

Using Video-on-Demand for Language Learning

Sally Staddon,
Department of Romance Languages
Sally.Staddon@arts.monash.edu.au

Philip Branch
Advanced Network Systems and
Applications Group (ANSPAG)
Philip.Branch@eng.monash.edu.au

ABSTRACT: In this paper we describe our work in using video-on-demand for student centred learning in Modern Languages. Digital video for language learning must be very high quality. It is important that students are able to see clearly how the speaker forms sounds. Also, audio and lip-synchronisation need to be very good. For this reason, most low bit rate digital video systems are unsuitable for Language study. However, the McIVER system developed within the University is able to deliver high quality video, suitable for language study, across the University's ATM network. We used the McIVER video-on-demand system to enable students to access a ten-minute video-clip of French speakers talking of their experiences in Australia. We used the Bookmark facility of McIVER to annotate the scenes within the video and used the Note-taking facility to guide and quiz the students as they worked through the clip. After working through the exercise, the students were asked to answer a questionnaire to identify the strengths and weaknesses of using this technology for Language learning. The paper will report on the outcomes of the questionnaire as well as discuss the technical issues involved and possible future directions for using video-on-demand for Language study.

Introduction

Some of the emerging broadband technologies have great potential in the delivery of student centred, flexible learning. In this paper, we describe our experience in using video-on-demand, integrated with other media in language learning.

The McIVER system has been developed as a video-on-demand system for educational applications. We have used it so far in Film Studies, Art History and Communications studies. In first semester 1998, we used it for Modern Languages.

Digital video for language learning must be very high quality. It is important that students are able to see clearly how sounds are formed by the speaker. Also, audio and lip-synchronisation need to be very good. For this reason, most low bit rate digital video systems are unsuitable for language learning. However, the McIVER system developed within the University is able to deliver high quality video, suitable for this purpose.

The importance of video in education has been identified in surveys of overseas trials. Walsh and Reese (1995) looked at distance education networks in the USA and concluded that "When combined with other media, video has proven to be a highly effective way of getting and holding student's attention, so real learning can
Wellburne (1997) lists some of the benefits of video technology, but observes that ".. these benefits do not happen in some miraculous way simply because the technology has been provided... there is a need for training and support at all levels". The work described in this paper is concerned with how to combine

video with other media most effectively for language learning, and in identifying what training and support is necessary for video-on-demand to be an effective learning system.

The next section of this paper presents an overview of multimedia in language learning. This is followed by a brief overview of the McIVER system. We then describe how we used McIVER in the language trial. The final part of the paper presents a summary of the trial and its outcomes.

Language learning in a multi-media learning environment

For the last twenty years or so, language teachers have recognised the role the computer might play in language learning. However, for just as long, they have acknowledged that the computer can never totally replace the classroom teacher. Language teachers have learnt not to be technology-driven but rather to look for and to create computer-based activities which achieve objectives not easily achieved in the conventional classroom, or which can be carried out more effectively, pedagogically-speaking, or more economically via the computer. Today's technology lends itself well to the development of reading and listening skills and, with the availability of e-mail, on-line dictionaries and interactive web sites, to the development of writing skills and to collaborative writing. In fact, reading and listening skills are, arguably, better acquired using these sorts of flexible learning materials which allow students to work at their own pace with time to think and without peer-group pressure not to ask for too many replays or to ask too many questions. Cultural awareness, from the "high" culture of literature to the everyday culture within which we all operate, can be enhanced via the web and an increasing range of CD-ROMs. However, communicative skills such as not just knowing what to say but also how to say it and how to react to what others say can less easily be acquired or practised via the computer. These skills may be observed and copied but they cannot yet be practised in a truly interactive, authentic way nor evaluated in a multi-media learning environment. Classroom role plays, visiting native speakers, telephone calls or video conferences and, ideally, study abroad are still essential.

In the early years of CALL (Computer Assisted Language Learning) there were relatively unsophisticated programs that supported reading comprehension and simple writing tasks or a range of word games such as hangman, unscrambling text and gap-filling. As the technology has developed so too has the computer literacy and the ability of many language teachers at primary, secondary and tertiary levels all over the world to design, adapt or manipulate CALL software. (WorldCALL, the inaugural world conference on computer-assisted language learning which was held in Melbourne in July this year with 400 participants, bears witness to this.)

