

# Chapter 18. Video-conferencing and Online Multimedia in Hindi Language Learning

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## 1. Introduction

This evaluation is being conducted as part of an ASCILITE/CUTSD initiative; "*Staff Development in Evaluation of Technology-Based Teaching Development*".

This particular project is interested in the evaluation of technologies used in language teaching and learning in the Faculty of Asian Studies at the Australian National University. The focus of the evaluation is on the teaching and learning of Hindi, one of the languages offered by the Faculty.

### 1.1 Hindi Studies Context

This paper focuses on the evaluation of technologies used to introduce the teaching of a combined Hindi language course offered to students at both the Australian National University (ANU) and the University of Sydney (USyd). The course combines resources and expertise from ANU with local support at both ANU and USyd to offer Hindi language learning at both introductory and advanced level.

The program has been designed and developed as part of the Small Enrolment Asian Languages and Flexible Learning (SEAL) project, based at ANU.<sup>1</sup> The evaluation of the technologies used to facilitate the teaching of the program, for both local and distance students has been undertaken by staff at the ANU Centre for Educational Development and Academic Methods (CEDAM) in conjunction with staff of the SEAL project.

Hindi can be studied at ANU as a three year specialist degree; Bachelor of Asian Studies (Hindi). Individual units can also be studied from either ANU or USyd. Each unit is taught

by one lecturer, based at ANU and two tutors, one based at ANU and the other at USyd. This arrangement is part of an ongoing reciprocal agreement between the two universities to maintain student choice in small enrolment Asian languages.

A combination of technologies is used to offer students at USyd the opportunity to study Hindi by distance and to enhance the learning of local students. These technologies are used variously in each of the units at both introductory and advanced level. Video-conferencing is used to teach students at USyd from ANU. Online multimedia activities have also been piloted this year, with both ANU and USyd students.

### 1.2 Literature review

Evaluation of the technologies used in the Hindi Studies course raises a number of issues. Hindi Studies comprises several different semester length units of study. The evaluation therefore examines the use of technologies in Hindi Studies both at the program and the unit level.

Relevant areas include evaluation of learning outcomes, language learning, video-conferencing and multimedia. At this stage, we have accessed the literature selectively, relying on adaptation of existing approaches to evaluation and drawing on advice from colleagues at CEDAM.

#### 1.2.1 Evaluation and The Triple Challenge

Ehrmann outlines the challenge facing providers of education using technology as being threefold. Firstly, providing "full and equitable access". Secondly, providing "quality" learning, keyed to responding to challenges of life in the 21<sup>st</sup> century. Lastly, Ehrmann recognises that all this must be dealt with in a context in which "money and political support are in short supply". Ehrmann

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<sup>1</sup> The SEAL project is funded under the Commonwealth Government's *Maintaining Student Choice* scheme, part of the *Higher Education Innovation Programme* (HEIP).

warns of a gradual deterioration, "institutionally and nationally" if these challenges are not met. He also points out how technology is not an instant solution to the challenge and in many ways can be seen as part of the problem (Ehrmann, 1994).

The use of technologies in Hindi Studies is part of an attempt to meet the pressing demands of this triple challenge. As a small enrolment course, Hindi Studies can only be offered to students outside the home institution of the lecturer if methods are found to deliver the course efficiently and maintain the standard of teaching and learning enjoyed by face-to-face students. The evaluation program was thus required to examine the use of technologies in Hindi Studies in this context.

Gilbert further illuminates this tension in his article, "Double Visions". He argues that "a balanced mixture of the two will be safer and more effective for most colleges and universities", when developing their teaching and technology programmes. A combination of the two patterns of, improving productivity and access and improving teaching, learning and content, needs to be examined for each different context of students, institutional and personal values and the needs of individual academic disciplines (Gilbert, 1996). This perspective has been a guiding factor that has informed the questions, activities and outcomes of the evaluation.

