to conclusions, and instead of speaking to the teacher immediately they may ‘get a bee in their bonnet’ and worry unnecessarily.

Shortly before the VLE went live, the school contacted a parent of one of its pupils, who has some expertise in working with VLEs. He was able to point out many simple problems and make suggestions which, in most cases, the school was able to act on. As examples, he gave advice on the case sensitivity of passwords (they are preferably not case-sensitive) and the welcome message displayed on certain pages. He also suggested smartening up the school logo, which appeared in a less-than-perfect form!



**Figure 5: The ICT co-ordinator introduces a class to the VLE**

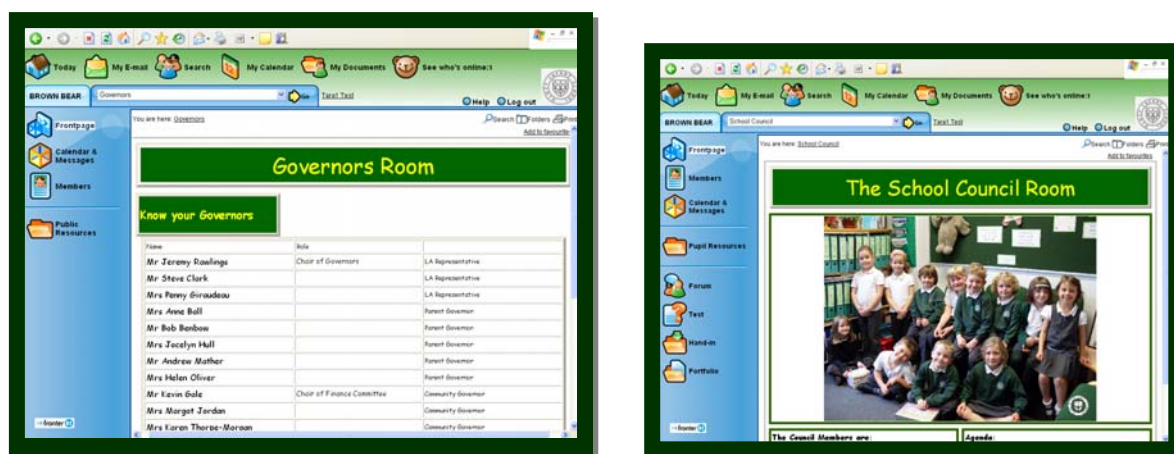
Teachers have done a good job in introducing the pupils to the VLE. They have led several sessions with their classes to explain how the VLE works and how to find



their way around. Since the launch, as new activities or pieces of information are put on the platform, the teachers again show these in class, which ensures the children are keen to go home and share these with their parents. The technician has been able to keep statistics about the number of visits to the year group rooms. For every child, he is able to see the date on which they first logged on and, of course, whether a child has ever logged on. At any time, he is able to see who is logged on. Most children have done so at home, and a few more (around five) have used the ICT suite to log on with their parents.

The school has received some positive feedback from parents. One parent wrote, “[child] and I really enjoyed browsing the new VLE site together. He really enjoyed all the video clips, pictures of his teachers and sending a ‘sticky’ to Mr Bowden and Mr Dunning!” Another commented, “I found the link to the topics he is covering in English at the moment very useful. It also gave [child] the opportunity to share with me what he had learnt on the subjects displayed on the VLE.” A further response was “Great resource – can’t wait to see more...”

There was only one dissenting voice. One parent wrote at length to say that “... computers are part of, and partially responsible for, the homogenisation of society and individuals. They cause people unconsciously to act like robots and to lose the ability to think – in the quest for mass production and ‘efficiency’.” She went on to say that “... at school – particularly primary school – we should be putting all our time and resources into developing the person and the individual.”



**Figure 6: The governors' room and school council room are still under development**

The learning platform has implications within school, too. Traditionally, staff have communicated via sticky notes, messages on a whiteboard, notes in pigeon-holes, and so on. When the school installed its new servers, computers and accompanying infrastructure, each member of staff was given an email address. It took several months (and even longer for some people) to get used to checking their emails. The Headteacher occasionally sends test emails to staff, even when a less technological

method of communication might be more appropriate, to get staff used to regularly checking their inboxes. With an increasing amount of communication to schools from external agencies coming by email, this was thought to be particularly important. The learning platform has increased the need for staff to be aware of electronic communication in all its forms and the expectation that it is answered quickly.

The Headteacher has always written a weekly bulletin, in the form of a timetable, which shows at a glance the events of the week. This is given to staff at the end of the week before and is also displayed in the offices and staffroom. It was decided to trial the use of the learning platform to display daily and weekly events in the VLE 'staffroom' rather than on paper. This is one area which has, to date, been less than successful, and it is generally thought that having a sheet of paper is more convenient than having to switch on a computer, log in and bring up the appropriate page. However, the online diary is useful for accessing information when out of school, so it is likely that both the paper and online systems will be used – thereby doubling the Headteacher's effort.

The senior leadership team has identified the next steps. These include more focused training on specific tools such as stickies, hand-ins and voting. In terms of curriculum pages, the mathematics area will be developed next, although there will need to be less depth of content. The headteacher will manage parental expectations of the amount of content, as staff will be unable to continue at the rate achieved during this initial research. There will be an emphasis on the VLE being a collaborative area for children's learning.

## **Discussion and concluding comments**

The project to date has been, to varying degrees, exciting, stressful, fascinating and thought provoking. The timescale involved, given that the clock was ticking even before the school had its initial training, has been useful in that activities have been carried out with a real sense of urgency. The timescale has also meant, however, a great deal of anxiety and a level of stress, particularly for year group leaders, who are aware that, to some extent, being late is not an option.

Given the current stage of the project, it is not yet possible to provide evidence against the expected outcomes. Initial feelings are that the potential for greater parental involvement in their children's education, and the benefits that brings, is very strong. It will be relatively easy to measure children's rates of progress and levels of attainment in writing and compare these to those for previous years. It will be less easy, however, to know the impact of the VLE on whatever levels of improvement are made (if any).

In the terms of the Becta system outcomes, there are signs that enjoyment and motivation among pupils are raised. The VLE has become a talking point among the children, and they are keen to show their parents what they have been doing and

any new content that has been uploaded. The nature of the initiative ensures that children's ICT skills are being practised and developed, which in turn meets the criteria of Every Child Matters. The enabling infrastructure and processes have certainly raised debate in the staff room about the nature and future of teaching and learning. Any time, anywhere access is already facilitated.

Finally, there has been an interesting discussion among teaching staff as to the extra imposition and workload caused by designing VLE activities. A tentative conclusion is that once the initial burst of activity is completed, teachers won't have to work harder or produce more activities, but they may have to work differently and produce different activities. This remains to be seen in the weeks and months which follow.

The school will continue to monitor the impact of the learning platform across all areas of school life, initially with a focus on raising achievement. It seems likely that the VLE will become a central part of the work of the school. The implications of a recent Becta letter to Headteachers, setting out its expectations in terms of online reporting to parents, will only serve to expand and deepen this role.



## Open University

**Authors:** Tina Wilson and Patrick McAndrew, the Open University.

**Context:** Free, re-mediatable teaching resources available online to practitioners in further and higher education around the world.

**Aim:** Review how academics seek and use open educational resources within their teaching practice.

**Outcome:** Barriers to impactful use identified and further opportunities identified.

## Summary

UK higher education funding bodies are keen to promote the reuse of material between higher education institutions (HEIs). Open educational resources (OERs) offer the opportunity for HEIs to readily adopt and share educational content. This report discusses the findings from a small-scale action research project – ‘How five higher education institutions worldwide plan to use or adapt OERs provided within OpenLearn’. The project has enabled a small group of academics at HEIs to consider how they might use, adapt and incorporate OERs from another institution (Open University material from OpenLearn) within their own teaching practice. The findings feed into the overarching project, which is funded by Becta. This strand focuses on OERs in the HE sector as an area of educational innovation.

This work is undertaken in the context of wide availability of free OERs but little evidence of adaptation or reuse. The adoption of OERs within teaching practice is currently under-researched. Although many OERs are freely available worldwide, little is known about who reuses OERs (Hylén, 2006; Wiley, 2006), and how they are using them. The Open University’s OpenLearn initiative has been very successful in attracting over 4 million visitors since 25 October 2006. OpenLearn’s success is unsurprising as it provides a large amount of free content: 13,500 study hours of the Open University’s course material had been transformed into OERs and made available by April 2008. Other universities are now also adding OER content to the OpenLearn LabSpace. However, despite the growing availability of such resources, experience from OpenLearn suggests that the reuse of OERs by academics within their teaching remains a challenge. Certainly in the first year of operation, relatively low numbers of new or changed courses appeared in the OpenLearn LabSpace. Therefore research was required into how the adoption of OERs has an impact on the academics’ teaching practice.

This work has built upon existing activity at the Open University that has received support from the William and Flora Hewlett Foundation and JISC. The additional work (for Becta) in this action research project has enabled a review of the practitioner issues involved in reuse.

The findings are timely for the community to allow reflection on the growing interest in the adoption of an OER approach. This report focuses on a small group of academics at HEIs and their perspective of how they would use and adapt OERs with their learners.

## **Introduction and background**

OERs have the potential to play a vital role in increasing learning opportunities for those from non-traditional educational backgrounds. OERs add a further option in a climate where HEIs are adopting online learning environments to enhance their teaching and learning processes. An integral part of this e-learning agenda is the inclusion of a virtual learning environment (VLE) such as WebCT, Blackboard or Moodle. These VLEs host course materials and communication facilities, although access is often password protected; this suggests that many institutions develop and present their teaching materials in a closed environment.

OERs offer the opportunity to work in a more open way and to take advantage of the openness of others. However, 'not all academics believe that all potentially eligible scholarly content should be open' (Smith and Casserly, 2006; p2). This is in contrast with the OERs movement, which provides free access to educational materials. Indeed, sharing resources is advocated rather than hiding them – creating new knowledge rather than reinventing the same resource a number of times in different places (Hylan, 2006). However, although academics are happy to share their work, they are hesitant about giving all the rights away (Hylan, 2006).

This report discusses how five institutions worldwide, each currently operating within closed environments, propose to use and adapt OERs provided by the Open University in UK.

## **The online environment**

The Open University in the UK (a distance learning university) has been developing supported open-learning multiple-media materials for 40 years. A proportion of these high quality materials (in excess of 13,500 study hours) are available and accessible worldwide through the Open Content Initiative (OpenLearn). (The William and Flora Hewlett Foundation provided funding for the OpenLearn project.)

OpenLearn operates in an environment based on the Moodle course management system. It hosts twin websites: a LearningSpace aimed mainly at learners and a LabSpace aimed mainly at educators. Units of material available on OpenLearn are taken from the original supported open learning version of a course. In the OpenLearn context, the materials, called 'units', are standalone without the organised tutorials and formal assessment typically found in the originating course. OpenLearn provides similar facilities to a VLE but in an open and accessible environment.

Units of material in OpenLearn are labelled at a particular HE level for worldwide use (introductory, intermediate, advanced and postgraduate). They vary in length between four and 50 hours of study time (Lane, 2006). The learner can interact on an individual basis with the material in the 12 different topic areas or work in groups with other learners. A learner is considered to be anyone and everyone. OpenLearn provides an observatory, which affords the exploration of the range of activities taking place that can give partial data about types of use of OERs, but it remains difficult to identify through observation alone the motivations for users and, in particular, to understand the appeal of the site to other educators and teachers.

## Research focus

This report focuses on educators and their perspective of how they would use and present OERs with their learners. Will content, which is separated from supported open learning, provide institutions with an opportunity to review their own approaches and offer ways to bring open content into their curriculums? The project involves two stages:

- Stage 1: The first part of the project concentrates on how academics plan to use OERs with learners. Indeed, academics are being encouraged to provide a wide variety of learning situations and experiences for the changing student population.  
Six academics from five (distance and campus based) HEIs across the UK, Germany, Kenya and South Africa are involved.  
As a first step to understanding how learners under the guidance of academics or teachers could use OERs, the following questions are being addressed:
  - How do educators plan to make use of OERs with their learners?
  - Do educators plan to use the content as presented or do they want to change it?
  - How will OERs be integrated or not with other educational resources in the types of closed environment mentioned above?
  - How will academics assess the value of OERs?
  - How will academics plan to support the use of OERs?
- Stage 2: The second part of the report focuses on two case studies based on in-depth interviews with three participants in the UK.  
The first case study involves an academic who contributed to stage one of the project. The second case study involves a head of department (who gave limited feedback in stage 1 and therefore was not included in the stage 1 findings) and an academic at the same institution who proceeded to use OER content.

## Aim of the research

The aim of the reported research is to investigate how educators can use OpenLearn OERs with their learners. The research reviews the ease or difficulty that academics find in seeking to adopt and reuse OERs within individual or group teaching practice. The intention is to investigate the gap that is apparent between the OERs available and the re-purposing of such resources. This review is based on work with a small group of academics at HEIs in Europe and Africa. The intention is to draw out a sample of attitudes and opportunities by considering how educators might identify, use, adapt and incorporate within their own lectures and tutorials OERs downloaded from OpenLearn.

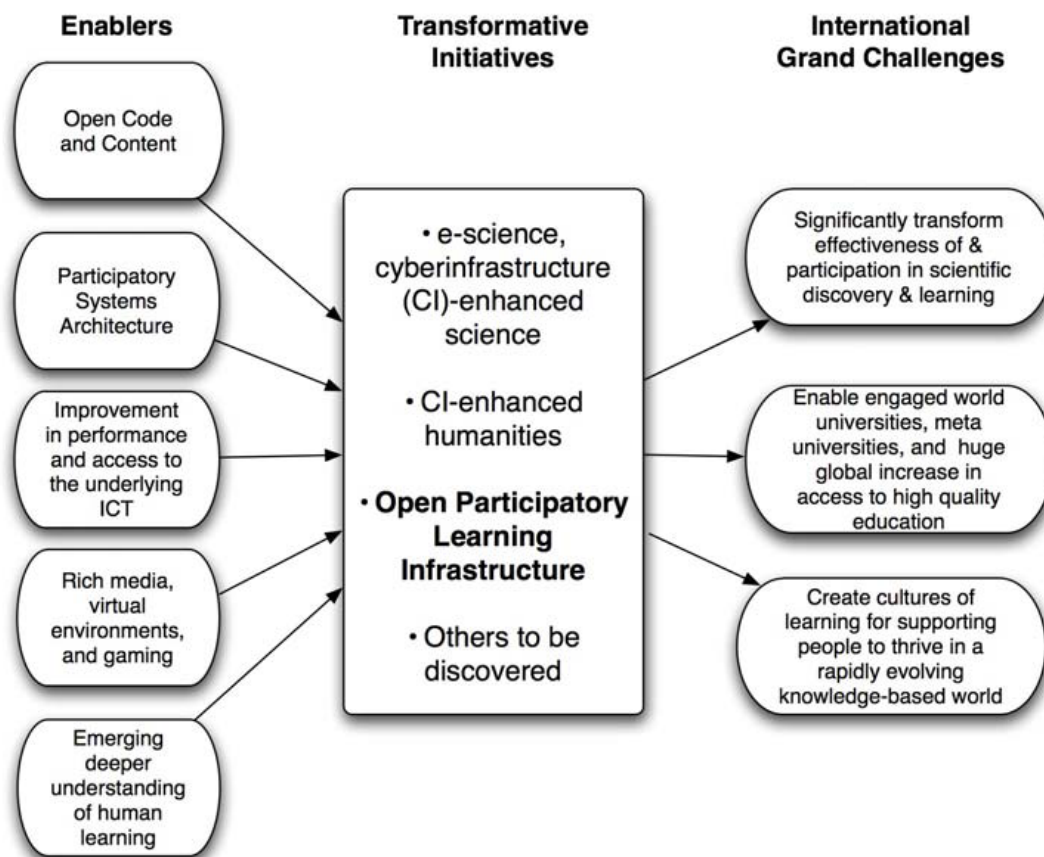
Changes may be required to internal procedures within institutions to enable them to adopt standalone OERs as part of their curriculum and assessment strategy. The content in itself, however well constructed, is only part of the education model – a survey of Open University students carried out before OpenLearn started showed a desire for tutorials (64 per cent), assessment (90 per cent) and qualifications (89 per cent). In practice, there will be many informal learners attracted to free content without these motivations; however, the survey raises important issues for whether separated content gives institutions a chance to review their own approaches and to offer ways to bring open content into their curriculums. Indeed, will institutions use the opportunity for reflection and to embrace OERs?

The Open Participatory Learning Infrastructure (OPLI) model (see Figure 7) considers that open content (including open code) needs to work through an overall infrastructure to then provide services to the communities (Atkins *et al.*, 2007). At the OpenLearn 2007 conference, the OPLI was referred to more straightforwardly as the Open Participatory Learning Ecosystem (OPLE), which is in line with more recent thinking (Seely Brown, 2007).

