WebQuests, m-learning and CyberLabs

Harvey Mellar and **Maria Kambouri** describe some examples of their research into integrating ICT in teaching literacy, numeracy and language

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Teaching should address the changing nature of literacies in the digital age.

In an earlier NRDC 'Effective Practice' project on applying ICT in teaching literacy, numeracy and language (1), we recommended that:

- tutors should explicitly consider why they are using ICT and should match how they use the technology to their teaching aims
- teaching should address the changing nature of literacies in the digital age
- a wider range of technologies should be explored
- there should be more experimentation with a range of teaching styles, and in particular more use of collaborative work around ICT
- more attention should be given to the range of learning styles and how ICT might be used to address these
- the issue of how and when to teach ICT skills should be addressed more explicitly.

In the first year of our current project, we have been working with a team of nine practitioner-researchers to implement these recommendations. Over the next six months we will evaluate these examples in a series of trials. This article describes three examples of the work we have been doing, based on written accounts from the tutors whose work is described.

WebQuests
Cathy Clarkson, a lecturer in ESOL at Dewsbury College, has been developing the use of WebQuests (2)

with ESOL learners. Bernie Dodge at San Diego State University, who invented the concept, defines a WebQuest as an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet. Short term WebQuests (say one to three class periods) are about knowledge acquisition and integration, where a learner has to grapple with a significant amount of new information and then make sense of it. Longer term WebQuests (say between a week and a month in duration) are more about extending and refining knowledge; a learner has to analyse a body of knowledge, transform it in some way, and demonstrate an understanding of the material by creating something that others can respond to.

Cathy started by using an already existing single page WebQuest about Oxford, providing tasks and links to various sites related to Oxford. This basic WebQuest also provided a model for the learners to follow in order to build their own WebQuests later. This task helped learners to develop good scanning skills.

Next, a more advanced WebQuest was used in which the learners had to delve much more deeply into each site and began to develop their navigation and reading skills.

Finally, learners developed their own WebQuest about learning English. Students had to think about their own learning, providing links to sites and quizzes that they liked. This encouraged learners to search the

Introducing WebQuests with ESOL learners

Cathy Clarkson describes how she has used WebQuest at Entry Level 1 and Level 2.

A WebQuest is "an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the Internet" (1). It has revitalised how I use the internet in the classroom.

My second year of teaching a Level 2 CALL (Computer Assisted Language Learning) class gave me a first opportunity to run an intervention study using WebQuests. Before this I had used the internet with the students for obtaining information, but had had to spend time teaching learners how to use search engines efficiently. Even Level 2 students found this difficult, especially when the more obvious key words wouldn't reveal useful sites. A lot of time was spent 'surfing' rather than focusing on the task. Last year I used WebQuests in two more successful intervention studies, one with a Level 2 ESOL group and one with an Entry 1 ESOL class,

A WebQuest reduces unproductive 'surfing' time in the classroom as the sites are provided by the tutor. As a result it becomes an excellent tool that utilises the positive aspects of the internet (a wealth of real-world material) whilst removing one of the more negative aspects (a seemingly endless amount of unstructured, uncatalogued material).

International Food

I was very impressed by the success of the CALL intervention. It took the form of three different kinds of internet-based tasks, culminating in a WebQuest built using the aclearn toolkit (2) titled 'International Food' (3). The task was to research a topic on international food, prepare a PowerPoint presentation and present it to an invited audience. The students were introduced to the topic by their class tutor, using the WebQuest displayed on a SmartBoard. When I walked into the CALL classroom the next day I found all nine students in various stages of logging on, viewing the WebQuest and organising their group tasks and roles. This was a far cry from the usual start to class, which saw student straggling in with tales of missed buses, sick children and dogs eating their homework. By break-time each group had produced a short account of their topic, initial research results and individual roles.

The presentations the students gave were amazing. They gave three of the students the confidence to volunteer to talk at the Dewsbury College Staff Conference, where they talked in front of 250 teachers about how the use of ILT had improved their English.

Online Shopping at Entry 1

I was so delighted with the success of the Level 2 intervention that I decided to investigate the potential with an Entry 1 group. As soon as I started researching sites I became concerned. Suitable sites for E1 learners are few and far between. Trying to think of a suitable task for them,

internet for useful sites. The class discussed the quizzes, their positive and negative points, which they preferred and why different students had different preferences. Cathy writes:

"In previous years with other students I had tried to develop activities that allowed the learners to evaluate sites developed for language learners but these were often confusing and the students didn't really understand the tasks. This was the most successful and structured task that I have run."

The learners found the building of a WebQuest a very motivating experience. Attendance improved, students were getting to class early to get started, and there was a great deal of interaction between learners.

m-learning

Jo Dixon-Trifonov, a lecturer in ESOL at Southampton City College and a Learning Resource Developer at CTAD, has been working with camera phones and desktop computers in her teaching. The inspiration for this work comes from her involvement with the m-learning project (3). Mobile phones make it possible to gather and record information outside the classroom, whilst wireless internet and picture messaging allow pictures, audio and text to be sent directly to a website, so that the information can be edited and developed later on a desktop computer.