Introducing technologies such as video-conferencing and multimedia challenges assumptions about language learning.<sup>2</sup> New online multimedia technological capabilities make it possible to convey images and sound across the Internet in a relative accessible format, providing not only the ability to transmit information, but the opportunity for real time interaction (Godwin-Jones, 1997, p8-9). Video-conferencing can simulate a classroom experience more realistically than has previously been possible over distance. Schiller and Mitchell argue that video-conferencing is most useful for those areas of a subject which require extensive interaction, rather than passive transmission (Schiller, 1993, p6). Addressing issues particular to language learning was another challenge for the evaluation program.

<sup>2</sup> There is a need for exploration of language learning references.

## 2. Evaluation Planning

Development of the evaluation plan took place over an extended period. Course coordinators, project and CEDAM staff met to discuss the particular issues in which each group was interested and how best to create a balance between differing priorities and resources.

The following points are particular contextual issues which were identified and informed the Hindi evaluation:

- Competing aims, goals and priorities
- Limited resources
- Very small group of students
- Large and complex technology use

### 2.1 Evaluation Activities

A variety of evaluation activities were undertaken in order to capture ideas from as many students and teachers as possible. These activities were limited by several factors, which emerged in the planning of the evaluation and also became issues during the activity schedule.

Concerns included:

- Securing the participation of the students in evaluation activities, which from their point of view have no immediate value.
- Necessary to avoid taking up too much of the students' time during class.
- Large proportion of the group at a distance making collecting data challenging.
- Essential that the evaluation activities be as broad and capture as many participants as possible. Being a small-enrolment class, losing even one or two students could have a significant impact on the data we retrieved.

As students use the video-conferencing and multimedia exercises in different ways, in several different units, another challenge was to target the evaluation activities towards these different groups. Rather than attempting to evaluate each technology in every evaluation activity, we chose to focus each activity on a specific technology.

Flexibility was emphasised to profit from unexpected occurrences. For example, none of the later year ANU students attended the focus group at the time which it was initially scheduled. In such a small group, we could not afford to lose such a large proportion of samples. Plans were made to revisit the group.

Originally, there was no intention of conducting a focus group with the USyd first years, because there were concerns about their losing a significant amount of class time. Based on the initial comments made by students in the advanced group, it was decided that a session with the introductory students would be invaluable.

An advantage of the video-conferenced focus group was the fact that the students were already comfortable in the environment and used to dealing with the technical issues that sometimes arise. All the video-conferenced classes are automatically recorded, so the students were also familiar with that aspect.

### 3. Hindi Language Learning via Video-conference

#### 3.1 Why use Video-conferencing?

Schiller & Mitchell's summarise the main uses of video-conferencing:

- Combine smaller groups of students across several sites to make one viable class
- Provide lecturer expertise from another college when unavailable at the site where students wish to undertake the subject
- Reduce the need for travel between sites for teaching and administrative purposes (Schiller, 1993, p1)

I would add to this, that in addition to creating a viable class size, video-conferencing facilitated student interaction with a wider group than they would otherwise have experienced.

#### 3.2 Video-conferencing in Hindi Studies

Later-year students at both ANU and USyd use video-conferencing for two hours of their classes each week. First year students at USyd also have two hours of classes via video-conference per week. Students in each unit also have 1-2 hours of face-to-face classes with a local tutor each week.

Each video-conference class emphasises interaction between students and teacher, involving conversation, reading, writing and physical demonstration to explain the translation of a particular Hindi language text.

The video-conferenced classes are hosted from ANULINK, the ANU Video-conferencing Centre. The Technical Coordinator of the

Centre manages all video-conferencing activities. Specifications of the system are outlined in Appendix 18.2.

#### 3.3 Research/Evaluation Questions

How best can we use the video-conferencing environment to optimise student learning?

#### 3.4 Methodology for Collecting Data

##### 3.4.1 Focus Groups

Two focus groups were conducted; the first included later-year students and the second; first year students from USyd, via videoconference from ANU. The focus groups were conducted during the last week of first term, second semester.

##### 3.4.2 Observation

A non-teaching team member conducted brief observation of video-conferencing classes in action on several occasions.

##### 3.4.3 Interview

A brief, informal, semi-structured interview was conducted with the lecturer/course coordinator.

#### 3.5 Results & Discussion

A summary of the perceptions and ideas that arose in the focus groups, through observation and interview is outlined below.