The three areas considered in the OPLI are:

- transformation of scientific discovery
- engagement of universities to increase access to education
- new cultures for learning.

Of these, the second aspect is the most incremental on current approaches and is in part dependent on the attitudes of existing providers. This study is related to the second of the three areas under 'International Grand Challenges' in Figure 7, namely engagement of universities to increase access to education. The more radical changes proposed in the report are not dismissed but are not explored further here (Atkins *et al.*, 2007).



**Figure 7: Enablers and collateral initiative context for the OPLI initiative (reproduced here from Atkins *et al.*, 2007)**

The study aimed to establish (across a small sample of institutions) whether recognition of the opportunities to review their own approaches might arise, what options might be considered and what ideas might emerge.

## Participants and methods

The approach taken for both stages 1 and 2 is influenced by grounded theory.

### Stage 1: interviews

Stage 1 of the project involved six academics from five (distance and campus based) HEIs across Europe and Africa. The participants were based in the following institution type and country:

Three distance and campus-based universities:

- South Africa
- Kenya
- UK (two participants responded).

Two campus-based universities:

- Germany
- UK.

The following techniques were used to gather data in stage 1:

- Three semi-structured interviews (Preece *et al.*, 1994; Zand, 1994; Fowler, 1993) were conducted face to face when distance was not an issue.
- Three personal online semi-structured interviews were conducted when the interviewer and interviewee were long distances apart. This technique is called the epistolary interview (Debenham, 2001; Ferguson, 2007).

The six interviews took place between 15 January and 3 April 2007. It is important to note that this data was collected between three and six months after OpenLearn was launched.

## Stage 2: case studies

Stage 2 of the project involved two academics and one head of department from two UK institutions. The participants were a:

- lecturer of computer science at a UK distance and campus-based university at HE level
- lecturer and head of department at a UK campus-based art and design college at further education (FE)/higher education (HE) level.

The case study data on proposals for reuse was collected in the main in recorded in-depth semi-structured interviews; see Table 1. Two of the participants were interviewed in 2007 and also two years later in 2009.

**Table 1: Timings of interviews with the participants for stage 2**

	Interviews in 2007	Interviews in 2009
Case study 1	Computer science lecturer – UK HEI, 15 January 2009 – face to face	Computer science lecturer at a UK HEI, 9 February 2009 – face to face
Case study 2	Art and design college head of department – UK FE/HE, 23 April 2007 – online interview	Art and design college head of department – UK FE/HE, 26 February 2009 – face to face
		Art and design college lecturer – UK FE/HE, 19 February 2009 – face to face

An initial full interview with the academic for case study one (computer science



academic at a UK HEI) took place on 15 January 2007. The academic's comments contributed to stage 1 of the report. However, more detailed observations are used in stage 2 of the report. A second interview was conducted on 9 February 2009.

The art and design college head of department for case study 2 had been approached in April 2007. However, this respondent answered only a small number of the questions for stage 1 of the report in an online interview (the data was not included in stage 1, although it will be used in stage 2 to add context). A second interview for stage 2 of the report was conducted on 26 February 2009. An interview with the academic for the second case study (art and design college academic in UK FE/HEI) took place on 19 February 2009.

These case studies in stage 2 offer the opportunity to draw out and evaluate key issues, especially those concerned with the nature and level of the participants' interest and any difficulties that arise in the reuse of OERs.

## **Findings and discussion: stage 1**

The participants' responses in stage 1 have been analysed in terms of categories to allow them to be compared and contrasted.

The first questions relate to the subjects' interest in the content for their learners:

- Topics and units of interest, available within OpenLearn
- Additional material that they would like added.

The participants' level of interest in reusing the material is gauged from responses concerned with how the material would be identified, used, presented, adapted, valued and supported.

### *Awareness of the existence of OpenLearn*

How had news of OpenLearn's existence travelled worldwide? The majority of visitors to OpenLearn are from the UK and USA, with 90 per cent being new visitors (not Open University staff or students).

In terms of this review, it is important to note the participants' familiarity or otherwise with the OpenLearn units, as this could affect their responses to questions posed in the interviews. The six participants were asked if they were aware of the OpenLearn website. Three of the participants affirmed that they were aware of OpenLearn; they were based in South Africa, Kenya and Germany. The three participants based in the UK were not aware of the OpenLearn website.

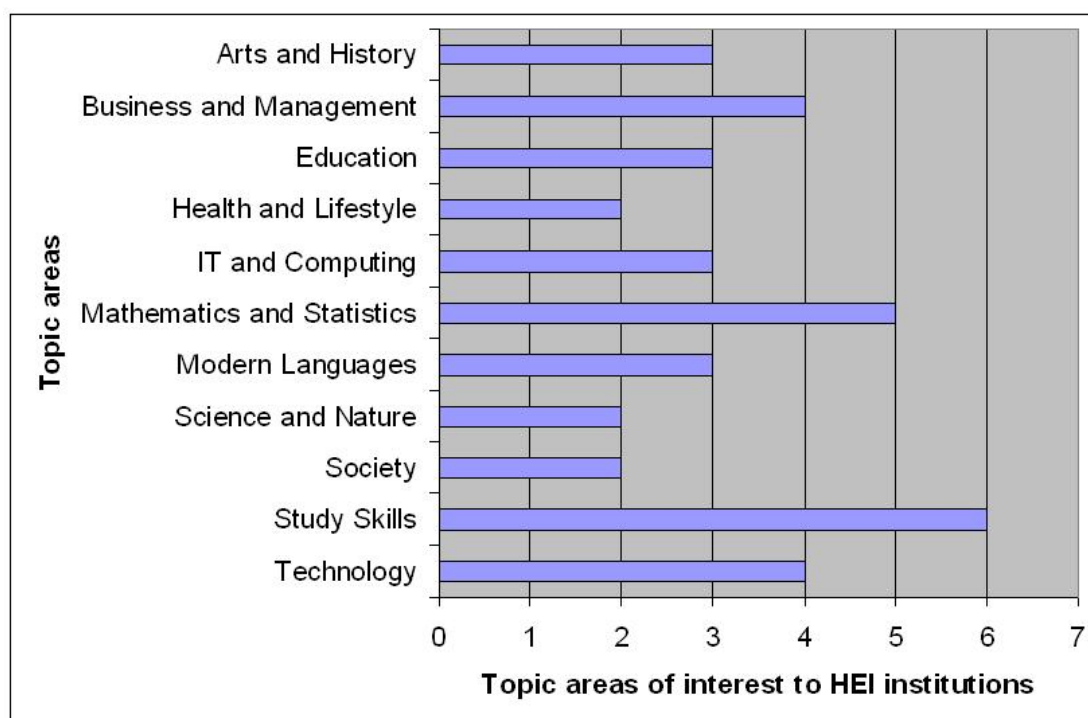
These responses suggest that news of OpenLearn has travelled worldwide, although a question still remains about why certain areas of the UK were unaware of OpenLearn. One reason may be that these interviews took place at an early stage



(between three and six months) after the launch of OpenLearn. However, those in Europe and Africa who were aware of OpenLearn already had some type of relationship with the Open University or awareness through a third party.

### *Topics and units of interest to the five different institutions*

The participants were asked which of the 11 different topic areas (the law topic area has been added since) within OpenLearn would be of interest to their institutions. All of the representatives reported that at least two of the 11 topic areas would be of interest to their organisations; see Figure 8.



**Figure 8: Topic areas of interest to the five (HEI)**

The study skills topic area was selected by all six participants, while mathematics and statistics was selected by five of the six participants. The preference for these two topic areas was further explained by one of the participants from a UK HEI, who said “All students visiting the Centre for Academic [Support] require support in study skills (mainly writing) and, maths.”

The business and management, and technology topic areas were of interest to four of the six participants, while art and history, education, IT and computing, and modern languages were of interest to three of the six participants. The units which were of importance to two of the six participants were health and lifestyle, science and nature, and society.

Each topic area holds a variety of units, and participants were asked which units would be of interest to their students. Four of the six respondents selected specific units; see Table 2.

The university in South Africa (a co-ordinated response from a number of lecturers) made suggestions for each of the topic areas they originally identified, although they did not choose specific units within the topics.

The university in Germany selected units of interest for each of the topic areas originally identified, and indicated that all units would be of interest in five of the topic areas (business and management, IT and computing, mathematics and statistics, study skills, and technology). This respondent also indicated that the OpenLearn material would fit within the university's present set of courses: "The most promising approach would be in the area of business and management, because most of the topics available in OpenLearn are of interest in our local courses."

One respondent at the UK campus-based university chose just one unit under the arts and history topic area, called 'War memorials and commemoration'; however, this respondent indicated that some of the other topic areas selected originally would be of interest to other lecturers. "Colleagues would find the subject-specific material in business and management and modern languages useful for their courses." Another respondent in the UK chose subject matter across three topic areas that were relevant to the respondent's discipline of computing. The latter did not indicate any units in the mathematics and statistics topic area, which had originally been indicated as a topic of interest.

**Table 2: Units (within topic areas) of interest to the HEIs**

<b>Topic areas</b>	<b>South African university</b>	<b>German university</b>	<b>UK university 1</b>	<b>UK university 2</b>
Arts and history	Social sciences and didactics		War memorials and commemoration	
Business and management	Education management Law and systems Education organisations.	All		

<b>Topic areas</b>	<b>South African university</b>	<b>German university</b>	<b>UK university 1</b>	<b>UK university 2</b>
Education	Teaching and learning Teaching studies Comparative studies	Teaching and learning with ICT Teaching and course design in higher education Professional development with ICT.		
Health and lifestyle	Human skills			
IT and computing		All		Crossing the boundary – analogue universe, digital worlds
Mathematics and statistics	Mathematics and the didactics thereof	All		
Modern languages	Languages relevant to our country as well as the didactics thereof	English grammar in context		
Science and nature	Natural science			
Society	Social skills Learner support			
Study skills	Method	All		ICTs: Technology news
Technology	Technology in practice	All		Computers: bits and bytes Living with the internet – keeping it safe

It must also be borne in mind that participants did not have a long period in which to assimilate what was available. Two of the six respondents did not select specific units. The participant in Kenya explained that “Only academic staff in the specific disciplines can advise/decide on the specific courses that will be useful.”

Participants were asked to consider units that might be missing from OpenLearn in subject areas where they need more course material. Four of the six participants responded; see Table 3. The university in South Africa listed a mixture of topic areas and units. The German university listed all 25 courses/modules that it teaches within its three programmes of study, and suggested it “would be interested in available and suitable materials” for any or all of these.

**Table 3: Additional units requested for subject areas where more course material is needed**

South African university	German university	UK university 1	UK university 2
<ul style="list-style-type: none"> <li>• Education</li> <li>• Law</li> <li>• Quantitative reasoning</li> <li>• Learner support</li> <li>• Measuring and number systems</li> <li>• Life skills</li> </ul>	<ul style="list-style-type: none"> <li>• Business administration</li> <li>• Banking</li> <li>• Information management systems</li> <li>• International business</li> <li>• Management in small and medium enterprises</li> <li>• Industrial management</li> <li>• Management in insurance</li> <li>• Trade management</li> <li>• Health care management</li> <li>• Management in non-profit and sports organisations</li> <li>• Real estate management</li> <li>• Service management</li> <li>• Taxation and auditing</li> <li>• Engineering</li> <li>• Applied computer</li> </ul>	<ul style="list-style-type: none"> <li>• What is plagiarism and how to identify it</li> <li>• Time management</li> <li>• Exam preparation</li> <li>• Tips on essay writing</li> <li>• Style guides/study guides</li> <li>• English as a foreign language or English as a second language</li> <li>• Reading and note taking</li> <li>• Units from the Institute of Educational Technology for accreditation to the Higher</li> </ul>	<ul style="list-style-type: none"> <li>• Assembly code for micro controllers</li> <li>• A unit on Java</li> <li>• AI units</li> <li>• Problem solving</li> </ul>

South African university	German university	UK university 1	UK university 2
	science <ul style="list-style-type: none"> <li>• Electrical engineering</li> <li>• Information technology</li> <li>• Mechanical engineering</li> <li>• Mechatronics</li> <li>• Business engineering</li> <li>• Social sciences/ social work</li> <li>• Pedagogy for looked-after children               <ul style="list-style-type: none"> <li>• Social work with children and young people</li> <li>• Childhood education</li> <li>• Social work with older people and disability</li> <li>• Social services/ child care and families</li> <li>• Social work in the justice system</li> <li>• Social work with mental health and addiction</li> </ul> </li> </ul>	Education Academy	

The lecturer at the campus-based UK university suggested a number of units for the study skills topic area (see Table 3) and contributed a number of ideas to increase interactivity. This respondent wanted to see more material on English and literature (which is related to the respondent's discipline area) and commented that it would be "very useful to have quizzes for grammar" and "nice to have a facility such as "check this page in the *Guardian*". In the case of 'time management', the respondent would like to see "advice and exercises". For 'exam preparation', the respondent recommended material "related to a subject or at least divided between science and arts". The respondent thought that "A lot of people could contribute to 'Style guides/study guides' [as an area] of development in the LabSpace." The respondent explained that "most of our students are from overseas" and "English as a foreign

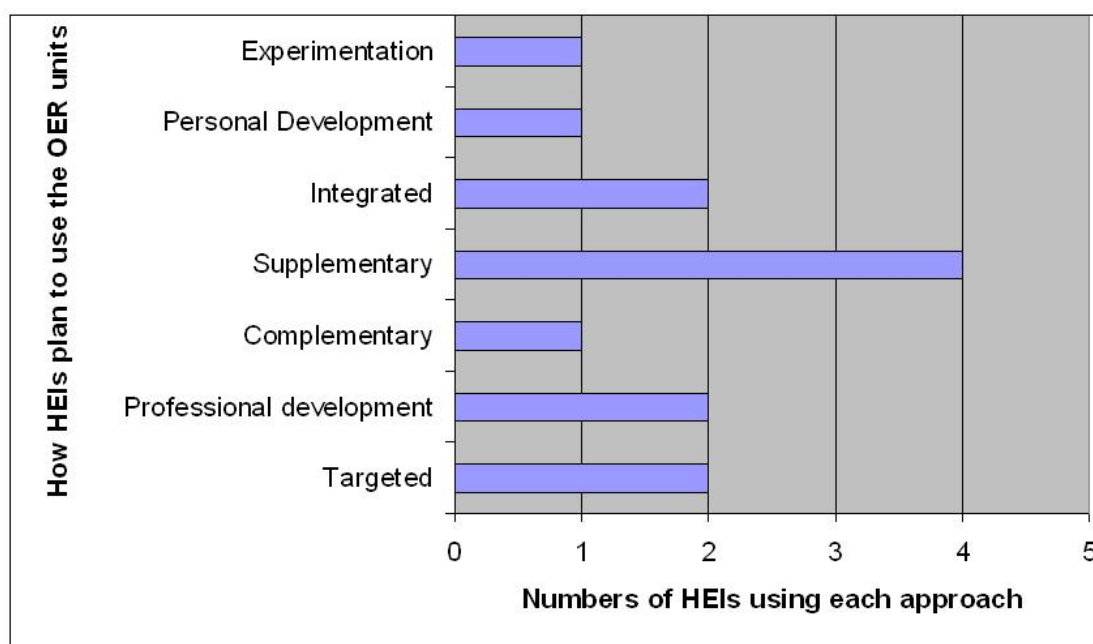
language or English as a second language” would be useful units. “A unit on reading and note taking would also be very good for learning how to learn’.

The lecturer at the second university in the UK suggested four additional units (see Table 3) and made a number of additional comments. This respondent requested “a unit on Java specifically aimed at Higher National Diploma students coming to us from other institutions. This unit would act as a bridge to bring them up to speed and in line with the level of our own students.” This lecturer would also like to see “problem-solving material to help students break problems down and learn from their mistakes”. The respondent envisaged these materials being used to supplement courses.

The participants were asked whether they would expect their learners to use the OpenLearn units in an online or offline mode. The six subjects based in South Africa, Kenya, Germany and the UK would encourage learners to use OpenLearn units in an online mode. It might be expected that rural areas of Sub Saharan Africa with limited access to the internet would consider offline use in certain circumstances. However, the university in Kenya suggested that distance learners and on-campus students could use the OpenLearn website. The university in South Africa explained that students based in urban areas would have access to the internet, but those in rural areas may not even have electricity.

#### *Ways in which institutions could use OpenLearn units with learners*

The participants were asked how they might use OpenLearn units with learners. A variety of responses were received from the six participants (see Figure 9). The most highly rated use of OpenLearn units was seen to be as supplementary material. Four of the six participants suggested that the OpenLearn units would be very valuable as supplementary material for their present courses. Using the material as an integral part of the course, for professional development, or for targeted support were each rated as important by two participants. Experimentation, personal development, and use as a complementary resource were each of interest to one participant.