Cunningham (1998) traces these developments in Australia in a recent issue of *Babel*. But it is only comparatively recently, that digital technology, small computers with large memories and the Internet have expanded the possibilities for language learning in a multi-media learning environment to include listening to and watching authentic material and to provide real high-level interaction (Felix, 1997, and Felix, 1998). Interactive videodisc (Staddon, 1990) and CD-ROMs offer the chance for learners to see and hear authentic language used in real or realistic situations, to develop their reading, listening and writing skills and to reinforce and test their vocabulary and knowledge of the grammatical structures of the target language.

However, the software is rarely cheap, site licences are often prohibitively expensive for small language departments and the digitised video material can look dated in just a few years. Furthermore few teachers are able to secure funding to produce their own CD-ROMS, tailored to their own needs and using the material of their choice, to an acceptable professional quality.

The McIver Video-on-Demand system offers language teachers a solution to some of the problems outlined above. While it does not yet allow the integration of video material with CALL programs for sophisticated text manipulation, tests, error analysis, games, etc, it does allow the teacher to update the video material as often as required and allow students to work through the material at their own pace with support such as questions, answers, transcripts, feedback for anticipated answers provided using the built-in Notepad.

McIVER

The McIVER system (Multicampus InteractiVe Educational Resource) is a web based, multimedia system able to deliver high quality, full screen, full rate video to suitably equipped PCs within the University. It has been developed by ANSPAG to help us in our research into broadband applications. In particular, we are interested in what applications are useful in an educational environment, the design of networks and systems to support such applications, and what factors inhibit or help their acceptance.

McIVER was developed after video-on-demand trials conducted with the Department of Visual Arts in 1995 (Branch and Durran, 1996). From the trials we learnt that digital video was most used in education when functions for interactivity were provided. Consequently, the McIVER system was developed with a full range of features for study and interaction with video material, including annotation of the video through bookmarks, loops, slider bar and note-taking as well as the standard VCR controls of pause and fast-forward and rewind. Further development in 1997 integrated McIVER into a Web based interface, enabling other media, such as text and stills to be readily incorporated (Branch and Tonkin 1997).

McIVER is built around a video-server located in the Centre for Telecommunications and Information and Engineering laboratory, and a web server. Video is delivered across a high-speed ATM network to personal computers located in three of Monash's University Libraries.

McIVER has been trialed in Film Studies, Art History, Communications and now Modern Languages. It has been most successful where a significant part of the course work involves the analysis or study of video.

Using McIver for listening comprehension

We used a short film made up of a series of native French speaker "talking heads" explaining who they are, why they came to Australia and from where, what they are doing now, etc. The film consisted of short clips at the start of the video which can be used with beginners, and lengthier interviews with the same people which can be used with more advanced students. The material is a valuable pedagogical tool

because the interviewees use a range of useful, relevant vocabulary (talking about self, family, job, hobbies, etc) and are filmed in close-up so that students can see how different sounds are produced. A native French-speaker uses their facial muscles to produce French sounds in ways that are quite different to the way English sounds are produced - hence the difficulty most of us have in getting the accent right. So the material can be used for comprehension (key words and detailed), for vocabulary acquisition and for pronunciation and intonation. A typical session in the classroom lasts about 30 minutes and involves 3 or 4 viewings of the selected excerpts, running straight through to set the scene and for general comprehension then stopping and starting, pausing and recapping to study excerpts in detail, to correct answers and to look at and listen to pronunciation. Analog videotape is far from an ideal medium for this highly interactive usage. Video tape degrades rapidly when used in this way. The students have no choice but to look at the video as and when the teacher and/or the peer group determine, and the teacher has to concentrate as much on manipulating the technical environment as on ensuring useful language learning outcomes. One way of overcoming this is to make available for loan to students several copies of the video together with the necessary documentation. But then the student has to deal with pause buttons that don't pause, tapes that stretch as well as worksheets, answer sheets, etc.

How much simpler, therefore, to copy the video into the Mclver system and provide a diskette with questions, answers, vocabulary lists and transcripts? Students are then able to work at their own pace, at a time that suits them, accessing as little or as much help as they need, using the loop and bookmark facilities to focus on interesting or difficult sections, checking their work as they go or testing themselves, making notes and using other resources at the same time such as dictionaries and grammar books.

Language Trial

Two groups of students were introduced to the *Vidéographies* material in class as a conventional listening comprehension exercise focussing on key word recognition leading to general comprehension of key points.