##### 3.5.1 Use of Video-conferencing

The main point which emerged from the evaluation seemed to imply that the way the video-conferencing was managed made the most difference between it being a useful learning tool, rather than a poor substitute for a face to face class.

##### 3.5.2 Technical issues

Technical difficulties caused initial concern to both staff and students. Overall, problems have gradually been reduced and the current system is considered tolerable.

Excellent support at ANU has ensured that most of the classes proceed with few technical problems, despite initial technical glitches included time lost through faulty connections.

Students at USyd have experienced frustration with the lack of technical assistance and clearly defined organisational support roles.

On several occasions they have had difficulty accessing the video-conference room, arriving to find there was no one to let them into the room, particularly if the class is outside of normal university hours. The students felt strongly that there needed to be adequate technical support and organisational assistance at either end. They also felt it would have been helpful had they received some basic training in how to manipulate the system and solve minor problems.

Communication between the two institutions via the video-conferencing system is sometimes slow. There are frequent delays in the video images and the sound is not of high quality. This is recognised by both staff and students, who indicate that sometimes the speaker has to repeat a question several times. "Communication sometimes takes a little bit longer".

These limitations are most evident in the larger combined ANU and USyd class, in which several students might try to speak at once. "You can't just make passing comments, it has to be straightforward". One student explained that they enjoyed having another group of students taking part in the class but it did cause technical problems:

*It's fun having them there, but it does make things more complicated. We can only look at them or at [the lecturer]. You can't exactly follow the conversation. If we are looking at them, we can't see if [the lecturer's] trying to get everyone's attention. If we're looking at [the lecturer], we can't see if they're talking amongst themselves.*

Refining the system to include a view of both the lecturer and the other class, rather than relying primarily on the audio, potentially could make larger classes and more effective whole class discussion viable.

### 3.5.3 Teaching via Video-conferencing

Video-conferencing classes were generally centred on a particular Hindi Language translation. Each group of students would take turns to read passages. The lecturer would then assist in the interpretation of text by explaining, posing and answering questions, using the white board and document display facility to write and draw diagrams.

Discussions with the lecturer suggest that he has spent considerable time and effort adapting his teaching to the video-conferencing environment. The technical limitations of the system have required him to adjust his methods of communicating with his students. For example, seeing the students only through a screen requires greater efforts on his part to ensure that he maintains a 'presence' amongst the group.

He also finds that getting to know the students individually is more challenging. It also requires consistent concentration to keep the students feeling comfortable and to "keep them plugged in". This is made even more difficult with a simultaneous class at either end, the necessity of dividing his attention also requiring adaptation.

The lecturer has also found that it is necessary to be flexible and adaptable in the way he uses the technology with each different group of students. The later year group, for example, prefer him to write on the white board, whereas the first year group prefer the document display.

### 3.5.4 Student Responses to Video-conferencing

Comments from the students who attended the focus groups indicated that they were generally less concerned about video-conferencing than with the deeper issues surrounding the maintenance of choice in small-enrolment Asian languages in the Australian higher education system. They appreciated video-conferencing as an effective method of attempting to address these issues on the part of their lecturers. They continued to feel that their study of Hindi was unsupported at the institutional level and that Hindi, and other small-enrolment courses, was considered a low priority. "Hindi is at the bottom of everyone's list".

Most of the group tended to compare the video-conferencing with the way they had studied Hindi before video-conferencing and with other methods of learning by distance. Probably for this reason, they were generally tolerant of the limitations of video-conferencing and the problems that sometimes occurred.<sup>3</sup> They stressed the importance of the

<sup>3</sup> In their study of video-conferencing in South Australian TAFE, Schiller & Mitchell found that

lecturer's attitude and his adaptable teaching style in making the video-conferencing successful. "[The lecturer] does a lot of directing, so [the class] flows pretty well". The USyd students also valued having access to expertise outside their own university: "If we didn't have video-conferencing, we wouldn't have lectures from [the particular lecturer]".