**Figure 9: Ways in which institutions could use OpenLearn units with learners**

The use of OpenLearn material (as a supplementary resource) is clarified by a lecturer at a campus based university in the UK:

“[It could be used in] lots of ways but no time as the study [is intensive]. It could be presented to the students as a side issue – ‘if you are really interested in taking this further, X resource is available on OpenLearn in the X Topic and the unit is called X’. It would be something the student could go off and do on their own without anyone knowing, and that would be better for them.”

In terms of how to integrate the material, a lecturer at the university in South Africa indicated that the university would “connect your [OpenLearn] subject content to some of our modules”.

In terms of professional development, the university in South Africa saw the OpenLearn material as being beneficial to students, whereas the university in Kenya saw the OpenLearn material as being beneficial to academic and research staff.

The OpenLearn material would be used similarly for targeted support by two UK universities:

“The OpenLearn material could be very useful for remedial work with students, for example English as a second language. For basic maths, for example percentages.”



At the second university:

“The Centre for Academic [Support] could create a link from the Centre for Academic [Support] website to the study skills unit. The website is partially designed for our part-time and distance learners – so that they can access ‘targeted’ support – maths/stats would apply to some of them.”

The university in South Africa suggested OpenLearn could be used for “downloading from internet. Exposing students on an experimental basis to this type of learning and to promote students’ personal development.”

The university in Kenya could see that ‘the school-based/distance learners can be asked to access the [OpenLearn] website and use the materials they find relevant to their course’ (as supplementary material) , while “regular students [on-campus students who receive face-to-face instruction] can also use the OpenLearn website as a complementary resource”.

#### *Whether OpenLearn units could be used as presented or need adaptation*

Participants’ responses about whether they would use the materials as presented or would want to adapt them were fairly evenly balanced; see Figure 10. Three of the six participants (from universities in South Africa, Kenya and Germany) would want to adapt the material to suit their situations in terms of language, and to put the OpenLearn OERs into the context of their present course materials.

The participant from the university in Germany explained the position in terms of language:

“Although we try to ‘internationalise’ our topics here, some of the material should be available in [the] German language. Our students would really like to learn in their own language (German), but the amount of English language content has increased in the past in certain departments. In most cases, English language would be OK.”

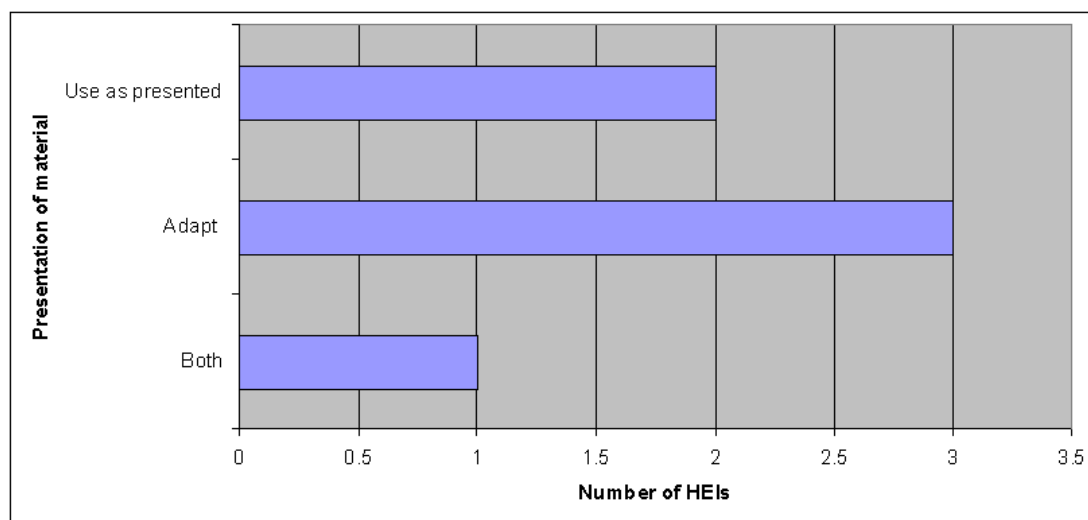
This participant also indicated that:

“Some of the materials we’ve seen are a little too text-oriented and hard to follow when read on a computer screen only; maybe we would try to restructure some topics in smaller units.”

The participant from the Kenyan university echoed this point saying that the university “would not necessarily [use the OpenLearn units] as posted on the web”.

Those interested in using the OpenLearn units as presented (two participants at the same UK University) thought that there was no need to adapt the material, and they would select particular sections of interest:

“I would not change the units... as they represent an additional tool for students that they could access autonomously. ‘Tailor-made’ material is available to them also.”



**Figure 10: Would OpenLearn units be used as presented or adapted?**

One participant at the campus-based UK university said “It’s a fantastic set of resources, and the fact that you can change and adapt them is very useful.” However this respondent suggested that “with a little time, I would probably do a mix of both,” using the material as presented and with some adaptation.

The participants were asked how their institutions might adapt OpenLearn material (not supported by tutorial guidance) for use within courses. Five of the six participants responded giving a variety of reactions.

Three of the institutions (universities in South Africa, Germany and the UK) indicated that they would adapt the OpenLearn units for use as an additional resource (this reiterates responses made above about usage of material in a supplementary fashion). The participant from the German university suggested that “the minimum approach could be the offering of OU courses as an (optional?) add-on for the classroom-based events”. The South African university indicated that adaptation of units would depend on which modules the OpenLearn units were destined to support. This respondent also indicated that the units were “user friendly” as an additional resource, which suggests that they may not need to be supported by a local tutor.

Language was given as a reason for adaptation by two universities. For the South African university, the level of the language was the key consideration: “Language must be on the level of the student.” Whereas, for the UK university, it was the actual language that the material was presented in that was the consideration. This UK respondent would:

“take account of English as a second language [and] make [units] more targeted towards particular courses. Chinese and Japanese students struggle the most. If we want them to learn English, then I don’t know if it would be helpful or detrimental [for them to have material in their own language].”

The university in South Africa was keen to adapt the material to local needs. The OpenLearn units “must be usable for our students [with]... relevant topics and issues... to South Africa”. This respondent could also envisage some OpenLearn units being embedded within the university’s set of courses.

The Kenyan university highlighted the need for guidance for both its students and academics, which suggests a support requirement. “Academic staff would be expected to guide learners on how to use materials. Academic staff too may require to be taken through an induction programme on the use of OpenLearn.”

One participant in the UK reiterated that the university would not adapt the material at present (because of a lack of time) but use it as presented.

#### *How academics would assess the value of OERs*

The HEI representatives indicated how they would assess the value of OpenLearn material for learners.

Two participants indicated that they would gauge the quality of the material through feedback. The interviewee from the South African university was more specific, saying that the university would use assignments, interviews, student questionnaires and facilitator feedback.

The participant from the Kenyan university suggested that the academic staff alone would be asked to review the material.

Only one participant (UK based) suggested seeking both lecturer and student feedback and using performance measures.

The university in Germany found it difficult to agree how it would assess the value of the material, as the university was in the early phases of implementing e-learning.

#### *How academics plan to support the use of OERs*

Institutions were asked to consider the possibility of an external body providing tutorial support and assessment for OpenLearn material. This appeared to be a difficult question to answer in the time that the participants had to consider it.

Three participants (in South Africa, Germany and the UK) thought that such discussions were feasible, although they could not say more. The Kenyan university

thought that “This may be necessary and more specifically for the distance learners. The university would, however, take charge of quality assurance.”

Two participants from the same institution in the UK gave different responses, illustrating that policy and practice has yet to be established for how OERs will be used and supported. One participant thought that the university “would consider providing tutorial support as a franchise agreement. An external body could not be considered for assessment, as it would cause too many problems.” The second participant thought it was unlikely that an external body would provide tutorial support – “additional costs would mitigate against it”.

### *Limitations and conclusions for stage 1*

The report focuses on the educators and their perspective of how they would use OERs with their learners. The participants involved in stage 1 were contacted at a busy time mid-way through the academic year when they did not have much time available. OERs are still a relatively new resource. Contacting the participants between three and six months after the launch of OpenLearn meant that it was too early to ask users to identify specific cases of how they might use, reuse or adapt OpenLearn units.

All participants were very keen to use the OpenLearn OERs. At least two of the topic areas were of interest to all of the participants. Particular interest was shown in the study skills, mathematics and statistics, technology, and business and management topic areas. Three of the six participants identified units within topic areas that they would be interested in using with their students. Four of the six participants identified units that they would like to see added to OpenLearn to improve their curriculum offering while benefiting their students. One lecturer suggested additional activities to be included.

Participants reported that the OERs would be used primarily online and for supplementary support, although integration of the OERs in the curriculum, and use for targeted support and professional development were other strong possibilities.

Participants’ responses were fairly evenly spread between using the OpenLearn OERs as presented or adapting them. It is interesting that academics suggest that they would adapt OERs, since it is reported that using OERs in the form they are presented or ‘as-is reuse’ (Wiley, 2007) is much more common than adaptation of OERs.

The main reasons for needing to adapt the material were cited as the need to accommodate the local language, context and curriculum. However, the participant from the German university (a campus-based institution) suggested a need to perhaps restructure and condense the material. This latter comment is not

surprising, since some of the units identified by this participant were, unusually, 200 and 600 hours in terms of study time.

Two participants mentioned a lack of time to physically adapt the material.

The institutions would judge the value of OpenLearn material in different ways. Some institutions would use academic opinion alone, some on the students' feedback and others using a combination of both methods.

Participants found it difficult in the time available to specify how they might support the use of the OpenLearn units. Concerns were raised about cost implications and quality assurance.

It appears from participants' comments that some of the OpenLearn units are quite large, and this could be a barrier to reuse. Indeed, some participants suggested that they would direct their students directly to the appropriate smaller section of a unit as presented, rather than the unit as a whole or revising the unit for their own use. This reiterates a question asked at the CAL '07 conference (Wilson and McAndrew, 2007): 'Why don't you make the OpenLearn units smaller?'

## **Findings and discussion: stage 2**

In stage 2, the academics' responses will be discussed separately as case studies and then compared.

Stage 2 of the project involved two academics and one head of department, all of whom are based in the UK. The computer science academic is based at an HE institution while the head of department and the art and design lecturer are based at a HE/FE institution.

The findings will be discussed first as two separate case studies. The theme 'Insights into the process of adopting OERs into teaching practice' will be discussed from the art and design lecturer's perspective in case study 2. This will be followed by a discussion of the stage 2 conclusions in terms of the following themes:

- How much lead time does an academic need to assess the relevance of OERs to their teaching?
- How adaptable are OERs units to a lecturer's teaching practice?
- How easy or difficult does it appear to be to embed OERs hosted on OpenLearn in the teaching materials at another institution?
- Which OpenLearn authoring tools have been adopted (or not)?
- What issues have arisen in terms of sharing and adapting content?
- The need for awareness-raising of the issues involved in reuse of OERs
- The ways in which the reuse of OERs could lead to changes and improvements that can be revised in turn by the originating organisation.

## Case study 1

Case study 1 involves a computer science academic who was interviewed for stage 1 of the project on 15 January 2007 and after a two-year gap on 9 February 2009 for stage 2 of the project. This section includes the computer science lecturer's more detailed comments from the initial interview that are pertinent for stage 2. This is followed by a discussion of the second interview. The academic was based at a distance- and campus-based university in the UK and had not been aware of OpenLearn before the initial interview took place.

### *Findings from initial interview for case study 1 – held in 2007*

The four topic areas within OpenLearn that were of interest to the computer science lecturer were:

- IT and computing
- Study skills
- Mathematics and statistics
- Technology.

The lecturer suggested that “A number of units [within the topics] would be useful as introductory material for levels 1 and 3.” The lecturer identified four OpenLearn units as potential material to use in teaching; see Table 4. The units are from three of the four OpenLearn topic areas that the lecturer originally selected. The number of study hours varies across the selected units (between three and 20 hours), although all are at introductory level.

**Table 4: Distance learning OERs units of interest to a computer science lecturer**

Title	Study hours	Level	Topic area
Computers: bits and bytes	3 hours	Introductory	Technology
Crossing the boundary – analogue universe, digital worlds	20 hours	Introductory	IT and computing
ICTs: Technology news	8 hours	Introductory	Study skills
Living with the internet: Keeping it safe	10 hours	Introductory	Technology

The lecturer intended using ‘Computers: bits & bytes’ [OpenLearn unit] as “useful ... introductory material for Level 1. It would... be used as supplementary material to go along with the lectures, instead of the students buying a book. The areas of interest would be manipulation of data and data representation, computer architecture, ALU

and the motherboard. Also what binary is used for? ... Specific appropriate sections would be identified.”

The OpenLearn unit ‘Crossing the boundary – analogue universe, digital worlds’ was seen by the lecturer as “useful... introductory material for a Level 3 course”. It “could be used as supplementary material for the distance learning Digital Signal Processing course. It would be used as background material rather than core teaching material. Specific appropriate sections would be identified.”

The lecturer suggested that the unit ‘Living with the internet – keeping it safe’ would be “useful as supplementary background reading for the internet security course. This course is at Level 3, but this material would provide introductory material giving a general view of the problem.”

The ‘ICTs: Technology news’ OpenLearn unit would be of interest to the lecturer “as part of the teaching of note taking etc during practicals. I would use parts of it but not all of it. The mind maps and spray diagrams look interesting. I would want students to dip in to certain sections but I would have to be careful that the material does not seem out of context. The terms product and process could cause a problem...The drawings in the OpenLearn material are effective.”

This lecturer would use three of the OpenLearn units within the topic areas as supplementary material for three courses. The consideration of OpenLearn units as introductory material suggests that they would be adopted before or at the start of the course. These seem to be units that can be easily adopted as examples of what Wiley (2007) describes as ‘as-is reuse’. The computer science lecturer also seems to indicate that the fourth unit would be used in a more integrated way in face-to-face teaching within practicals. The lecturer appeared to indicate a different type of usage of OpenLearn units for face-to-face teaching as compared with distance teaching:

“If we used OpenLearn material [for distance learners], we would write learning material around it.” However, later in the interview, the lecturer also said “I wouldn’t write a course based around OpenLearn materials. I would use OpenLearn material where appropriate [for on-campus teaching].”

The lecturer would expect that students would work on the OpenLearn units as individuals and in groups. In some instances, the lecturer would send the students directly to OpenLearn. In other cases, the lecturer would want to support the students’ use of Openlearn units. The lecturer said:

“I would point at the OpenLearn material but also provide guidance. For example, I would point at the data representation material [‘Computers: bits and bytes’]. In the case of the ‘ICTs: technology news’ material, I would point at the spray diagrams but support it with an example, such as going through the ‘taking notes’ section. In the case of the ‘Computers: bits and bytes’ material, I would refer the students directly to



the material for further reading. It would be useful to have SAQs on binary and manipulation of data.”

The computer science academic would use the OpenLearn material as presented (‘as-is reuse’; Wiley, 2007) rather than consider adaptation. the lecturer said:

“The material would be used as presented initially. At the present time I would not want to go through the hassle of restructuring and re-presenting the material. There doesn’t seem to be any reason to. ... I would not adapt the material at present; it’s a case of the amount of time. At the moment, the material is most useful as is, to be used as supplementary material for face-to-face and distance learning courses.”

“The OpenLearn material would be included with other resources. We would probably present our own interface on the internal VLE and make links out to OpenLearn material...”

After some thought, the lecturer also suggested: “A VLE, a page with links and guidance – our own front end and supporting material, but the core might come from OpenLearn.” When asked if and when the lecturer might use the material, the lecturer responded “Probably, but not this year. Possibly next year, for first year teaching in the first term – not sure’ [September 2007].

Various suggested forms of ‘as-is reuse’:

- selecting appropriate sections
- as a replacement for a book
- as introductory material
- as background reading
- link out to OpenLearn material from a VLE
- as supplementary material for a course
- as core material for a course.

Issues raised with ‘as-is reuse’:

- Actual relevance of a unit or section of an OpenLearn unit to the context in which the lecturer teaches a course
- In the case of distance learners – units would need to be supported by appropriately written contextual wrap-around material
- A time commitment is required to assess the relevance of OERs to teaching practice.

Issues with adaptation of OpenLearn OERs:

- A time commitment is required to assess the adaptability of OERs to their teaching practice.

The issue of a time requirement to adapt material is evident from the computer science lecturer's responses. The lecturer would rather consider various forms of 'as-is reuse' (Wiley, 2007). Perhaps campus-based academics would not use a whole unit of material as presented, as it would minimise their face-to-face input to the course. However, when teaching in a distance teaching mode, it appears that lecturers may be more receptive to adopting whole OpenLearn units together with wrap-around context-setting material.