In first semester of this year, Introductory French students (a group of 20) had a short session using the video tape and worksheet in the normal language classroom as described above. The Mclver system was then described to them and more than half the class expressed a keen interest in using the system in their own time in the Music and Multi-media library at Clayton. Students were given printed instructions for accessing the material. Further printed and human support was provided in the library. Having seen some of the material they were aware of its intrinsic value to them for language learning and having experienced this and other listening comprehension sessions in the classroom they were well aware of the limitations of a conventional approach to this sort of language learning. In retrospect, however, more tangible motivation (ie. inclusion within the existing assessment program for the subject or incorporation as essential information into a project) should also have been offered in order to guarantee that students would use the video-on-demand system.

During the school holidays in July the same material was also shown to a group of 14 primary and secondary teachers participating in a part-time three or four year course by the end of which they reach a level of French equivalent to that of undergraduates majoring in French. They were about one semester ahead of the Introductory French students referred to above, highly motivated and with a more interested and critical pedagogical eye.

At the time of writing one undergraduate, a mature age student, and four teachers have used the Mclver-based material and five evaluation questionnaires have been returned. Three of the five users used the material for one hour and two used it for half an hour. The three who used the material for longer also said that they would use it again. Reactions were entirely positive in that the users appreciated being able to work at their own pace in quieter conditions (the Music and Multimedia library) and with better sound production (via headphones). However, none wanted to see self-access listening comprehension, whether optional or assessed, entirely replace classroom-based listening comprehension activities despite the fact that this could, as they were reminded in the questionnaire, free-up time for other learning activities or reduce class contact hours. Only two users thought the Mclver-based material could be used for assessment purposes but all users thought it could be used as an optional activity. As a teacher it is pleasing to see that these users recognised the value of classroom interaction (amongst learners and between teacher and learners) even for an activity such as listening comprehension which does not obviously depend on interaction. It is surprising, perhaps, that none were attracted by the possibility of cutting contact hours, not least since all respondents were mature age students with families and/or full-time jobs. Two possible explanations spring to mind: firstly, that this technology does not allow the user to take it home, the user must still be at a Monash campus (one user suggested a take-home version); and, secondly, that distance education / flexible learning is not yet part of the "mind-set" of (some types of) students. Also of interest is the comment from one student that they liked the Mclver-based material simply because using a head set cut out background noise and made it easier to hear clearly. A reminder perhaps that Flexible Learning and Distance Education should be no more technology driven than is normal classroom-based learning and that it is how the technology contributes to learning that really matters to the students. Perhaps FL could also stand for Facilitate Learning and users and designers alike be reminded, should they need it, that high technology options may not always be the options that best facilitate learning and that flexible learning also means flexible provision - providing the same material in more than one mode to suit different needs, constraints and learning styles.

Conclusion

From the trial we believe that interactive video-on-demand has great potential for language learning, in particular in the area of listening skills. We feel that it can be successfully incorporated into Modern Languages courses.

However, there are a number of limitations. The first is the number of PCs available, given that a hundred students may be required to use the material over a limited period of time. The second is that at the moment there is insufficient wide area

network capacity for students to use this system at home, although it is anticipated that technological developments such as cable modems and ADSL may change this.

Future developments will include integrating video-on-demand with other software to enable evaluation and record keeping of student progress, accessing online dictionaries and other resources at the same time. Nonetheless, we feel it will always be necessary to provide students with the same material in different modes.

References

- Branch, P., Durran J., (1996). Personal Computer Based Video-on-Demand Trials, *Proceedings of EdTech'96*, Melbourne, July 1996, 21-24.
- Branch, P., Tonkin, B. (1997). Multicampus Video-on-Demand at Monash University, (1997). *Australian Journal of Educational Technology*, Volume 13(2), Summer 1997, 85-97.
- Cunningham, D. (1998), Twenty-five Years of Technology in Language Teaching – A Personal Experience, *Babel*, Vol 33(1), April-June 1998, 5-7,35.
- Felix, U., (1997), Integrating Multimedia into the Curriculum: A Case Study Evaluation, *ON-CALL*, Vol 11(1),
- Felix, U., (1998), Towards Meaningful Interaction in Multimedia Programs for Language Teaching, *ON-CALL*, Vol 12(1),
- Staddon, S., (1990), Interactive video and language learning - the Expodisc Spanish experience , *ON-CALL*, Vol 5 (1)