The students were generally positive about their learning. One of the later year Hindi students suggested that for someone who already had a basis in the language, video-conferencing was an acceptable study medium. "At the stage we're at now, I don't think it makes much difference being on the video-conferencing. I think we'd all say that we're learning pretty well." Another advanced student commented that she didn't feel there was any difference for her learning between a video-conference and a face to face class. "It's just as easy for me. I can see [the lecturer]. He can draw pictures. He can demonstrate things physically, as well as speaking through the audio".

There was a general perception amongst all the students that it would be much more difficult to learn a language via video-conferencing at an introductory level. "It would be really hard to start learning a language via video-conferencing because you don't have the confidence to speak. And also, you can't hear, the sound is not that good". One of the less advanced students in the later year class even suggested that this was a major reason why she found learning via video-conferencing more difficult than the other members of the class, believing that she would prefer to learn in a face to face environment. The first year students, learning at an introductory level, supported this view, but still agreed that video-conferencing was a better alternative to other distance methods, and provided a good opportunity to study Hindi.

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there was one group of students who tended to compare video-conferencing with face to face classes, while another saw it more in terms of a comparison with other distance learning techniques. They point out that the latter group was generally more tolerant of the limitations of video-conferencing. A similar perception seemed to exist amongst Hindi Studies' students. (Schiller & Mitchell, 1993, p3)

Students suggested benefits of studying through video-conferencing, including the option of using the whiteboard, or displaying texts on the screen. In addition, the students' felt they were less distracted when learning via video-conferencing than in an ordinary class. "Because we're on video-conferencing, we don't stray from what we're doing". There seemed to be a feeling of obligation and commitment on the part of the students, not only to attend the classes, but also to actively participate and contribute.

The students also recognised limitations in the way they thought video-conferencing could be used. They emphasised that being able to have face to face classes with a local tutor, as well as the classes with the lecturer via video-conferencing made a significant difference to their learning as a whole. "For us, [video-conferencing] is only half an experience, because we do have a tutor in Sydney as well." According to the students, the 'content' taught in the conversation classes they have with the tutor would not be as appropriate or successful as the translation class they have via video-conference. "Translation works well with video-conferencing. The [conversation] class wouldn't work as well. It wouldn't work as well to do *everything* via video-conferencing".

### 3.5.5 Concerns about Video-conferencing

Issues surrounding the maintenance of choice in small-enrolment Asian languages in the Australian higher education generally are concerning for both staff and students. Students express a feeling of uncertainty: "Every semester we are told about the tenuous nature of Hindi". These issues also place considerable stress on staff members who face increasing workloads and management issues involving the maintenance of the Hindi program.

Students and staff members both report having altered their discussion, and teaching/learning styles to accommodate the technical restrictions of video conferencing. These changes and the preparation involved in adjusting teaching/learning methods to suit video-conferencing are concerning because of the differing degrees of success with which individual students and teachers may respond. The effort required to manage classes at different locations simultaneously is an added pressure on lecturers.

The nature, role and extent of local support, outside the host institution, is also concerning to both staff and students. It was felt that institutional support needed to be improved in the technical, administrative and academic aspects of the course. Technical assistance, training and trouble shooting were seen to be areas in which significant improvement could be made. It was also suggested that a staff 'advocate' for Hindi at the 'guest' institution would make administration, local support and marketing of the Hindi program considerably easier.

A local tutor whose role was also to act as such an "advocate" would be beneficial. However, under the current arrangement, the local tutor is considered a "mixed blessing" by the lecturer offering the course from the host institution. The tutor with limited hours, and particularly with limited commitment, is almost certainly destined to fall short of meeting student and program needs. However, from the students' point of view, a tutor, if only a casual tutor, is essential. Students were particularly concerned that this position, which they view as central, is increasingly likely to be seen as peripheral by the University.

### 3.6 Implications

"When used as one of a range of 'mixed mode' strategies and techniques... video-conferencing becomes a powerful medium for interacting at a distance" (Schiller, 1993, p9). Video-conferenced classes have provided an excellent opportunity for students to learn Hindi from a distance. Their classes accompanied by printed materials and local tutorials create a stimulating language learning environment, in which for some students, at least, the technology has become almost transparent.