### *Findings from second interview for case study 1 – held in February 2009*

At the first interview, the academic had selected four units of interest although there was not much time to assimilate what was available on OpenLearn at that time. In the second interview, the academic was reminded of this.

The academic was asked whether any of the OpenLearn units of material had been used/reused with students. "I haven't really. I've looked at it but I haven't used it. I looked at it after you came..." The academic was asked what prevented finding useful resources to reuse. The lecturer said "I haven't really had time; I've been snowed under with other things lately – I know that's not really an excuse. ... Work commitments stop me from looking around at too many new resources. The reuse is not too much of a problem as long as there is something I can move very quickly on and say right, there, go there." It is also the case that this academic has adopted a teaching fellow role and has had less time allocated to teaching.

This academic thought that the distance learning OpenLearn units were perhaps too verbose for the particular students:

"I thought that some of it was a bit simple – not quite ready for my students... like I say it's been a while since I looked at it, but it seemed to be a lot of stuff there but... it would be very hard to pick out... look at this... look at this. There was a lot of information around it, not getting to the point quickly I think."

This academic had selected introductory units in all four cases, and this might explain the difficulty in using these units. Also, as the original material was for distance learners, which may explain why it may not be adaptable for an on-campus, face-to-face setting. This echoes the point made in stage 1 by the participant from the German university (also campus based) who thought that the OpenLearn units were too textual for on-campus use and when read from a computer screen. However, the German participant suggested restructuring the materials to overcome this issue.

Interest in reworking content:

The computer science lecturer was asked about possibly reworking the OpenLearn unit to make it useful for the students. The lecturer said "Yes, but the level was quite

simple of the stuff that I looked at ['Computers: bits and bytes'] (and I don't know about the rest of it [other OpenLearn units]) but... I didn't see any real advantage in reworking it... I haven't any ideas of taking and adapting [OpenLearn units] at the moment – I am always looking for ideas for taking and adapting it if somebody could come up with a way... with some suggestions on how this could be taken and adapted that would be great. Case studies would be good – have people say what they have done with it – great. That's always the problem [a lack of examples]. ... There's lots of hesitance [about reuse], it's like the e-learning argument. Everyone hears that they are supposed to do it, but how, what, what's worked... more of that makes it easier for people to say OK this works for them... ah, that's how you do it... and I wish we had more initiative at times but you get bogged down with other stuff so example case studies would be great."

Identifying OERs units to reuse:

The lecturer tried to find the 'Computers: bits and bytes' unit by using the search facility in the LearningSpace without success. The academic could not find this unit, as it had been moved from the LearningSpace to the LabSpace (at some point after the initial interview took place). This and other units (including 'Living with the internet' – also selected by the academic at the first interview) were moved to the LabSpace, as they were considered slightly too out of date to be presented in the LearningSpace. As this example shows, movement of units (without any prior warning) can cause problems with easy retrieval at a later date, whether the search facility, topic areas or bookmarks have been used to find the material in the first instance.

As a result, the lecturer decided to look for something different:

"I am looking for stuff on processes as well... this looks useful 'Computers and computer systems' [intermediate level, 20 hours] ... so this looks interesting – the representing data section (4, 'Representing data and instructions inside a computer') and section 5.1, 'The personal computer Resource. ... I'm thinking about using these for the revision part so do my bit, and when they come to the revision, give them another resource to look at for reading around... just an alternative way of looking at it, instead of my way of putting it, someone else's way of putting it." This academic, as in the first interview, sees the OpenLearn material as being supplementary to teaching. This academic said "supplementary for their revision. ... At the moment, I'm not looking at it ... (unless I see something really great) to say 'here's the main source [of course material on OpenLearn]'."

This academic (possibly as a result of the interview) did go ahead the following day and point the students at a section of an OpenLearn unit they could use to help with their assignment. The lecturer sent the following as part of an email message to first year students: "A resource that might be of use for task 1 of the assignment is from the OpenLearn project at the Open University on binary, see the link below:

<http://openlearn.open.ac.uk/mod/resource/view.php?id=175801>

Artificial intelligence is another area of interest to this academic:

“Right now for the big test. I’m looking for material in artificial intelligence to see if there is anything because that’s one area that I would like to see material in. That’s an area that students struggle with. The module I teach is third year, and they haven’t done any artificial intelligence, so I’m having to teach them a lot of principles very quickly, and that’s where it would be useful to have resources, I think. ... Basically because it is such a massive area... I can’t teach everything and be comfortable about teaching every aspect of it. So if people can do things on agents... this kind of stuff that would be great. Like I say ‘Here is the resource; you look at it for yourself.’ I could push them more towards a more problem-based approach, which I would be quite interested in. It’s all nice in theory... but in practice, it is another thing [though at Level 3, this might be easier].”

Unfortunately, no units were found on artificial intelligence. “Let’s try robots then...” Unfortunately, again, no units were found in the LearningSpace. The academic was not aware that a separate search facility was available for the LabSpace. It would be advantageous for OpenLearn users to have a search facility that covers both the LearningSpace and the LabSpace on the main OpenLearn web page. “The Robot stuff is interesting because it is of interest to me, but I have got lots of material that I have created now, though I would be interested in what other people have done.”

These responses suggest perhaps that OERs would be more useful for lecturers teaching slightly out of their discipline area, in a new area where little material is available, or for updates and revisions of material in evolving disciplines. Conversely, OERs may not be of as much interest to an experienced academic who is very comfortable, able to teach in an area of expertise, and has already built up lots of teaching materials.

Various suggested forms of ‘as-is reuse’:

- As revision material.

Issues raised with ‘as-is reuse’:

- A time commitment is required to assess the relevance of OERs to teaching practice
- The suitability of distance learning OERs material for on-campus use
- The movement of units of material from the LearningSpace to the LabSpace without any warning
- The availability of material for all discipline areas
- If OpenLearn units are to be adopted as central or ‘core’ material for a course, they need to be extremely relevant to what the lecturer is teaching.

Recommended ways of improving the ability of academics to reuse open educational resources:

- Provide case studies of reuse.
- Provide a search facility, which covers both the LearningSpace and the LabSpace.
- Alert users to the movement of OpenLearn units from the LearningSpace to the LabSpace, perhaps through bulletin messages within OpenLearn, so that these units can still be found.

Overall findings for case study 1:

This academic's suggested approach in both interviews shows various examples of what Wiley (2007) describes as 'as-is reuse'. In contrast, the OpenLearn team may have expected users to download, adapt and re-upload units rather than use units as presented. Perhaps it is difficult for academics to contemplate making big changes to their courses year on year. Slight revisions may be possible to improve on areas of courses that have not worked well. However, if elements of courses have appeared to work well with students, then an academic may see no need to change the course at all. Different institutions also have different staff-to-student ratios, class sizes and thus assessment loads, which affects the amount of time the lecturer has to assess and reuse OERs.

In the initial interview, the computer science lecturer identified a number of ways in which he proposed to reuse OpenLearn OERs with students. Perhaps it is not surprising that in the second interview, the lecturer could only add one more option in the form of 'revision material', as there had not been time to look at the OpenLearn material or use any of the OERs with students. The lecturer did, however, suggest that the provision of "case studies of reuse" would be beneficial to encourage lecturers to reuse resources.

In both the first and second interviews, there is a sense that the computer science academic does not want to engage with reworking the material. The lecturer did not show any interest in what this would involve, but wanted to find units or sections of units that aligned closely with current teaching and could be used as presented.

## **Case study 2**

Case study 2 involves a head of department at a campus-based art and design college in the UK, and a lecturer at the same college.

The head of department had been approached to take part in stage 1 of the project. However the head of department only responded to a few of the questions and therefore these responses were not included in stage 1. The responses will be used

here to provide context. The head of department did take part in an interview for stage 2 and was interviewed on 26 February 2009.

The art and design lecturer was not involved in stage 1 of the project. The lecturer was interviewed for stage 2 of the project on the 19 February 2009.

*Findings from initial interview with head of department for case study 2 – held in 2007*

The head of department at the art and design college was aware of OpenLearn (just before the online interview took place on 23 April 2007) through association with the Open University. The head of department indicated that there was not enough time to assess the relevance of OERs to their teaching practice at the art and design College, saying: “the responses you require need pretty detailed analysis and reading of the learning materials, and we just haven’t had time to undertake this study in enough depth to respond meaningfully.”

However, the head of department identified four OpenLearn units that could be used by colleagues at the art and design college; see Table 5. The units are all from the study skills topic area, and the number of study hours varies across the selected units (between three and 12 study hours). All four units are at ‘introductory’ level, which is in line with the level of units selected by the computer science lecturer. “I have looked at the abstracts of some of the units. The only area that would be related/relevant to our work is the study skills courses, but even these only have broad relevance to our delivery. The [study skills] courses ‘Reading and note taking – preparation for study’, ‘Giving presentations’, ‘Extending and developing your thinking skills’ and ‘The importance of interpersonal skills’ have some relevance and could be useful for students to access at induction stage or whilst undertaking Personal and Professional Development modules, which are core to most of our degree courses.” The OpenLearn units are seen as useful introductory material, which is similar to the suggested re-usage by the computer science lecturer. However, there is a suggestion that the whole unit may be adopted (rather than specific sections) for ‘as-is reuse’ (Wiley, 2007). The relevance of the OpenLearn units to personal and professional development echoes what was said by the academics in the Kenyan and South African HEI (stage 1, section ‘Ways in which institutions could use OpenLearn units with learners’ and Figure 9).

**Table 5: Distance learning OER units of interest to the head of design in art and design**

Title	Study hours	Level	Topic area
‘Reading and note taking – preparation for study’	12 hours	Introductory	Study skills
‘Giving presentations’	6 hours	Introductory	Study skills

'Extending and developing your thinking skills'	6 hours	Introductory	Study skills
The importance of interpersonal skills'	3 hours	Introductory	Study skills

When asked how the art and design college would use the OpenLearn material with learners, the head of department was unsure and said:

"How we would encourage students to access is a more difficult question to answer. Perhaps online or perhaps through hard copy handouts. Having said that, they [the OpenLearn units] would seem to be useful rather than essential and would depend on individual course leaders to evaluate their usefulness and 'own' any material for recommending to students. The art history courses are interesting, but again not related syllabus wise to our critical studies delivery, so not that useful to deliverers or students on courses. This appears somewhat negative, but is not meant to be so. The material is well put together and user friendly to access, and of course we will make staff and students aware of the resource available. There may well be a different view from colleagues when they manage to have a look, but for now I have insufficient feedback to really do justice to the questions asked."

Again, as in stage 1 of the report, there is a suggestion that course leaders would need time to assess the usefulness of the OpenLearn units for teaching and learning.

Various suggested forms of 'as-is reuse':

- Adopting the whole unit
- As introductory material
- As hard copy handouts
- As broadly relevant to courses (background material)
- For personal and professional development.

Issues raised with 'as-is reuse':

- A time commitment is required to assess the relevance of OERs to teaching practice.

#### *Findings from second interview with head of department for case study 2 – held in 2009*

The head of department was interviewed for a second time in 2009. At the start of the second interview, the head of department was asked whether the study skills material identified in 2007 had been adopted. The head of department explained that the launch of OpenLearn coincided with the start of a project at the college. "We



thought it was an opportunity to...[use] some of the OpenLearn material... study skills stuff [which] would be quite helpful... the OpenLearn aspect of this [project] was a component of the bigger picture.”

The head of department then went on to explain the background and context of the larger project, which involved the use of some OpenLearn units. The art and design college is part of the National Arts Learning Network (NALN):

“Colleges, such as ourselves, [are funded] to employ what we called progression managers, who were there to look at issues relating to progressing non-traditional learners through to higher education; people doing vocational qualifications as opposed to gold-level A-level route. So we’re talking about National Diplomas and City and Guilds and things like that; adult returners maybe doing access courses to higher education, etc. And because [we] and a number of the other institutions have a mixture of further education and higher education, we were quite well placed to be able to engage with some activities on behalf of the NALN. This was HEFCE funded over a three-, four-year period. One of the projects which we were involved with was to look at one of the barriers to entry which we felt was the mismatch and alignment between the FE curriculum that’s feeding through to the higher education curriculum. Because critical studies is quite a key part of our higher education provision, we thought we needed to find ways of getting students who were less developed with critical skills, [and] engage them with something that was more accessible, as opposed to paper-based traditional journals and documents. So [the lecturer] set up a wiki with information on how to analyse images – visual images – and, if you like, learning materials in terms of the briefs and assignments that students had to do. [The wiki provided] an opportunity for students to talk to each other [about their course work and seminars, etc]. The idea was that the students could read some text that [the lecturer] put up with a hyperlink referring to whatever they could click through to [on] OpenLearn. And I think the problem [is that the lecturer] is not quite sure how well or how much the students engaged with that click-through type experience. So in terms of how OpenLearn was used by students, I think that’s quite a difficult one for us to answer. Bit like knowing what they’re going to research in a library – it’s the same kind of dilemma. It didn’t get to a situation where we said ‘Eureka! This really is a powerful tool, this wiki; therefore, you know, roll it out across the curriculum.’ It hasn’t happened. But I think we will have learnt from that.”

The head of department was asked whether areas of OpenLearn other than study skills would be of interest to academics at the art and design college:

“Well, the art and history [OpenLearn] curriculum I think is probably too traditionally couched for the kind of curriculum that we deliver to our students, but there will be aspects of it. It depends. There will be aspects on there that will be of interest to critical studies staff, depending on where their interests lie and their... philosophies on Marxism or whatever; it might be that drives them in terms of what they want to get across to students. But increasingly we’re looking for much more contextualised

delivery of critical studies to a core subject area. ... something that is immediately accessible to a student seeing it's relevance to what they're doing. Now in terms of modes of delivering, then I think we're still in that trying things out stage as to how you engage students' critical analysis and skills. You get a lot of students coming through who are very good at description and spitting back facts, but they're not necessarily that good at being analysed intellectually about the meaning, or the semiotics, or whatever it might be, to do with particular design, or imagery, or whatever."

The head of department was asked whether other colleagues had shown any interest in using or reusing OpenLearn units:

"I'm not sure how many people in our organisation will know about OpenLearn. I certainly sent out an email communicating to all staff when OpenLearn came about, all the email marketing went on at the time in terms of launches and whatever. Whether anybody [apart from the one lecturer] used it or not, I don't know. I suppose it's a bit like any online reference point, you know, you're never quite sure whether people engage with it or not. ... I think the thing to say about the OpenLearn website from a visual arts design student perspective is it's not the most visually exciting portal to access. It looks a bit dry and a bit dull, a bit academic. And so I think there's a barrier for our students to engage with probably very relevant material on OpenLearn. But probably the reality is, for them to engage with it, we'd have to extract from that OpenLearn and probably place it in a more visually accessible context as part of their main course, for students to use it. So our own students actually accessing OpenLearn for learning for themselves – my guess is that it's a bit limited."

The head of department, without prompting, was suggesting that the OpenLearn material could be integrated with other course material in a different environment.

It was explained to the head of department that this was exactly how OpenLearn envisaged reuse of units. The head of department went on to say:

"I mean, getting a member of staff to engage with looking at material, to extract from it and then present it in a different format – I can see how that would be effective. But it's getting the staff to engage with the OpenLearn website in the first place that I think is the issue... But for it to be useful to, or to be seen to be useful to, staff who are teaching art and design students, who are teaching them face to face, I don't know quite what the engagement there'll be with that. ... I suppose if you said to a member of staff there is a module at this link, on the OpenLearn website, for example, or any website come to that, which is dead relevant to what you're doing at the moment, contextually in your practice, they'd go on it, look at it and think 'yeah, that's really good' and then use it."

The head of department was asked if there would be a technical barrier to taking OpenLearn units and repurposing them:

“I don’t know, I mean I can’t really answer because I haven’t done it. ... But I would have thought most students and staff will be reasonably savvy to know how to do it. I think it’s more to do with the immediate relevance, or perception of the relevance, of material, which hits them in the face. You know? Something ‘oh, must go onto that and look at it,’ as opposed to go onto it ‘this looks interesting, let’s search to see what there is’.”

This response highlights the need for the subject matter of OpenLearn units to be closely aligned with the course being taught if they are to be readily adopted and reused. These comments also echo those from the computer science lecturer who wanted to quickly be able to point students towards relevant OpenLearn units. However, the head of department could see benefits in reworking OpenLearn OERs for on-campus usage, whereas the computer science lecturer could not. The head of department did not think that there would be a technical barrier for lecturers in the download and repurposing activity, although he was unaware of what was involved.

Various suggested forms of ‘as-is reuse’:

- Link out to OpenLearn material from a Wiki.

Adaptation of OpenLearn OERs:

- Extract material from Openlearn and place it into a different online environment.

