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ABSTRACT

This paper begins with background on the objectives, courses, and students of the British Open University. The aims and structure of a proposed modern language program are then outlined, and plans for using print, television/video, radio/audiocassette, and software learning materials are briefly described. A summary of some experiences of broadcasting organizations in using media to teach languages at a distance is presented, and it is concluded that other means need to be developed for distance learning. The paper concludes by discussing the problem of choice among a range of media or modes of presentation--text, audio, television, computers, and people--placing the question within the framework of six criteria: access, costs, teaching functions, interaction and control, organizational issues, and novelty, each one of which is examined in detail. (MES)

LANGUAGE TEACHING, DISTANCE EDUCATION AND THE NEW TECHNOLOGIES

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- Abstract -

The presentation will begin by outlining the Open University's current plans regarding teaching languages at a distance. This will be followed by an analysis of the way technology can be used to facilitate the development of different language skills.

The first part of the presentation begins with a brief description of the Open University (its objectives, courses and students). This is followed by a discussion of its proposals for the introduction of language teaching and a review of the learning materials and methods which it plans to use.

The second part of the presentation begins with a description of the various technologies now available for teaching languages at a distance. While there are many technologies that can help, the point is made that choice of technologies depends on several key criteria: student access to technology; teaching; the amount and quality of interaction permitted by the technology and its user-friendliness; and the organisational context in which the distance teaching is provided. Lastly, the importance of inter-personal communication for language teaching is emphasised, although even this can be effectively supported at a distance through technology.

THE OPEN UNIVERSITY

The Open University was founded by Royal Charter in 1969 with the aim of widening educational access in the U.K. by providing opportunities for adults to study in their homes and in their own time. Since it began offering courses in 1971, the Open University has rapidly become not only the U.K.'s largest University but also one of the largest providers of adult training. It now has an international reputation for the high quality of its teaching materials and systems which are used very widely in institutions throughout the world. Despite the considerable initial costs of setting up the University and producing the courses, the very large numbers of students which may be registered results in an extremely cost effective operation which compares very favourably with traditional institutions. It is not surprising, therefore, that models on similar lines to the Open University are currently being pursued in all parts of the world.

Courses

All of the courses produced by the Open University are designed for part-time study. Most fall into one of the following categories:

(a) courses of 32 weeks duration (February to October) involving an average of either 6 or 12 hours study per week (known as half-credit or full-credit courses)

(b) short courses of 3-6 months duration involving about 3-6 hours study per week (quarter-credit courses)

(c) packs of learning materials which may be studied at any time.

Most courses are at either undergraduate or postgraduate level and may be counted towards a BA degree, a Diploma, or a Masters degree as appropriate. (Students are required to take the equivalent of six full-credit undergraduate courses to gain an BA degree and three full-credit postgraduate courses to gain a Masters degree.) The packs described under (c) do not form part of a degree or diploma programme and are usually intended to meet specific vocational needs or satisfy personal interests.

Each of the courses is structured so that most of a student's learning can be undertaken at the time, place and pace of their choice, either at home or in the workplace. Much use is made, therefore, of printed material (specially written texts supported by set books), video and audio cassettes, TV programmes, computer software, etc. In addition, students receive face to face tuition at one of the University's 250 study centres around the UK and are required to submit written work for assessment by their tutors. Some courses also have weekend or week-long residential schools. The production of teaching material is co-ordinated by academic staff based at the University's headquarters in Milton Keynes. Because of the nature of the teaching systems the Open University is able to draw on the expertise of the leading authorities in subjects, regardless of their location. Broadcast programmes and audio-visual materials are made in partnership with the BBC, which manages the Open University Production Centre on the University campus. This Centre is the largest purpose-build educational audio visual production facility in Europe. Tuition and counselling is organised by staff based in thirteen regional centres around the country, though the tutors themselves are recruited on a part-time basis from other higher education institutions, from industry and elsewhere.

Courses are available in a wide range of subjects and subject areas from arts and social sciences through mathematics and science to manufacturing and management. Up till now, however, the University has not included modern language teaching in its programme.

Students

Approximately 165,000 people study with the Open University each year, of whom about 70,000 take undergraduate courses. The remainder study postgraduate or post-experience courses and study packs.