Video-conferencing needs to be combined with local support, technical, administrative and academic and with other modes of learning to be effective, however. Explicit support for distance units, students and staff needs to be made available by the 'home' institution. Support for students taking units by distance at other institutions also needs to be available.

Assistance and training for both staff, and students in techniques of teaching and learning via video-conferencing also need to be provided (Schiller, 1993, p5). Appropriate aspects of subjects to be taught via video-

conferencing should be considered. Video-conferencing may provide the opportunity for a high level of interaction, but in language teaching, the limitations in sound quality and video need to be taken into account.

## 4. Online Multimedia Exercises in Hindi Language Learning

### 4.1 Why use multimedia exercises?

The intention of the development of the multimedia exercises is:

- to enhance the students learning experience by creating an interesting interactive method of practicing aspects of Hindi language grammar and vocabulary, from paper-based exercises already in existence
- to offer students an alternative, potentially more convenient, method of learning and of accessing learning activities, regardless of location
- to promote Hindi Studies at ANU through the Internet and foster a greater sense of participation in the course for students studying by distance.

### 4.2 How are the Multimedia Exercises used?

At this stage, prototype exercises based on a printed workbook previously developed for Hindi Studies, have been implemented for student use (Barz, 1994; Yadav, 1985). New exercises in each area are continuously being developed.

The online exercises are accessed via the World Wide Web. Technical requirements for their use are outlined in Table 18.1.

Use of the online activities is optional. Later year students are required to complete the 'translation' exercise as part of their assessment. However, they may choose to use the online version or an audiocassette placed in the closed-reserve section of the library.

### 4.3 Research/Evaluation Questions

The developers were interested in gaining the student perception of each individual exercise - in terms of their value for learning, accessibility and enjoyment.

For the purposes of evaluating the multimedia exercises, we posed the questions:

Table 18.1. Technical Requirements - Hindi Studies Online Multimedia Activities.

<b>Operating System</b>	Windows 95, Windows 98 or Windows NT Macintosh System 8.1 or higher UNIX
<b>Memory</b>	32 MB of RAM
<b>Hard Drive Space</b>	100 MB free disk space
<b>Sound Card &amp; Speakers</b>	Required
<b>Browser</b>	Netscape 4.0 or higher Internet Explorer 4.0 or higher with JavaScript enabled
<b>Modem</b>	28.8 KBPS or higher speed
<b>Browser Plug-ins</b>	Macromedia Flash player Real Audio - Realplayer G2

- In what ways are the multimedia enhancement activities beneficial to student learning of Hindi language?
- How best can we use multimedia enhancement exercises to optimise student learning?
- How accessible to students are the technologies used in the course?

#### 4.4 Methodology for collecting data

##### 4.4.1 Questionnaire - online/hard copy

The focus of the questionnaire was on the students' use of the multimedia exercises, their perceptions about the educational value of the exercises and their experiences regarding computer access and support.

A combination of open-ended and strongly agree/disagree questions was used. As the exercises were optional, students were asked to mark a question N/A if they had not used an exercise.

ANU students were asked to fill in the questionnaire during class time. The questionnaire was also converted to a web-form and a link placed to it on the Hindi Studies web-site. The USyd students were asked to fill in the online version of the questionnaire.

#### 4.5 Results/Discussion

A summary of the perceptions of the students as expressed in the questionnaire is outlined below.

##### 4.5.1 Background

- Out of a total of 13 responses, 11 students were enrolled full-time and were at ANU.
- Most of the class was female and under 25 years of age.
- Half the group were studying a Bachelor of Asian Studies - while the rest were studying generalist and combined degrees.

##### 4.5.2 Technical issues

More than 85% of the students (11/13) felt that their knowledge of computers was adequate for using the online activities and resources. In general, they found it easy to navigate around the website. According to one student; "The links were easy to follow and it was well set out". Another student thought that "The presentation was good. It wasn't hard to figure out how everything worked". Other comments on the technical presentation and design of the site included, "helpful", "dynamic", and "nice to look at".