Issues raised with ‘as-is reuse’:

- The OpenLearn interface does not appeal to all disciplines.
- Making academics aware of OpenLearn is insufficient in terms of their engagement with OpenLearn units.
- A time commitment is required to assess the relevance of OERs to teaching practice.
- The suitability of distance learning material for on-campus use is a possible issue.
- The actual relevance of a unit or section of an OpenLearn unit to the context in which the lecturer teaches a course needs to be considered.
- Students may not be keen to follow up on pointers given to OERs units.
- If OpenLearn units are to be adopted as central or ‘core’ material for a course, they need to be extremely relevant to what the lecturer is teaching.

Overall findings from the two interviews with the head of department:

In the first interview, the head of department was rather unconvinced that the OpenLearn units would be of value to lecturing colleagues. However, the need to find new materials to engage students from different backgrounds and circumstances afforded the opportunity for OpenLearn units to be adopted as part of a larger project. The head of department was not sure how well the materials were received and did not have a full understanding of how they were used (the latter is discussed further below). The head of department could see the value in extracting material from OpenLearn units, repurposing it and presenting it in a different environment that might be more appropriate to art and design students.

### *Findings from the interview with lecturer for case study 2 – held in 2009*

The lecturer at the art and design college, who teaches critical studies and supervises dissertation students, was interviewed only once in 2009. This lecturer is the co-ordinator of the critical studies programme and organises how critical studies is delivered over Levels 1, 2 and 3 (10 credits on Level 1, 20 on Level 2 and 30 on Level 3).

#### Ways in which the art and design lecturer reused OpenLearn units:

The lecturer in art and design was recommended to look at the OpenLearn units by the head of department, who led the project which used some of the OpenLearn material. The project took place over 15 weeks in the autumn term of 2007 and the spring term of 2008. Two cohorts of students were involved and they were taught in sessions which ran in parallel. The students were studying the first year of an undergraduate course in either graphic design or visual communications.

Parts of the OpenLearn units were reused in the following ways:

- 1 A seminar entitled 'Semiotics: an introduction' introduced (among many other images) the image titled 'Figure 2 Baby McFry (Adbusters)' as a free-standing image displayed on a large projection screen. This image was from the unit 'Word and image, Section 2.1, Some semiotic concepts'.  
<http://openlearn.open.ac.uk/mod/resource/view.php?id=170753&direct=1>  
Seminar discussion took place around the various images.
- 2 After seminar discussion, the students were directed to undertake two activities within OpenLearn: activities 2 and 3 in 'Word and image, Section 2.1, Some semiotic concepts'. The activities were displayed from OpenLearn on a big screen in the seminar room. The first activity uses 'Reading A: Extracts' from 'Signs and myths' by Jonathan Bignell, and the second activity is associated with the 'Baby McFry (Adbusters)' image. In the OpenLearn unit, the students are asked to undertake the

activity and then click to reveal the answer.

<http://openlearn.open.ac.uk/mod/resource/view.php?id=170753&direct=1>

- 3 A link was made (from the wiki developed by the lecturer) to Section 3 'Studying philosophy' in the OpenLearn unit 'Introducing philosophy' (see discussion below).  
<http://openlearn.open.ac.uk/mod/resource/view.php?id=170263&direct=1>
- 4 In the bibliographic section:
  - OpenLearn was suggested as a general resource.
  - The unit 'Finding information in arts and history' was recommended to assist students with research skills and spotting bias.
  - The 'Word and image' unit was highlighted as a resource in general (in addition to the activity associated with the 'Baby McFry (Adbusters)' image and the Bignell reading).

The way in which the lecturer reused these various OpenLearn units of OERs is discussed in detail below.

The lecturer in art and design was asked what the first impressions of OpenLearn were:

"Well, I was really, really impressed and, you know, initially, I was really, really excited at the wealth of material on offer. Like literally in terms of our enrichment, obviously there is a plethora of modules available. And whilst not all being, or largely not being, directly related to the sort of art and design provision that we would cover, I thought that there would be lots of elements of these various OpenLearn resources that could be applicable to critical studies for art and design."

Insights into the process of adopting OERs into teaching practice:

The lecturer in art and design was then asked what it was like trying to use open content materials in courses:

"That's an interesting question – obviously it's like a key question, and it's probably going to have to take quite a while to answer that. There's a lot of things that I need to say about it. Initially I was really enthusiastic about OpenLearn. I saw great benefits from it and I thought it would be really, really useful for students. And I kind of still think that. The way I used it was as part of a pilot for an online wiki project last year, sort of a virtual forum [and in face-to-face seminars], which incorporates some elements from... a couple of OpenLearn materials. Particularly one bit that I used was from a section reading an advertisement from a 'Word and image' module on

the OpenLearn site. So initially I made this as part of a seminar, so I used elements in seminars talking students through some elements of the OpenLearn site and using it as a basis for discussion in the seminar. And that worked really well; particularly there is an element from this 'Word and image' unit [Hysten, 2006, above], I have this image... call it a subvertisement, it's almost like appropriating the mechanism of advertising but then corrupting it or de-bunking it with the same techniques. And we showed this image and there was a really useful device on the website where you can show the image and then if you click just below it, after we've had the discussion about it, you get this reading of the image which just reveals itself. That was really, really good for a seminar-based delivery because the students can look at an image, they can then debate it in the context of the lesson, and then show afterwards directly how say a formal academic reading of this particular image would work, or how one would write that. And then of course after that the students can then go away theoretically and have that, you know, as a framework to map onto any other image analysis that they look at. So, in terms of seminar delivery, devices like this worked really, really well I think. They're really, really interesting, particularly in the way students can map their own readings to more critical vocabulary; here we're using just a very simple introduction to how to use terms like 'paradigm connotation'..."

"... But I think, in terms of resources, it was useful; and using them in seminars, using them in terms of supporting materials like there was texts... online PDFs of texts, we got this thing from [OpenLearn], Jonathan Bignell 'Media semiotics' [Wiley, 2006], which I linked in one of the critical studies seminars that I was delivering on semiotics... [The] Bignell text was almost like a core text for the graphic design and visual communication students. And the framework from this extract was basically the framework for the delivered session. So this wasn't delivered as a reading, but this was available for students to look at, to recap learning from the session."

"As part of this wiki, I also used an element of the [OpenLearn] 'Introducing philosophy' [unit]. Part of the nature of my particular project (it was a NALN-funded project), was to look at ways in which practical or vocational students engaged with critical thought or critical analysis. And particularly if there's any barriers to accessing the techniques of critical thinking, critical philosophy, for what are called reductively widening participation students, of which, according to the NALN agenda... that's basically our student cohort – non-traditional learners. So... there's a trifurcation on the [OpenLearn] 'Introducing philosophy' [unit] in terms of how one studies philosophy, and yeah it trifurcates into reading, discussing and writing [Smith and Casserly, 2006]. And I guess I used that as a sort of a framework for our critical studies module. And it explains... just in a very simple way, how one reads the importance of discussion and then how one turns that into writing. But as well, I wanted to try and encourage students to think of writing as critical philosophical practice. So the act of making a piece of graphic decision, the act of painting, choosing what colours, is in its own way philosophical. So I think that framework



was interesting in terms of trying to get people to think about what is critical thought in terms of art and design. So bearing in mind this was on a Level-1, 10-credit module, so these are just a few supporting materials to a wider programme of study. So in a sense my use of this [OpenLearn units] is slight. So, like I said, there was only a few sessions in the first year [where OpenLearn units were reused] just because the small nature of the programme, but there was a lot more stuff that I could have involved, I could have like mobilised, to back up this study, to back up the programme of study. Just because of the nature of it, I didn't use a lot. So that is how we basically used it."

Whether learners are expected to work on the OpenLearn units of material as individual or in groups:

Without prompting, the art and design lecturer indicated a hope that the students would work both independently and in groups around the OpenLearn resources:

"What I initially hoped then was that students would almost form some kind of habit of accessing these sites and using them independently, not just when demanded to by the nature of a seminar or a brief. And I don't think the students actually did that independently. There was a few links based on this wiki site that I was using it as the sort of base site for the critical studies programme. And there was links to the OpenLearn material, but independently I don't think the students actually went and used it, or went and looked at it. I found that interesting for quite a few reasons. Disappointing initially, but interesting. And in terms of talking to students, I got a few speculations as to why they're doing it, why they didn't... why they failed to engage with this. What I would say is, I don't think it is the nature of the way the OpenLearn site is designed. One major barrier was that my sort of homepage, this critical thinking wiki, because I'm not a web designer, was clunky – it wasn't user friendly, so it was quite difficult for students to find things on it, find links and find resources; it wasn't immediate. But I think that was a flaw with my design; I wouldn't necessarily say that was a flaw with the OpenLearn site, which I think is user friendly. Although I couldn't guarantee that the students would think that. So I think there was a barrier there."

The art and design lecturer identified "... a kind of an attitude amongst students to e-learning where they see it as, I don't know, goal orientated, they will look at this thing to tick a box, or they will look at this thing to pass a brief or fulfil a task in a seminar, but they won't necessarily use it to independently research and explore."

The art and design lecturer wanted students to:

"... make this collective virtual identity with discussion forums where they could almost, yeah collectively guide themselves through this programme. That actually didn't happen. The only time that happened was when I specifically instructing. So I think that in the couple of seminars that I used OpenLearn, I think students were



helped in the seminars through the material, but just in terms of our students, I don't think that they independently used it to get this kind of greater autonomy or like self-directed learning that I was wanting them to... But I guess that's the challenge – it's almost an un-squareable circle in a very small 10-credit module. In fact, it's a paradox isn't it, how does one teach or instruct someone to be autonomous and self-directed? You can't like tell them to do stuff but at the same time they find things out for themselves. It's tricky... the OpenLearn material in a sense is great because it's all been done and it's all been well designed and there's devices like this image analysis which I can slot into a seminar – I can just select PowerPoint and then use that..."

The lecturer is indicating the need for a facilitator, and went on to say:

"... I mean, it was really a noticeable attitude that the students actually wanted to use this stuff and that, you know, for novelty reasons or because they thought it was exciting and new and modern and they thought that this in theory was a great idea but in practice not. And yeah... [they need] some kind of shepherd to guide them through this. I think that would be incredibly beneficial; it would reap immense rewards, I think. ... but on other things, like trying to encourage students to use it and look at it and then see how they are using it and see if they're discussing things on a forum, that's incredibly time consuming; it's labour intensive and... the workloads in a HEFE culture are [already] incredibly high."

Students' familiarity with technology:

One of the issues the lecturer identified as a barrier to the use of computers and the internet by students was a lack of familiarity:

"... I sort of thought that every single student is going to be technologically savvy to start with; every single student is going to be *au fait* with web browsing. And that's definitely not the case, particularly from students from certain backgrounds... you know, from sort of impoverished boroughs. A lot of students just aren't used to using computers; even they might not have computers at home and their only experience of using computers is in a sense is through a school system where they're instructed to use computers for the task and they're not necessarily using computers as a tool to... to help themselves develop."

"The project had to be on Level 1 because the whole kind of brief, the whole mission, was to try and think about how students enter into higher education. But the Level 1, the nature of the Level 1 students I think prevented them from engaging with this fully. I think maybe if it was done with Level 2, where they were more used to going to computers, using the computers as research tools, or encouraging into a kind of mode of behaviour, you know, where they'd be comfortable with this, I think they would have taken the ball and run with it a lot more. But the fact that it was the very first thing that they had to do on the degree, and especially the very first thing they

had to do academically on the degree, I think there was a bit of a culture shock there, a bit of an institutional barrier. Something like that anyway.”

Time taken to identify OERs that are relevant to the subject the lecturer is teaching:

The lecturer was asked whether the identification of suitable material involved a lot of time:

“The first stage was to go to the OpenLearn site and then I sort of in my head isolated arts and humanities as being the most useful. ... browsed them for half an hour, an hour, and immediately there was two or three modules that I thought would be applicable, would be useful... generic modules such as ‘Word and image’ and there was another one on ‘Finding information in arts and history’ and this ‘Introducing philosophy’ [unit] ... So for instance I’d already had planned that we were going to deliver a module on semiotics, and with that in mind I saw that there was this ‘Word and image’ [OpenLearn unit] and scouted through the various different activities and saw that this particular image would be directly applicable to this particular discussion, and this Bignell text would be directly applicable to that session also. So I guess I had a kind of a programme of study already in mind, and I was scouting through the OpenLearn site for things that would back that up. So, yeah, I found it easy to access. I found it easy to search for things. In terms of the way the modules are laid out, with the drop-down menus in the search functions, I found it very quick and very user friendly. The only actual space on the site I looked at was the arts and humanities section. In fact, I sort of I suppose, yeah, didn’t imagine there would be anything of use in any of the other sections/sub sections.”

The lecturer was asked about how much time it took to prepare the OpenLearn units for reuse within teaching practice:

“In terms of [time]... I mean using the OU stuff, actually incorporating it into a site, or incorporating it into a lecture, as it’s already there, didn’t take that much time to prepare. ... So I would say incorporating this into a session in just that very discrete way where we take text from OpenLearn or incorporate an image from OpenLearn into a seminar, that takes as much time to prepare as it does just as part of a normal session, so hours. ... So, yeah, in a very direct way, where you take a section from OpenLearn, put it in a seminar – that’s quick and it was successful, but I think in terms of the wider thing [encouraging independent study], that needed much more effort that I couldn’t actually provide.”

Usage of the materials as supplementary as opposed to integrated within the course:

A question was asked about how the lecturer used the OpenLearn materials as part of teaching practice:

“I was trying to use OpenLearn... initially as supplementary teaching aids, but behind that I had this wider ambition that it would be an extension to the course as well. However, it wasn't because the students didn't engage with it in that way, and I still think it could be an extension to our module in terms of lots of things: enrichment, student autonomy, extensions into different areas. But... I'd have to think about how that would be delivered if that was to happen. So in a way, it has been used... it's just supplementary to a module as extra teaching aids... For the one or two seminars that I actually used this in teaching then it is integral. ... I'd say largely it's supplementary, but just in a couple of specific instances such as this semiotics lecture, then that's integrated, that's part of it. ... But it would be misleading to say it would be integrated throughout the whole critical studies module on Level 1, because it wasn't, it was much more as a supplementary research tool.”

Interest in reworking content:

A question was asked about whether the lecturer would have any interest in downloading and reworking OpenLearn units to suit the specific teaching and learning context:

“Well, it would, even though I'm not... As I said, this is my first foray into e-learning, and I found it exciting but incredibly challenging, but yeah, it would actually. There's ways in which I think say like the 'Philosophy' module and the 'Word and image' module are directly relevant to how our students study or how our students need to think about studying. But if I was to rework one of those modules, it would definitely include more visual material, more things that could engage students in a more creative way or a more active way, should I, say, rather than just passively reading, actually doing things. So stuff like this image analysis where you click on something and then something happens. Yeah, that would be something that I would do differently. And obviously I can see that the 'Introducing philosophy' module is relevant to graphic design students, but they wouldn't, so that would have to be more bespoke if you like to say that, you know, the way this designer is thinking about his process is the way that Plato thinks about *Republic*.”

Technical issues in terms of reworking content:

The lecturer was asked about barriers to downloading, reworking and re-uploading OpenLearn units:

“Ah, it would be without a doubt technological savvy. I think with the terms of this... the wiki forum, I was completely new to that, and it took me a lot of time independently just to learn how to construct these things. And in terms of... In terms of I guess with my union hat on here like, you know, from the factory floor, that time to become au fait with the interfaces and the technology is just not available, it's not available, we have to prioritise other things. So I think the barriers are exactly that, I think: a lack of time. I would feel I would need training to start with, you know, a

discrete amount of time where I could be trained to use this stuff, so that it became as natural to shape and adapt as say like PowerPoint is to me now. ... If I felt I could engage with it in as quick a way as it takes to say construct a user program like PowerPoint and adapt it, then I think I would, but I think that would definitely be the barrier. So, yeah, I guess one has to learn before one can use, and it's the learning that takes the time isn't it?"

Various actual forms of 'as-is reuse':

- As supplementary material
- As an extension to a course
- As integral to the course.

Positive factors related to actual 'as-is reuse':

- Reuse of sections of OpenLearn units and activities (displayed on a large screen) as integral in a seminar setting was positively received by the students.
- The activities not only enhanced the seminar, but the answer to the activity also provided a framework that students could use and adapt for other image analysis.
- Students could revisit the OpenLearn units and use them for reinforcement/revision.
- It was not time-consuming to identify and reuse OpenLearn units within seminars and through a wiki
- It was easy to use and search the OpenLearn website to identify content that could be reused.

Issues raised with 'as-is reuse' for the lecturer:

- Linking out to OpenLearn material from a wiki and expecting Level 1 students to work independently and follow that link did not appear to work.

Issues raised with 'as-is reuse' for students:

- Students from deprived backgrounds are not familiar with computer and internet use.
- Level 1 students have not learnt how to use computers and the internet independently.

Issues with adaptation of OpenLearn OERs:

- Additional media content would need to be added if OpenLearn units were to be reworked.