In one project the class looked at a map of the college campus on CTAD's mediaBoard website and iden-

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tified the locations they knew. They then paired up, chose a location they wanted to explore, and went off to find out about it. They took photos at each location, read notices and asked people questions, and sent the information to the website. Later, in the classroom, they viewed their photos on the computer, attached them to the relevant places on the map, and discussed what they had found out. All came back having learnt new vocabulary and used it to write short texts to accompany and explain their pictures.

In another project, learners investigated migration in and out of Southampton. They roamed the town with camera phones, looking for information. The tutor kept the learners up to date with the group's progress by sending text messages to the whole class. They attached their photos to a physical timeline when next back in class, and repeated this with an activity on the mediaBoard website. They wrote short texts to accompany the pictures and turned the timeline into an informative poster about migration in and out of Southampton.

Learners had difficulty knowing what to write to accompany the photos and how to write in an appropriate style, so the tutor went on to focus on a study of photo stories in magazines and on websites such as the BBC's Newsround site, looking at the language and content of the captions that described the photos.

There were some teething problems with the technology, but learners found the use of state-of-the-art gadgets engaging and motivating. The activities gave

incorporating the four skills of reading, writing, speaking and listening, also proved difficult. I had to think carefully about the ICT skills, English skills and the different nature and structure of the session. How would the students deal with sessions that were not led by the teacher?

During the first three weeks of internet-based classes the students navigated the given sites and interacted with the information. They presented information to the class, firstly from written notes (here they were nervous, spoke quietly into their paper, and one student just refused to come to the front.) and then from a PowerPoint presentation. They became more confident in working in pairs and groups and I was feeling more confident about standing back and not supporting immediately, giving them time to figure it out for themselves.

A WebQuest was built titled 'Online Shopping' (4). Each group was given a set of photos from which they were to make up the characters in a family. This family had inherited a house and an amount of

money. The task was to research the given sites on the WebQuest and present to the class how each family spent the money.

The results were remarkable. For two whole lessons I was able to make comprehensive observation notes and chat to the bi-lingual support worker as the students needed minimal support in their groups. When it came to giving the presentations, each student in each group spoke, clear,

audible, facing the front, and looking confident.

Enjoyment

I would definitely recommend a WebQuest. The time spent in preparing your first WebQuest is rewarded by having an excellent resource which can be used again and again, providing an environment for students to take control of their own learning and work collaboratively and communicatively, even at Entry 1. Think carefully about the task and have three or four preparation classes so that lack of technical skills doesn't hinder the learning, then enjoy a motivated, enthused group of people learning from and with each other.

(1) Dodge, B. (1997) Some Thoughts About WebQuests San Diego State University http://edweb.sdsu.edu/courses/edtec596/about_WebQuests.html (accessed 16 Aug 2004)
(2) http://aclresources.net/webquests/
(3) www.aclresources.net/pitman/index.html
(4) www.aclresources.net/inroads/index.html

them opportunities for meaningful goal-oriented interaction in English, through which they encountered and learnt new vocabulary, gained confidence in asking questions in English and worked together to write for an audience on the website.

CyberLab

Steve Harris and his colleagues at the Centre for Astronomy and Science Education at the University of Glamorgan have been developing an approach to integrating digital technologies into basic skills teaching. (4)

"CyberLab is an experimental ICT -based course in which learners work to improve their basic skills in reading, writing, numeracy and ICT while exploring a series of topics in science, technology and mathematics. These topics are made relevant to learners' lives through practical, technology-mediated engagement."

Classes are based around a central concept such as 'algorithm' or 'communication and control'. There is usually some direct skills instruction eg for new programming commands, a new software package, or specialised features of Word. This prepares the way for a practical activity which might involve the planning, research, and carrying out of an experiment or simulation, where learners (in pairs or small groups) observe, record and discuss results.

Learners use software tools such as Logo, Word, Excel, PowerPoint, Internet Explorer; Fractal Explorer and various online interactive applications. They also use pens,

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paper, calculators and measuring equipment and produce models in paper and cardboard. In the latter part of the session, learners present their findings, with question-and-answer sessions and whole-group discussions.

We observed one class where the tutor discussed the Fibonacci sequence. Learners wrote the number pattern in a table in Word, explored the existence of the Fibonnacci sequence in naturally occurring phenomena (such as petals) through digital photography, drew spirals based on the sequence with pen and paper, and programmed a Fibonnacci sequence generator in Logo.(5)

CyberLab maintained a high level of involvement from its learners, with no-one dropping out. Learners showed evidence of gains in literacy, numeracy, and ICT as well as developing skills such as planning, stepwise problem-solving, and self-evaluation.

(1) See Mellar, H., Kambouri, M., Sanderson, M., and Pavlou, V. (2004) ICT and adult literacy, numeracy and ESOL. London: NRDC. Available at: www.nrdc.org.uk/uploads/documents/doc_258.pdf
(2) For more information on WebQuests see: www.aclearn.net/content/toolkits/webquests/,
(3) For more on the m-learning project see www.m-learning.org/
(4) For more about this work see case.glam.ac.uk/CASE/StaffPages/SteveHarris/SRH.html
(5) For a straightforward account of the Fibonacci sequence, see www.schoolnet.ca/vp-pv/amof/e_fibol.htm