Most students were also positive about gaining support when they needed it. "[The website designer] helped when I had a problem". Another student evidently felt that the support and design was sufficient - and that they were responsible for their own level of participation, responding: "Fine, just I am a bit weak".

Over three-quarters of the students agreed that they had sufficient access to a computer to use the online activities. Two-thirds of the group accessed the Hindi web-site off-campus, suggesting that most relied on their own resources to obtain adequate technology.

The positive picture created by the closed-ended questions is contradicted by the students' open-ended comments that suggest that their access was far more limited. The major technical issue that the students found a problem seemed to be difficulty accessing sound on the machines. On-campus computers have the sound turned off by default, so as to avoid disturbing other students. Students found this a problem, as they were unable or reluctant to turn the sound on or bring earphones with them. Students' home computers might also not have sound capability. "Often the computers I have used do not have sound/speakers so I am unable to hear the pronunciation of words". Another student pointed out that "on slower computers the listening exercises take a while to load". One student found the MP3 format of the sound files annoying "You can't stop and start, a downloadable version would be better".

Orientation and access to adequate machines, then, seems more of an issue than computer literacy, or willingness to use the technology.

#### 4.5.3 Student Responses to Online Multimedia

The students were generally positive about the exercises they had used, however there was a low level of participation in all the exercises.

Responses to the question of whether they preferred to use the online exercises or audiotapes/printed materials indicated that the students were not predisposed either way. Most students indicated 'neutral', which perhaps suggests that they were not opposed to using online resources in general.

One reason for this may have been a lack of awareness of exactly what was available, or how to access it. Only half the students who responded were positive that they "knew from the beginning [of the course] what to do to start using the online exercises". Only one student admitted that they did not know what to do, however, another 40% were 'neutral', on the issue.

There was a strong difference between the later year and the first year students in their use of the activities. The introductory students on the whole seemed more positive than the advanced students did. Many of the first year students endorsed the online activities wholeheartedly. "The exercises available so far are really great!

All we need now is A LOT MORE!". "I hope it continues because it is very worthwhile and enjoyable to access". "It is a really great idea. I really like the external links page & the noticeboard". These responses are perhaps due to the fact that more of the exercises were aimed at the introductory level of learning. Other reasons maybe that the first years perceive technology differently or have more time for 'enhancement' activities. First year students may also view the exercises in a positive light, precisely because they are not compulsory.

Other students suggested specific exercises they would like to see:

*"More links to Bollywood pages, Hindi Film songs, general info on India, other Hindi websites/newspapers/literature"*

*"I think that if there were more of these exercises it would be helpful. Just simple, everyday phrases like 'what's the time?' And we choose the answer, so that we get used to hearing the language".*

*"Devanagari-script for Hindi pop songs with English translation...because songs stick in people's heads easier than written words"*

*"Opportunities for more conversation"*

*"Texts that are more common everyday sort of stuff rather than obscure academic things."*

Most of the later year students looked at the exercises only briefly. Their approach seems much more assessment oriented: "I only use the translation exercises for the purpose of avoiding the library to get homework material". This does mean, however that the online exercises provided more convenient and flexible access for at least one student.

#### 4.5.4 Concerns about Online Multimedia

Developer staff felt that more stringent prerequisites for students taking the course, in terms of computer literacy, maybe required if using the exercises were to become compulsory. The small enrolment numbers meant that such a requirement could lower the accessibility of the course to potential students, which would be self-defeating. Although the students were generally confident of their

ability to use the multimedia exercises, this remains a concern, particularly if the use of the exercises were to become part of the student assessment schedule.

Students were very concerned about the use of online multimedia activities replacing face to face classes, stressing that they were good as enhancement activities but only in addition to normal class teaching.

The success of multimedia exercises in stimulating the interest of students suggests that online multimedia would be an excellent component of an integrated mixed mode Hindi course. The developers of the course face the perennial challenge of finding adequate support for the ongoing maintenance, planning and development of the course, website and the multimedia activities.

#### **4.6 Implications**

Our questionnaire in many ways has raised more questions than it has answered. Further exploration, in a focus group environment, may prove helpful in determining student perceptions of the issues surrounding their experience with multimedia in Hindi Studies.