- There was a lack of time to become familiar with the interface and the technology.
- There was a need for training.

The art and design lecturer was very enthusiastic and successfully reused OpenLearn units within seminars. Encouraging students to look at the OpenLearn units independently does not seem to have been so successful. The lecturer would be keen to adopt more OpenLearn units for 'as-is reuse', and would also consider repurposing and adapting units. However, the lecturer suggested that, to be able to add additional media content would take time and training.

### *Conclusions for stage 2*

The computer science lecturer was very enthusiastic initially to adopt OpenLearn units for 'as-is reuse' with students. However the lecturer was unable to find the time to identify and use OERs in teaching practice. By contrast, the head of department at the art and design college was initially rather sceptical about how the OpenLearn units could be used, although the lecturer saw an opportunity for a lecturing colleague to adopt OpenLearn OERs as part of a larger project. One of the main differences between the circumstances of the two lecturers was that the timing of the OpenLearn launch suited the art and design academic, who needed to find new material to engage students from under-represented groups. The art and design academic had a purpose in mind and funding to support the work, whereas the computer science lecturer was trying to consider adoption of material without a particular goal in mind.

As indicated earlier, the conclusions for stage 2 are discussed in terms of a number of themes.

How much lead time does an academic need to assess the relevance of OERs to their teaching?

The computer science academic and the head of department both indicated that they did not have enough time to assess the relevance of the OpenLearn OERs to discipline teaching in terms of reuse within teaching practice. However, the art and design lecturer thought it was possible to assess the relevance of the OpenLearn OERs to the specific teaching practice quite quickly.

How adaptable are OERs units to a lecturer's teaching practice?

OpenLearn OERs are reported by the three participants (in the case studies) as very adaptable for 'as-is reuse'. The three participants, however, did not try to download, rework and re-upload OpenLearn OERs to the OpenLearn LabSpace for use in teaching practice. Specifically:

- The head of department did not think that it would be difficult for lecturers and students to download, rework and re-upload OERs, although unaware of what was involved.
- The computer science lecturer indicated a need for support and suggested that 'case studies of reuse' would be very helpful.
- The art and design lecturer indicated a need for training and time to become familiar with the interface and technology. This lecturer would also want to add additional media resources to any reworked units.

How easy or difficult does it appear to be to embed OERs hosted on OpenLearn in the teaching materials at another institution?

The head of department and the art and design lecturer were both keen to extract from and/or rework OpenLearn OERs and embed them within another environment at the art and design college. However, this activity has not yet been undertaken (except in terms of the art and design lecturer integrating some of the OpenLearn OERs within teaching practice).

Which OpenLearn authoring tools have been adopted (or not):

None of the OpenLearn authoring tools have been adopted as yet.

What issues have arisen in terms of sharing and adapting content?

The main issues that have arisen are associated with 'as-is reuse'. The key issues which were agreed upon are shown in Tables 6 and 7. Other issues raised are shown below Table 7.

**Table 6: Areas of agreement in terms of issues raised with 'as-is reuse' (case studies 1 and 2)**

<b>Computer science lecturer and head of department</b>
The suitability of distance learning OERs material for on-campus use
A time commitment is required to assess the relevance of OERs to teaching practice
Actual relevance of a unit or section of an OpenLearn unit to the context in which the lecturer teaches a course
If OpenLearn units are to be adopted as central or 'core' material for a course they need to be extremely relevant to what the lecturer is teaching

**Table 7: Areas of agreement in terms of issues raised with 'as-is reuse' (case study 2)**

<b>Art and design lecturer and head of department</b>
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Students may not be keen to follow up on pointers given to OERs units
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Other issues raised with 'as-is reuse':

- In the case of distance learners, units would need to be supported by appropriately written contextual wrap-around material.
- The movement of units of material from the LearningSpace to the LabSpace without any warning.
- The availability of material for all discipline areas.
- The OpenLearn interface does not appeal to all disciplines.
- Making academics aware of OpenLearn is insufficient in terms of their engagement with Openlearn units.
- Students may not be keen to follow up on pointers given to OERs units.
- Students from deprived backgrounds are not familiar with computer and internet use.
- Level 1 students have not learnt how to use computers and the internet independently.

Issues with adaptation of OpenLearn OERs:

- A time commitment is required to assess the adaptability of OERs to the specific teaching practice
- Additional media content would need to be added if OpenLearn units were to be reworked.
- A lack of time to become familiar with the interface and the technology.
- A need for training.

The need for awareness raising of the issues involved in reuse of OERs:

The head of department had made colleagues aware of OpenLearn, but he was not aware of colleagues (other than the one lecturer) adopting material from OpenLearn. A big hurdle identified by the head of department was the lecturers actually looking at what was available for reuse. Perhaps the climate in which academics work (developing courses within institutional silos) blinds academics to the reality that free OERs are available. Other issues are identified in the previous section. Although concerns have been raised around 'as-is reuse', those surrounding adaptation or reworking of material are much more fundamental and would involve funding for training, support and the development of 'case studies' of reuse.

The ways in which the reuse of OERs could lead to changes and improvements that can be revised in turn by the originating organisation:

The reuse of OERs between institutions could lead to the availability of a rich pool of resources. The benefit of access to quality material is indicated in the adoption of



OpenLearn units by the art and design lecturer. Two of the three participants (in each case in Table 8) agreed on ways that the OpenLearn units could be reused. Other suggested forms of ‘as-is reuse’ are given below Table 8.

**Table 8: Areas of agreement in terms of various suggested forms of ‘as-is reuse’**

<b>Computer science lecturer and head of department</b>	<b>Computer science lecturer and art and design lecturer</b>
As introductory material	As supplementary material
As background reading	Selecting appropriate sections
Link out to OpenLearn material from a VLE/Wiki	As revision material

Other suggested forms of ‘as-is reuse’:

- As a replacement for a book
- As core material for a course
- Adopting the whole unit
- As hard copy handouts
- For personal and professional development
- As an extension to a course
- As integral to the course.

Positive factors related to ‘as-is reuse’:

- Reuse of sections of OpenLearn units and activities (displayed on a large screen) as integral in a seminar setting was positively received by the students.
- The activities not only enhanced the seminar but the answer to the activity also provided a framework that students could use and adapt for other image analysis.
- It was not time consuming to identify and reuse OpenLearn units within seminars and through a wiki.
- It was easy to use and search the OpenLearn website to identify content that could be reused.

## Concluding comments

This research provides useful and important initial guidance for future research aimed at more widespread adoption of OERs. Although it is recommended that OERs be developed in such a way that they are easily reusable – technically, linguistically, culturally, and pedagogically (Wiley, 2007) – the findings in both stages

1 and 2 of this report convey an overall feeling of a need for more support from the participants' home institutions and the OER provider. In stage 1, the potential rather than the reuse of OERs was investigated, and the important factor was a need for time:

- to investigate what are useful elements of existing OERs to reuse as part of a teaching programme
- for training in how to adapt OERs
- to physically adapt the OERs to local needs.

In stage 2, six additional factors were identified:

- Provision of incentives to encourage academics to look at and consider OERs
- The relevance of the OERs to the course being taught
- Additional resources may need to be added when using OERs in a different setting
- Time to become familiar with the interface, the technology and the tools
- The need for case studies of reuse
- Links to external motivations to align use of OERs with other plans.

## **Recommendations and further work**

The following recommendations are made as a result of this research:

- Establish an infrastructure that helps people: support those with initial enthusiasm to ensure follow through in the reuse of OERs.
- Recognise opportunities with OERs: highlight how OERs link to funding opportunities and can be adopted as part of a larger project.
- Supply a stable environment and search facilities, enabling users to find OERs in the same place repeatedly and so trust OERs as a source of learning material.
- Establish example case studies of reuse – working with OERs is still novel and approaches need to be shared.
- Provide more support and training – the overall model is unfamiliar and tools are not yet fully refined.
- Ensure sufficient coverage of content for all disciplines – availability of materials may disappoint some users; this needs to be addressed through improved search and collation of materials as OERs expand.

Further work is investigating how to improve upon the OpenLearn processes and procedures to encourage the adaption, reuse and uploading of content including new content (POCKET – Project on Open Content for Knowledge Exposition and Teaching). POCKET is a consortium of four universities based in the UK. The project

is led by the University of Derby and is partnered by the Open University, the University of Bolton and the University of Exeter (see McAndrew and Wilson, 2008).

The need to gather evidence of use and reuse of OERs is identified. A major project – OLnet – starting in January 2009, will investigate as part of its brief ‘the OERs effectiveness cycle’. The ‘OERs effectiveness cycle’ provides an iterative sequence of information about the effectiveness of individual resources, operating at the component level: ‘One moves from design or selection of OERs, to implementation, to deployment, and through evaluation that generates data that informs design iteration. This may happen rapidly or slowly, with anything from one to hundreds of learners, generating informal or formal data (with recognition for the diversity of forms of evidence).’ (OLnet network, 2008).

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## **Djanogly City Academy Nottingham**

**Authors:** Ian Jones, University of Nottingham; Kim Balmer, Sero Consulting; Emily Brown, Djanogly City Academy, Nottingham; Eleanor Stokes, University of Nottingham.

**Context:** Large inner-city secondary school adopting a key stage-wide technological innovation.

**Aim:** To evaluate and improve assessment criteria of an innovative curriculum.

**Outcome:** A positive impact made; need for further refinement identified.

## **Introduction and background**

Djanogly City Academy Nottingham is an award-winning academy for pupils aged 11–18 in central Nottingham. It was one of the first academies in the country to open and specialises in ICT. The focus of this report is on Key Stage 3 (pupils aged 11–14) and specifically the evaluation of the New Basics curriculum (DETA, 2004a) which is used at the academy.

### **New Basics curriculum**

New Basics is a cross-curricular approach to learning, developed in Queensland, that focuses on cognitive development and lifelong learning. It centres around four clusters of practice:

- Who am I and where am I going?
- How do I make sense of and communicate with the world?
- What are my rights and responsibilities in communities, cultures and economies?
- How do I describe, analyse and shape the world around me?

These clusters of practice are dedicated to equipping students with the skills they need in order to thrive in the worlds in which they live and will work. Students demonstrate their learning of the New Basics by engaging in ‘rich tasks’ (DETA, 2004b), which are trans-disciplinary in nature. An example of a rich task is ‘science and ethics confer’ in which:

“... students explore and make judgements on a biotechnical process to which there are ethical dimensions. They identify the scientific techniques used, along with significant recent contributions to the field. They also research the ethical principles and questions raised connected to these techniques. Using this information, they prepare pre-conference materials as if for an international conference featuring

selected speakers who are leading lights in their respective fields.” (news@Djanogly, 2007).

The New Basics curriculum is delivered by learning and teaching strategies called ‘productive pedagogies’. There are 20 identified productive pedagogies which include ensuring that pupils engage in higher-order thinking: problems which connect to the real world beyond the classroom, academically substantive classroom work, and so on (DETA, 2004c). The New Basics curriculum is designed to focus on cognitive development by leading students through ‘repertoires of practice’ which allow them to develop competencies alongside the content of the rich task.

### **Delivery of New Basics at Djanogly**

Djanogly is a large school, and Key Stage 3 pupils are grouped by ‘pods’ of 70 and taught by teams of several teachers. Each rich task lasts a term, but the New Basics curriculum is not seen as linear or cumulative. As such, there is no necessary order in which the rich tasks are delivered, and for logistical reasons (physical space and teacher specialism) not all pupils in a year group cover the tasks in the same order. As such, one Year 7 pod might engage with the ‘science and ethics confer’ task at the start of the school year, but another might not do so until the end of the school year.

In the current academic year, the academy has focused on developing its assessment arrangements as the New Basics curriculum has been rolled out to Years 8 and 9. Assessment has focused on tracking students’ progress in relation to the rich tasks through refining the assessment criteria and making them more accessible to parents and students. In addition to this, assessment arrangements have developed in respect of providing an analysis of ‘underpinning performance factors’. An improved report that communicates both of these strands to students, parents and teachers has also been created by customising the input and retrieval of data from the academy’s MIS system.

The ‘personal vision plan’ is a means of developing the self-management of the learning process and allow students to drive their learning. It is due to capitalise on new technologies to allow students to engage in developing their own profiles in line with the sorts of personal profiles that they have already developed. Their learning-centred ‘my Djanogly space’ (<http://djanogly.weebly.com/index.html>) will allow sharing of information between students, parents, teachers and selected peers.

### **Research focus**

The overarching aim of the project is to evaluate the impact of the New Basics curriculum that the academy has adopted in Years 7–9. In evaluating the impact of this innovative curriculum, the project sought to:

- develop assessment criteria to measure progress in each of the rich tasks, and determine the effectiveness in moving students forward
- develop assessment criteria to measure progress as a learner, linked to the productive pedagogies, and determine their effectiveness in moving students forward
- develop systems using existing and/or new technologies to record progress, report to parents and carers, and monitor progress against the criteria
- evaluate the impact of using the 'pod passport' ('an interactive mind-map which acts as an e-portfolio over the entire year' – Sharma, 2007) to create a portfolio of evidence gathered and/or created using a range of technologies, to which the assessment criteria will be applied
- evaluate the impact of the criteria in guiding significant adults, teachers, students and parents in setting targets for improvement
- evaluate the effectiveness of the personal vision plan in using technology to share data between students, parents and the academy and engage each stakeholder in supporting the learning processes
- evaluate the impact of institutional change that has been brought about by the action research project
- use the evidence collected during the action research to inform best future practice.

## **Participants and methods**

The participants of the research were:

- from Djanogly City Academy Nottingham: Emily Brown (Vice Principal – Learning and Teaching), Stephen Charleston and Julia Foster (New Basics lead practitioners)
- from the project team: Ian Jones, Eleanor Stokes, Mike Sharples (Learning Sciences Research Institute, University of Nottingham); Kim Balmer (Sero Consulting, Sheffield).

The project's progress was monitored through semi-structured group interviews with members of all stakeholder groups including pupils, parents and carers, and teachers (see Appendices C1 and C2).

## **Success and obstacles encountered so far**

Many of the planned improvements have been implemented, but not all the ambitions have yet been realised. These are summarised below.



## Reports

The nature of the reports shared with parents and carers on academic review days has changed. In addition to the traffic light system of showing progress against baseline targets, the reports now contain information on the underpinning performance factors.

## Assessment criteria

The assessment criteria for each of the rich tasks in Years 7–9 have been developed. This has been undertaken as a starting point:

- for developing an effective means of measuring progress
- as a way of demonstrating what students must do in order to move forward
- to provide clear assessment criteria for guiding significant adults, teachers, students and parents in setting targets for improvement.

## Pod passport

The pod passport is an area that requires further attention. Although one of the learning technologies developers has been working on the passport for Years 8 and 9, it has yet to be completed and rolled out. For the next academic year, however, the pod passport structure will be in place for all three year groups ready for students to collate and house their evidence as an e-portfolio which centres around the use of MindManager software.

## Personal vision plan

The personal vision plan has yet to be developed in its final format to allow personalisation and collaboration within a secure environment. To date, the personal vision plan has undergone a number of trials. This has taken the form of initial developments by ICT Diploma students using the 'MySite' facility in SharePoint 2003. This led to the development of a Weebly website (<http://djanogly.weebly.com/index.html>), which delivered on look, feel and ease of use but lacked the desired security features. Year 9 students have trialled GoogleSites to use until migration to SharePoint 2007 will allow for further development of a school-based secure environment.

The personal vision plan will be a shared tool that allows students to drive the learning review process as part of the academic review day and update on their websites the targets that they set for themselves. The academy has begun to engage with a software development company that works closely with the education sector, in order to build a bespoke product that will meet the requirements of the personal vision plan in terms of functionality, security, ease of use and aesthetics. The 'walk through' has been determined and the project is ready to move to its next phase of development. This development will be undertaken by the academy's web

developer working with the software development company and one of the academy's learning technologies developers.

## **Future aims**

Although all the intended outcomes have not yet been met, this ambitious project has nevertheless provided a focus for monitoring the implementation of the improvements. The process has allowed increased opportunities for reflection and for gathering feedback from a number of different stakeholders. This has been facilitated by the research team who have carried out interviews that would not otherwise have taken place. The information given in the interviews has been insightful and has allowed people to share their views in ways that they may not have done had they been consulted directly by the leadership team. The importance of good quality evaluation has been underlined and will continue to form part of the improvement process as aspects of the project that have not yet been finished are driven through to completion.

## **Insights gained by the Djanogly team**

From the outset, the action research centred on an ambitious project to secure improvements in assessing the progress of learners in the New Basics curriculum. The project was to bring together a number of developmental strands that were set to improve the ways in which progress is monitored, recorded, tracked and reported to parents and shared with students.