The students' responses have raised the question of whether they are reluctant to use the technology or whether it is more how the technology is being managed which is affecting their low participation rates. There are very few negative statements made about the online multimedia activities - few students 'disagreed' that they were valuable. Most students seem unsure, which is perhaps indicative of the early stage of development at which the project lies. The positive responses to the prototypes indicate that they would be a valuable method for Hindi studies to pursue in enhancing the learning of all students, particularly those studying by distance.

One student summed up the challenges for the Hindi enhancement activities:

*The biggest issue here is students access to computers and their willingness to make use of the resource. The programmes are good and [the web-designer] is always willing to listen and help, but students must be using them for it to be a worthwhile resource.*

Students need to be supported in terms of their computer literacy, access and the support they receive for using a particular exercise. The addition of suitable introductory activities would, for example, provide encouragement for the students to use the exercises and assist with access and literacy problems they might have. There is ongoing demand for additional support in areas such as administration, marketing, IT, instructional design and professional development in order for remote Hindi Studies classes to be established and sustainable.

## **5. Overall results & discussion**

Reflecting on the development of the evaluation plan and process, several things can be identified which worked with differing degrees of success.

Focus groups conducted by video-conference were a very successful evaluation activity. The students were comfortable about speaking to us regarding their experiences and their ideas about what could be improved. By emphasising to the students that the purpose of the session was to focus on their perceptions of video-conferencing rather than the course generally, we were able to appropriately limit the number of issues addressed and explore them thoroughly. The main problem encountered was the lack of participation by ANU students. This highlights a larger evaluation issue, in the difficulty of knowing how (or whether?) the students should be 'primed' for such a session and how their participation can be encouraged.

Another issue affecting evaluation concerned the simultaneous development of evaluation plans and course resources. Considerable reworking of the evaluation questionnaire became necessary as new multimedia exercises were developed. This highlights why it is important that evaluation be an integrated part of the development cycle of the course, and not seen as an optional project. Additionally, when evaluation remains peripheral, determining how information gathered through evaluation activities should affect the development of the course also becomes an issue. This is further complicated when those driving the evaluation process are not directly linked with the ongoing development of the course.

Examining the use of a specific technology in relation to learning outcomes is an important additional focus for Hindi Studies. Learning outcomes may always be present in the minds and actions of the developers of the course, but are forced into retreat as other issues, those of access and survival, place pressure on the project. Only the teacher of a particular course can identify, with any success, the kind of learning outcomes he or she is hoping to achieve by using a particular form of technology. In this evaluation, project staff worked closely with the lecturer to identify the sorts of learning outcomes the technology was promoting and direct the evaluation questions accordingly. This example emphasises the importance of the evaluation being primarily 'owned' by the lecturer, and being an integral part of development activities.

## 6. Conclusions

Issues have emerged to do with the tension between the management of a technology to produce improved student learning outcomes, and the challenge of producing optimal learning opportunities in a cost-effective environment. Few evaluation exercises have the luxury of targeting one of these outcomes exclusively. Few teachers have the resources to devote to making each evaluation customised and rigorous. Imposing a generic structure or refusing to acknowledge the complexity of each context is not the answer. Critical evaluation needs to become an integral part of the lecturer's stance when creating and maintaining a course, especially one enhanced by technology.

Gilbert points out that dramatic growth in use of electronic resources for teaching and learning purposes is rapidly outstripping the ability of technical and educational support services to keep up. In terms of this evaluation project, this has led to extremely limited resources available to devote to evaluation activities, probably not an uncommon experience amongst other teams of participants within the ASCILITE/CUTSD project. For these reasons, as well as others, there is a need to encourage lecturers and developers to retain 'ownership' over evaluation planning and activities as part of their course design. Appropriate educational and technical support systems also need to be developed to assist lecturers in their ongoing course development.

Even more important is that the results of evaluation projects such as this one be

considered as case studies. The results and ideas that emerge need to be addressed not only at the project level but also at the program and institutional level.

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## 9. Appendices

To conserve paper, the Appendices to this report are only available at

<http://cleo.murdoch.edu.au/projects/cutsd99>