The interviews conducted with parents have given useful feedback about the reports and will be used to make further improvements (Appendix C1). The comments were informative and insightful in that they raised some issues that had not previously been considered. For instance, our quest to make reports easy to interpret at a glance had, in fact, caused some issues for one parent who thought it made it too easy for others to discover whether a child was mostly achieving reds, ambers or greens.

The staff interviews (Appendix C2) provided invaluable feedback regarding the journey undertaken to date and have confirmed the steps that need to now be undertaken, as already identified by the leadership team; for example, the need to develop an explicit 'learning to learn' feature of the curriculum. This will form part of the next phase of developments so that this thread, along with others, will run through each of the rich tasks and allow students, teachers and parents to track progress and determine readiness in other ways.

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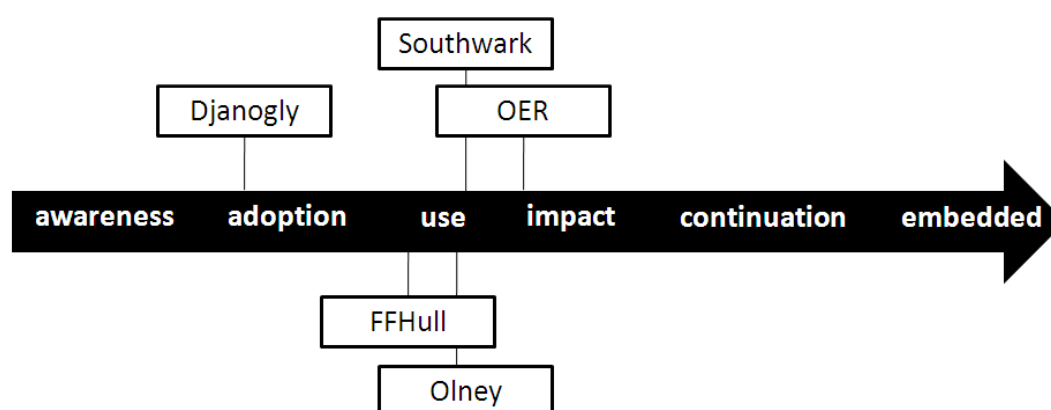
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## Synthesis and insights

We focus here on the contexts into which technology was placed in each of the action research projects. This allows us to highlight the different journeys and pace of progress of each innovation, and the potential discontinuities that may affect such progress. Each project may be said to be at one of the following phases of change – awareness, adoption, use (limited/broad) or impact evaluation – but not yet at the continuation or embedded phases. The positions of the projects are illustrated on the continuum in Figure 11, and explained further in the remainder of this section.



**Figure 11: A continuum of innovation**

### Southwark Primary School

Southwark Primary School can be said to have moved beyond awareness and consideration into the limited use phase of change.

At the start of the project, an enthusiastic ICT co-ordinator, Louise Bussell, was being supported by her headteacher to find out how technology might best be harnessed to enhance the curriculum and improve teaching and learning in preparation for moving to a new build. However, in spite of this enthusiasm and support, Louise felt somewhat isolated, was struggling to find reliable information about the technology so that she could make decisions about what technology to adopt, and was unsure how to lead others in its use so that it would have a wider impact across the school. Technology was key to Louise's transformation into a member of a broader grassroots ICT community (mainly Twitter and blogs). Louise became increasingly networked with innovative practitioners in other schools in her locality and further afield, but had not developed a strategy for engaging others.

Louise's transformation is a necessary but insufficient condition for building her capacity to change through disseminating ideas and enthusiasm throughout Southwark Primary School. Overall, adoption is being driven by the transformation of an enthusiast into an innovator within a broader community of practice (Lave, 1988).

However, at this stage, while awareness across the school has been raised, adoption is not organisation wide. This remains a challenge, although the headteacher at Southwark made the following optimistic comment on progress so far:

“The impact of the project as a model of action research as a future for subject leadership has also been considerable and extended beyond our current ICT subject leader, facilitating a distributed team approach. The impact on the use of technology in classes is already apparent and is set to continue in the future as we prepare to move into new facilities.”

## **Fast Forward Hull**

Whereas Southwark represents a single institution seeking organisational transformation, the Fast Forward Hull (FFHull) project involves two key institutions. One, Sheffield College, has successfully achieved awareness, adoption, use, impact and continuation with its Made in Sheffield programme, and has sought to transfer this to Hull (principally Hull College). At the start of the action research project, an e-learning resource had been developed by a consortium of Sheffield- and Hull-based practitioners, and had been disseminated to tutors across Hull. The aim was then to monitor the transfer, adoption and use of the resource and to promote its potential for transforming delivery of the Adult Literacy Core Curriculum, so that it might have an impact on teaching and learning across the authority in the near future.

## **Olney Infant School**

Olney resembled the Southwark project in the sense of it being one institution seeking to respond positively to externally initiated reform and to transform its teaching and learning strategies through the school-wide development of the e-learning platform. Although it is placed with Southwark on the continuum, its approach differs. While there is a ‘teacher leader’ of ICT, the headteacher himself has ensured that all staff are involved in regular discussion and preparation for use of the innovation.

The innovation is on the verge of being implemented at the whole-school level with all teachers receiving training and fully committed as a result of sustained interactions led by the headteacher, who actively supported the work of his ICT specialists. This professional learning culture is a key prerequisite to successful organisational innovation. Thus, the action research in this school was designed to evaluate the impact of adopting and starting to use a new technology; and this case represents the best possibilities for system change in harnessing new technologies.

## **Open University**

The OERs project involved one institution (the Open University) attempting to promote use by lecturers at other institutions of online materials. In fact, use (but not

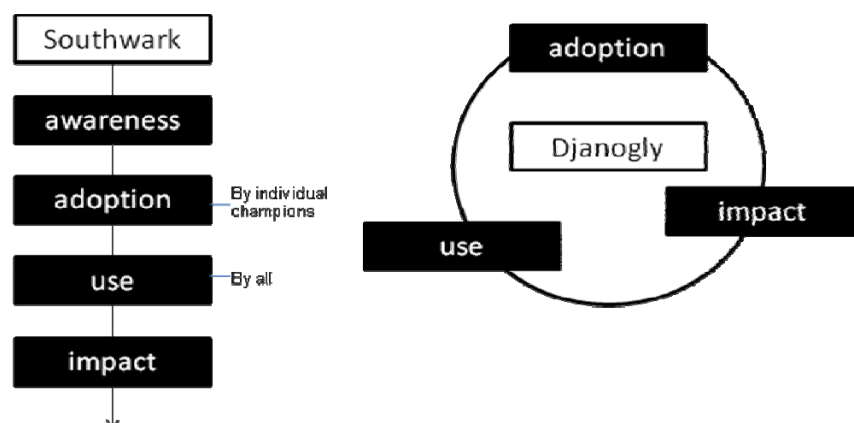
impact) was already well established at the start of the project, with over 3 million hits to the OpenLearn website recorded since its inception.

The action research project enabled the Open University to identify the barriers to having an impact on learning and teaching in Europe and Africa, and future actions have been identified to help enable this (mainly allowing adapted forms of the OERs to be uploaded and shared). Evaluating impact at a distance does, however, remain an unresolved problem and a focus for future action research.

## Djanogly City Academy

As with Olney and Southwark, the Djanogly project was also a case of an institution seeking internal transformation. The purpose was to evaluate the impact of an existing innovation that was already in use across a key stage. For the case of Djanogly, it is notable that adoption, use and impact can be seen as interacting aspects of innovation, feeding into one another in a cyclic manner. As such, the plan was ambitious and assumes the continual adoption and adaptation of technology in response to ongoing evaluations. The development of the evaluation has yet to be realised.

The two extremes of the above continuum, Southwark and Djanogly, may be contrasted diagrammatically as shown in Figure 12.



**Figure 12: Contrasting two action research commissions**

## Concluding observations

The commissions all involved one institution promoting change (except FFHull, which involved two), with four seeking internal transformation (Southwark, FFHull, Olney, Djanogly) and one to transform practice in an unknown range of other institutions (through OERs). The latter may be characterised as passive innovation. The projects provide a spectrum along the 'awareness', 'adoption', 'use' and 'impact' axis (Figure 11). 'Impact' is both the most important aspect of innovation, and the most difficult.

- Olney Infant School is in a position to begin evaluating impact at the time of writing, and this reflects that an innovation had been adopted with enthusiasm and support from leadership and staff, and is beginning to be used.
- Djanogly has a strong track record of achieving impact through innovative adoption and use of technologies, and the action research commission concluded during the adoption phase.
- The OERs project demonstrates how adoption and use can be enabled, and yet impact not necessarily follow. Further investigation and refinement is therefore to take place to attempt to address this, and one aspect of this will be to allow users to modify and upload learning units. OERs faces the challenge of encouraging unknown practitioners to be enthused to innovative with existing resources.
- FFHull has achieved adoption and the start of use, and has done so in a short time. Indicators are strong that there will be some impact, and yet there is an element of 'hit and hope'. However, an advantage that FFHull possesses is that the resource was designed specifically for the recipient practitioners and their learners, and was designed well enough that the products promotes enthusiasm.

## **Role of enthusiasts and leadership**

We conclude this summary report by raising the importance of the role of local enthusiasts (technology champions), and of leadership and/or other agencies. It is interesting to note that the five action research projects include a variety of roles in terms of local enthusiasts and leadership. This enables us to make tentative observations of their relative effectiveness in terms of pace and spread.

For example, Olney Infant School provides an example of an institution that possesses a great deal of technological skill, because of the presence of an onsite technician. Nevertheless, there is some anxiety among the staff about the required level of technical skill to use the VLE fully, therefore the VLE is more of a medium for communicating with parents than a learning device at the time of writing.

This contrasts with Southwark Primary School, at which technical expertise lies with the ICT co-ordinator, who has been on a sharp learning curve throughout the action research. Unlike Olney, Southwark has no onsite technical support, and staff are less experienced with technology in the classroom. Another contrast is that the headteacher at Olney is leading the innovation, whereas the ICT co-ordinator at Southwark does not have a formal leadership role.

It is important then to distinguish between technological champions who can make a difference to a limited extent within their own classrooms and perhaps have an impact on a few close colleagues, and leadership champions, who can spread innovation across an entire institution and do so quite rapidly. Many innovations have



been reported in which local enthusiasts achieve great things, but it is far more difficult to find examples in which innovations are institution wide and sustained. This will be a key focus of the project team as we move into year 2.

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## Appendix A: Southwark Primary School

### Appendix A1: Key Stage 1 laptop survey sheet

#### KS1 Laptop Review

Date: \_\_\_\_\_ Class: \_\_\_\_\_

1. Time spent (approx) by children...

...getting laptops out \_\_\_\_\_

...putting laptops away \_\_\_\_\_

...switching on / logging on \_\_\_\_\_

2. Number of children who needed help...

...getting laptops out \_\_\_\_\_

...putting laptops away \_\_\_\_\_

3. Number of laptops that had problems...

...turning on \_\_\_\_\_

...logging on to school network \_\_\_\_\_

...accessing the internet \_\_\_\_\_

...opening a specific program \_\_\_\_\_

4. Software used by the children

\_\_\_\_\_

5. Topic and learning aims

\_\_\_\_\_

5. Comments / other problems (if any)

\_\_\_\_\_

\_\_\_\_\_

(use back of sheet if necessary)

## **Appendix A2: Key Stage 1 laptop survey: results summary**

Time spent (approx) by children:

- Getting laptops out: Pupils took responsibility for getting the laptops from the trolley in 10 of the 11 lessons, and in all cases this took less than five minutes, and usually took only one or two minutes. In the other lesson, (Year 1) the laptops were given out and put away by the teacher.
- Putting laptops away: Pupils spent an average of three minutes putting laptops back in the trolley in 10 out of 11 lessons, and in no lesson did it take more than five minutes. (The teacher put the laptops back for them in the other lesson.)
- Switching on/logging on: Pupils spent an average of four minutes switching and logging on across the 11 lessons, and in no lesson did this take more than five minutes. Two teachers commented that some young pupils had trouble operating mice and touch-pads due to the fine motor control required.

Number of children who needed help:

- Getting laptops out: In the 10 lessons where pupils took responsibility for getting laptops out of the trolley none needed help, bar two pupils in one of the Year 1 classes.
- Putting laptops away: In the 10 lessons, no pupils needed help putting laptops back in the trolley.

Number of laptops that had problems:

- Turning on: Two laptops had problems turning on in one of the lessons.
- Logging on to school network: There were very few problems logging on to the network, bar one lesson when the entire network was down and the pupils were unable to open the files required for the lesson – the teacher abandoned the planned lesson and pupils used a program that is installed locally on the computers and requires no network.)
- Accessing the internet: There were very few problems accessing the internet in the eight lessons in which it was used, bar one lesson when the network was not accessible (see above).
- Opening a specific program: There were almost no problems accessing specific programs, bar the lesson when the school network was down.

Software used by the children:

Across the 11 lessons, four non-education-specific applications were used (Word; PowerPoint; Internet Explorer; Windows movie maker) and one education specific package (Teaching Tables).

### Topic and learning aims:

Six lessons were based around ICT skills ('make PowerPoint presentations'; 'insert a new slide'; 'BBC school typing'; 'explore how to use a new piece of software'; 'make changes to a document'; 'create a film including voice and pictures'). Two lessons were literacy based ('create a word bank'; 'edit and improve text') and three were maths based ('weighing and reading scales'; two lessons on 'practise x2, x5, x10').

## Appendix A3: Example lesson observation notes

Teacher, Hayman Mak; Date, 25 November 2008; Time, 1:50–2.50pm.

Class: Year 4 science lesson on habitats.

Overview: Field lesson observing habitats in local park. Pupils used audio recorders (one between two) to make audio recordings of their spoken observations.

Time (mins)	Notes
0	Whole class sat on carpet. Pupils suggest animals that might be seen in a park and T writes suggestions on IWB.
2	T recaps how to use audio recorders. Review of buttons, meaning of lights and how to wear them.
7	T makes a list of 'dos' for using recorders as suggested by pupils.
10	Pupils go into pairs to practise using the recorders. They read four sentences on the IWB in turn. All but one pair manage this without problems.
16	T instructs pupils to put their coats on and line up at the door. She instructs them about what will happen. Pupils will visit three habitats within the park (pond, woods, playground) and record spoken observations. One pupil in each pair will talk at the first habitat, the other at the second, and both will talk at the third.
18	T questions selected pupils to repeat the instructions to check for understanding.
19	Class walks to the park.
24	Class arrives in park and stands in line to listen to T. T overviews safety points, such as not standing too close to the edge of the pond.
25	T recaps expectations of what we might see at the pond.
27	Class walks down to the pond.
28	Class arrives at pond. T instructs them to record what they can see, and try to capture sound of ducks quacking. Most pupils manage this without difficulty, although need some prompting beyond listing animals (ducks, water rates, squirrels), such as describing the different types of ducks.

- 33 Without prompting, most pupils play back what they have recorded.
- 34 T instructs pupils to swap over the audio recorders in their pairs.
- 35 T walks class up to the wood area of the park.
- 37 Pupils arrive in wooded area. T draws pupils' attention to animals in the habitat. Pupils suggest squirrel, magpie, blackbird, pigeon. T prompts them to think what else we might see in the summer in the trees, and prompts them with caterpillars, flies, spiders. T draws their attention to plants (grass) and prompts them to suggest what plants they might see in summer. Pupils suggest weeds, flowers, worms, hedgehogs, foxes, rabbits.
- 41 Pupils go into pairs and record their observations as well as their thoughts on what they would see in the summer. Most pupils manage this, although one or two pairs have spats over using the audio recorder (for example, one pupil wanted to practise what she would say several times before pressing record, and her partner became frustrated and walked away from her).
- 43 T stops pupils and checks all audio recorders off and talks about the play area. T points out that it is a man-made habitat, and asks what might be found among the woodchips on the floor. Pupils suggest spiders, woodlice. T reminds them also to talk about the plants they can see.
- 45 Class walks up to the playground area.
- 47 Class arrives in the playground area and spreads out.
- 48 T instructs pupils to spread out and reminds them they are this time to both talk into the audio recorders.
- 50 A minority of pupils get over-excited and run around a little, and skid in the woodchips. Most, however, are on task but struggle a little in the somewhat barren play area to think of things to suggest.
- 55 T brings pupils back together into a line, and tells two pupils off for being silly in the play area.
- 56 Class walks back to the classroom.
- 1.02 Pupils arrive back in class, remove coats and sit on carpet. T explains they will use the audio recorders to help them remind what they have seen in order to write about it. They will download their audio files onto laptops at a later time.



## **Appendix A4: Example teacher reflections [excerpt]**

Reflections by Claire Jones (Year 2 teacher).

### **Use of digital cameras**

The first session (7/11/08) that took place using digital cameras was fantastic. There is enough for the children to have one between two, which allows for them to work together to work out lots of the features of the camera. We looked at how to turn them on and off, how to take a photo, how to view the photo and how to record video. The children found many aspects of this session very easy as many of them were familiar with some of the processes (taking a photo especially); however, needed support to choose the video option and for which button to press to view the photo or video. After this one session, however, I feel confident that the children will remember how to take photos and will be able to use these skills.

In a literacy lesson (19/11/08 and 20/11/08), we were videoing the children producing films about lots of aspects of keeping healthy. While other children were acting, I choose one child to come and show how to video and what buttons to press in order to reinforce what they had learnt before. The biggest problem was holding the camera steady, which again just requires further practise and reinforcement of why this is important.

### **Use of laptops**

I have tried to incorporate the laptops in all numeracy lessons since 12/11/08; this has been great as it has engaged whichever group has been using it and the children know that they will all get a turn. By just having two or three laptops out, this stops it being a large chore to ensure they are all turned on and on the right program. There are lots of super games – both online and software that is on the computer which I have made use of. I have been trying to also encourage them to record something as well as play so that they are forced to reinforce the concept they are looking at. This has been really successful at times and gradually the ‘novelty’ factor is wearing off so that the children are gaining skills to find the websites/program and have a go. The only time this does not happen is on a Wednesday when I have a cover teacher for planning, preparation and assessment, who does not feel confident to do this.

21/11/08 having taken the videos in literacy for the two previous days on the digital cameras, I copied the files over to the server to save time and showed the children simple skills using Windows Movie Maker. I demonstrated on the IWB how to import videos and drag them into the storyboard effect. Then showed them how to add transitions. Once they were confident with this they were then able to add titles at the beginning or credits at the end.. The children were then able to preview the mini films that they had made. With a bit more time, it would have been great for them to all have used all of their films and put together with a title and credits to show their

parents. The next step when using Movie Maker with the children is to add text onto clips and to crop the video clips in order to change the length; however, as these features required the timeline rather than storyboard, I felt this may appear a bit to complex for the first lesson.

## Appendix A5: Lou\_1 on Twitter [excerpt]


Home Profile Find People Settings Help Sign out



**Lou\_1**



**Name** Louise Bussell  
**Location** Nottingham England  
**Web** <http://louiseb.wordpress.com/>  
**Bio** A new ICT Co-ordinator in a large inner city primary school

50 following 43 followers 57 updates

**Updates**

**Favorites**

**Actions**  
block Lou\_1

**Following**



 [RSS feed of Lou\\_1's updates](#)

I'm getting into blogging now, I've even managed to insert a picture - whooo! impressive  
<http://louiseb.wordpress.com/>  
*about 18 hours ago from TweetDeck*

---

@tombarrett worked fine for me too!  
*about 18 hours ago from TweetDeck in reply to tombarrett*

---

@valleyboyrich thanks that really useful, will embark on it ASAP  
*about 18 hours ago from TweetDeck in reply to valleyboyrich*

---

I have forgot my google log in AGAIN!!!! ARGH!  
*about 19 hours ago from TweetDeck*

---

@valleyboyrich so do you get loads of adds, are they appropriate for primary children, sorry lots of questions! :)  
*about 19 hours ago from TweetDeck in reply to valleyboyrich*

---

just got back from gym, completely shattered  
*about 19 hours ago from TweetDeck*

---

@valleyboyrich thanks for the gaggle.net tip, do you use the free version or the add-free version?  
*about 21 hours ago from TweetDeck in reply to valleyboyrich*

---

any one any ideas on how to manage class e-mailing?  
*3:20 AM Feb 9th from web*

---

@TomSale try this <http://tinyurl.com/curomy> some have BBC watermark on  
*3:17 AM Feb 9th from TweetDeck in reply to TomSale*

---

nice number generator <http://www.mape.org.uk/acti...>  
*11:26 AM Feb 9th from TweetDeck*

---

@russeitarr the dictionary is cool loads of uses in primary classroom  
*11:19 AM Feb 8th from TweetDeck in reply to russeitarr*

---

#uksnow NG5 snowing quite heavy, no pavements and the roads are disappearing  
*10:21 AM Feb 8th from TweetDeck*

---

@stevebob79 hey this looks good, do you mind if I steal a bit for the summer term at my school?  
*8:11 AM Feb 8th from TweetDeck in reply to stevebob79*

---

@shareski last time that happened @ our church it was the interns frying bacon in the flat up stairs , V exciting though  
*8:00 AM Feb 8th from TweetDeck in reply to shareski*

---

@markw29 I like it. it looks v cool, hope your presentation goes well.  
*3:55 AM Feb 8th from TweetDeck in reply to markw29*

---

doing some planning using audacity and hoping year 3 will manage!  
*3:08 AM Feb 8th from web*

## **Appendix A6: Blog: The life of an ICT co-ordinator [excerpt]**

URL: <http://louiseb.wordpress.com/2009/01/21/showing-staff-new-software>

### **Showing staff new software**

It is my turn to do the literacy planning for our year 3 and 4 team, which totals five classes in all! Now I am really keen to add as much ICT in to the topic as I can. One of the great freebies I'm experimenting with is Read Please (<http://www.readplease.com/>) this enables children to copy and paste text into a window which reads it back to them. Not sure how successful it will be but worth a try. The problem comes when trying to catch 5 teacher and 2 other TAs to show them how to use the software. Then another colleague gave me this great idea; if you use your Smart board recorder tool and record how to use it, you can add audio in movie maker and you only have to do it once rather than showing it over and over. If you save it on the planning server or learning platform it's a whole school resource. I am aware there is other free software to do this too. Let me know if you've found a good one.

### **Responses to showing staff new software**

#### *1. Tom Barrett says:*

22 January 2009 at 4:15pm

Hi Louise – SMART Recorder is a handy tool if you have Notebook software installed – I like to use Jing for screenshots as you can edit them straight away and highlight parts etc. Then you can upload them to Flickr. (Jing does video as well) A good alternative to video.

Good luck with the rest of your blogging adventure. Let me know if you need any help.

#### *2. Sage says:*

22 January 2009 at 4:23pm

As I understand it, you can cut out the Moviemaker step as the SN screen recorder records sound as well if a microphone is plugged in.

Personally, I prefer the free recorder from Jingproject which will generate a 'local' video clip that is saved and/or a URL for the clip to be accessed online.

#### *3. Ian U says:*

22 January 2009 at 4:26pm

If you want, use Jing (which is free and at <http://www.jingproject.com>) or, for something a bit more involved, try CamStudio at <http://camstudio.org/> which can record all sorts of things, add annotations, and export to Flash or video... I use Captivate from <http://www.adobe.com/products/captivate/> (disclosure: I'm an Adobe Education Leader, so I would, wouldn't I?!) but that's a 'paid for' tool...

*4. Celeste says:*

22 January 2009 at 5:19pm

Making short videos about tech skills is a great way to teach as it makes learning those skills accessible any time to staff and even students. A screencast tool I use is Jing. It's easy and free. Try it, I bet you'll like it! <http://www.jingproject.com>

*5. David Gilmour says:*


22 January 2009 at 5:23pm

Thanks for mentioning the free version of Read Please, I've passed that on to my colleague who works with assistive technologies in East Lothian. Budgets are very tight just now, and tips like this are very helpful. I look forward to hearing more useful ideas!

## Appendix B: Fast Forward Hull


### Appendix B1: Example Fast Forward Hull page











# Hull people




## Activity 13

Here are some well known Hull people.

 1. Type their names on the pictures.



- Amy Johnson
- Andrew Marvell
- Fatboy Slim
- Maureen Lipman
- Clive Sullivan
- William Wilberforce



© Yorkshire Forward 2008

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Fast Forward Hull People and Places

## Appendix B2: Memory stick, startup screen and e-book page

### Memory stick



### Startup screen





## Turning a page of the e-book



## Appendix B3: CV activity

Match Joanne's skills to the list on the opposite page.  
You can use a skill more than once.

1. Took mum to hospital weekly
2. Got her to join the support group
3. Raised money
4. Washed and dressed mum
5. Always got the children to school on time
6. Collected window cleaning money
7. Learned about health. Lost weight
8. Did three different jobs that people often get paid for
9. Helped at Kelvin's school

Discuss your answers with someone else.

Fast Forward Hull Applying for Jobs 7 © Yorkshire Forward 2008

## Appendix B4: E-mature teacher questionnaire results

Can you do the following?		Yes	No	Know something but want to know more
<b>a. Managing the blended classroom</b>				
1	Turn on all functions on the 'teaching wall', such as interactive whiteboard, laptop, data projector.	8	5	6
2	Manage students working at different technology-based tasks, using different spaces within the classroom or training room.	13	1	5
3	Confidently find and use resources on the internet.	17	0	2
4	Use SMART Board tools and other resources for teaching via the interactive whiteboard.	5	7	7
<b>b. Creating teaching and learning resources</b>				
1	Create simple information and worksheets using desktop publishing, eg Word or Publisher.	19	0	0
2	Use a digital camera confidently.	16	0	3
3	Apply basic techniques of digital image manipulation such as cropping, resizing.	14	0	5
4	Import images into a variety of documents.	16	0	3
5	Use packages such as PowerPoint for simple multimedia presentations.	17	0	2
6	Develop materials using SMART Board software.	4	7	8
7	Use a video camera.	12	5	2
8	Understand the principles and terminology associated with everyday use of digital technology, eg PDF, jpeg, podcasts.	9	7	3
9	Basic principles of importing sound and images.	11	5	3
<b>TOTALS</b>		<b>161</b>	<b>37</b>	<b>49</b>

Please say if there is anything in the above that you think would be particularly useful to you

Using a SMART Board – we haven't had training! Not clear if there is one within the organisation.

SMART Boards and overhead projectors.

I would like to have access to an interactive whiteboard and training in using one.

If we get SMART Boards, then training is needed and wanted.

Would like to have training on interactive whiteboard and/or SMART Board.

Setting up interactive whiteboard and PC to use PowerPoint.

Interactive whiteboard/SMART Board.

I will use all resources and adapt to L1-L2 standard.

Training on using the interactive whiteboard.

Please say if there are any areas not listed which you would like to learn more about.

Attachments. Setting up of interactive resources.

Not sure at this stage.

## Appendix B5: Example sheet from workshop

# Fast Forward HULL

Booklet 3 Applying for Jobs  
Activity 1 Preparing to get a job

<p>What are the potential learning aims for this activity?</p> <ul style="list-style-type: none"> <li>- Identify abilities + <u>apps</u> or areas for develop - <u>positive</u></li> <li>- develop 2 step by step action plan for applying</li> <li>- confidence building confidence</li> </ul>	<p>reading - writing computer</p>
<p>How could you use this activity?</p> <ul style="list-style-type: none"> <li>- Use to explore skills from life + work experience - timeline</li> <li>- mind map (pull out experience from time line) + pull out skills related (flip)</li> <li>- Discuss what skills required</li> <li>- C.V building / interview skills etc</li> <li>- Explore prior learning</li> </ul>	<p>pull out skills from previous experiences discuss Giphok / individual work</p>
<p>How could you build on this activity?</p> <p>C.V Building Mock interviews Job app projects - adverts forms IAG. - availability/quals (where how) Portfolio Building</p>	<p>potential careers pe pairs all learners can produce something similar</p>
<p>What are the resource implications?</p> <p>Job centre stuff. computers - brochures - IAG. Adverts/newspapers</p>	<p>Portfolio Creche.</p>

## **Appendix C: Djanogly City Academy Nottingham**

### **Appendix C1: Exemplary extracts from parent interviews**

An academic review day was held at the Djanogly City Academy's 11–14 centre between 1.00 and 6.30pm on Friday, 7 November 2008. This was the first time the families had seen the new report format. A researcher approached families for an interview after families had visited the teachers. Each interview lasted approximately ten minutes. Interviewees were asked to indicate how clear and useful they had found each section of the new report, according to the following headings.

#### **Attendance section**

Eleven interviewees thought the attendance section was clear, with three of these respondents commenting how the actual attendance figure was the most useful part. For example:

"It's very clear – the actual attendance is the most useful."  
[Parent/carer of a Year 9 student]

Eleven respondents found the section confusing. In particular, they commented on the 'Your attendance in context' table. Seven of these eleven respondents thought that the missed lessons examples were lessons that their child had missed. For example:

"Very unclear – it says 'your attendance'; if it doesn't concern your child, why put it there; the title says 'your attendance', and yet it isn't anything to do with your child. I thought that my child had missed lessons, yet I know she has been coming; it's very confusing."  
[Parent/carer of a Year 10 student]

#### **Subject section**

Ten respondents commented specifically on the colour-coding system, and all of these considered it intuitive. For example:

"A guide to the colours could have perhaps have done with being at the front, but you tend to know what they mean without needing a guide."  
[Parent/carer of a Year 8 student]

"Very clear – colours and layout are both good. Helps to know what to work on as a family; we can set targets to support him. We'd told him not to have any reds and he hasn't; now we can look at making the amber green."  
[Parent/carer of a Year 9 student]

Comments on the how the grades are presented on the report were more mixed. For example (positive):

“It’s good the way they add a grade each term so that you can track the progress of your child.”

[Parent/carer of a Year 7 and a Year 11 student]

For example (reserved):

“... it doesn’t show how to actually improve, and how you would get a better grade – I need specific information for this.”

[Year 11 student]

### **Rich tasks section**

The rich tasks section received overwhelmingly positive responses. For example:

“Very clear – it’s simplified, not too technical. It’s given out as you come in, and it means that it is easy to read and understand before you go and see the teacher, which is important. It gives about the right amount of information.”

[Parent/carer of a Year 8 student]

Only one response was notably critical:

“It’s clear on what it shows, but it doesn’t show – although it’s better than the previous section – it doesn’t show evidence of what he’s actually been doing in terms of other subjects that the rich tasks are supposed to cover, eg languages. It’s very impersonal, just a formula with my child’s name in it. They don’t seem to know my child.”

[Parent/carer of a Year 9 student]



## **Appendix C2: Exemplary extracts from Year 7 staff interviews**

Year 7 teachers from two pods were interviewed in small groups about the assessment criteria that had been developed since the introduction of the New Basics curriculum. Five questions were used to stimulate discussion among the teachers. Key points arising, with sample quotations, are provided below.

### **Question 1: Why has Djanogly driven for new assessment criteria in the basic skills curriculum?**

- The main driver was the vision for the new curriculum.
- In the enthusiasm to get things moving, there were no fixed or agreed criteria.  
“Too many assessment criteria might have stifled the creativity and freedom associated with setting up the rich tasks.”
- Now, it has improved the quality of information and amount of time teachers can spend with parents and children, eg at academic review meetings.

### **Question 2: How well have the assessment criteria informed teachers, students and parents about progress?**

- The assessment criteria do not necessarily show progress clearly enough for parents and pupils to understand.
- The descriptors and grades need to be refined further, but the risk in making them more finely grained may be that they become more like old-style, prescriptive forms of assessment.
- The new system encourages better dialogue and communication.  
“A more personal relationship within the pods between teachers and pupils, which is working towards a new, informative dialogue.”

### **Question 3: How well did the assessment criteria ensure that there is some commonality in curriculum delivery across pods and rich tasks?**

- Within pods, there is a common goal, an agreed methodology and a certain standardisation
- Across pods, there are quite complex problems associated with the rotating nature of the four rich tasks.  
“In terms of mapping progress across a year group, it is difficult to get an idea of how to do it in rotation. How to see how progress is made in a set of skills throughout the year?”  
“How do we know if pod one has developed in the same way as pod three?”

- It was also observed that some students are not at a developmental level to deal with the unstructured nature of the programme. In tasks, some are unable to select out what information they need.

**Question 4: To what extent do you think the assessment criteria have sharpened practice?**

- Objectives are set which must have active outcomes.
- The aim of each task is to meet the repertoire of practice.
- Tasks are highlighted and linked with assessment criteria on the website.
- Some of the weaknesses are that:
  - There are other drivers which are not so much focused on the repertoires of practice, such as literacy needs. It should be possible to add things on to the repertoires of practice.
  - Teachers choose four rich tasks for each pod, but the content of some tasks may be inappropriate for some children in a group whose literacy levels vary widely.
  - Some pupils experience disappointment at the absence of a subject-centred approach which is characteristic of most secondary schools.

**Question 5: What are the further requirements or improvements that you would make?**

- Parents need reassurance that core subjects are being properly covered.
- There is evidence that some subjects such as maths need to remain as discrete subjects. This may lead to the redesign of part of the programme.
- If there was a chance to do New Basics again, one teacher would:
  - “keep the model of the rich tasks”
  - “retain the pod groupings, because of the demonstrable benefits to students, parents and teachers”
  - “lose the connection with the repertoires of practice and devise my [the teacher’s] own”
  - “Generate an underpinning framework that is not the repertoires of practice”.
- Another teacher would:
  - “look more closely at the social needs of children and how they can be met”.