Most Open University students are in full time employment or are bringing up a family while they study. The ratio of men to women is 55:45. The average age of students is 33. Students come from a variety of backgrounds and with a range of different educational experiences. There are no formal-entry qualifications. Two thirds of undergraduate students

complete their full-time education at 18 or under and are therefore returning to study after a break from formal education. One third have less than 2 'A' levels on admission to the Open University, the normal minimum entry requirement for a conventional university.

The Open University has a high success rate. About 70% are successful in gaining a credit and about half of those taking undergraduate level courses choose to complete a BA degree. To date, over 85,000 students have graduated from the University. Most Open University students are already in employment and surveys have revealed that graduates benefit greatly in terms of career improvement, the upgrading of skills and personal development.

OPEN UNIVERSITY PROPOSALS FOR THE INTRODUCTION OF LANGUAGE TEACHING

The Open University has been aware for some time of the urgent need to improve and expand the teaching of modern languages in the United Kingdom. The potential of the Open University to transform existing provision for adults in other areas has been recognised by the Government in its additional funding to the University to develop courses in the field of management. The University and the Government are now exploring the University's role in providing improved opportunities and resources for adult modern language learning throughout the UK and a fully-costed proposal is now being considered by the Government.

Survey research has also indicated that there will be a substantial demand for a distance taught language programme. Among our own undergraduate students above it is likely that nearly 30,000 of our 70,000 students would seriously consider language courses if they were available. Strong interest has also been shown by students of our Open Business School.

The main features of the proposal which we have presented to the Government are:

Aims of the programme

To offer language courses designed to develop practical language skills along with an understanding of the social, cultural and economic contexts of the countries in which these languages are spoken.

Such a programme would be designed to meet the needs of:

a) undergraduate students who wish to combine the study of one or more modern languages with their other discipline(s);

b) students who are seeking vocationally relevant language skills to assist them in their employment;

c) students who wish to train as modern language teachers or existing language teachers who wish to extend the range of languages which they are able to teach.

3. Structure of the programme

The University plans to offer courses designed to provide approximately 800 - 900 hours of student study in each language.

The courses will be available in the Continuing Education programme in the form of eight 100 hour courses, and in the Undergraduate programme in the form of longer courses of up to 400 hours plus residential school(s).

	Continuing Education programme [All 100 hour courses]	Undergraduate programme
Module 1	Contemporary life	All four modules offered as a 400 hour course plus residential school
Module 2	Geography and environmental issues	
Module 3	Political and cultural history	
Module 4	Science and Technology	
Module 5	Politics, Economics and international relations	All four modules offered as a 400 hour course plus residential school
Module 6	Contemporary cultural life	
Module 7	Business Management	
Module 8	Management and Technology	

[The titles of the modules are, at this stage, merely illustrations of the kind of themes which will provide the context for the teaching of the language skills]

Notes

(a) Students may combine the language courses with other courses in the undergraduate programme;

(b) students successfully completing all 800 hours would be awarded a Diploma in German, Spanish, etc.;

(c) successful completion of particular modules (e.g. Business Management) may count towards other University awards (e.g. Diploma in Management).

Learning materials and methods

As indicated above, the Open University commonly uses a wide range of media. Since language teaching (especially where there is an emphasis on communication skills) poses particular problems for distance teaching, it is not surprising that the University plans to use the full range of teaching media.

Print

Despite the emphasis on oral production we would expect print to play a significant rôle providing thematic material, transcripts of taped material and instruction in usage style, grammar and vocabulary.

TV and Video

Even at advanced levels of language learning we are persuaded of the value of providing the language in context. With large population courses we see the advantage of using television: it will be cheaper and it will reach larger audiences. However we would expect most students to record the programmes off-air. Moreover for the short courses and packs we plan to provide video cassettes to increase the flexibility of use.

We plan to prepare 1.5 hours of video for every 100 hours of student study.

Radio and Audio-cassettes

We would anticipate a heavy use of audio-cassettes and therefore intend to prepare up to 3 hours of audio taped material for every 100 hours of student study.

Radio may be used for additional student motivation through feedback programmes.

Computer software

We anticipate a limited use of computer software - particularly for diagnostic testing and vocabulary building.

Tuition

Although a distance teaching institution, the Open University has always seen face to face tuition as an important ingredient of its support for students. A number of courses, particularly in the area of science and technology have compulsory residential schools. In addition all courses have some provision for contact between tutors and students - either in the form of face-to-face sessions or by telephone. Such provision will be critically important for the introduction of language teaching, and we anticipate that the sessions will need to be more frequent and the ratio of students to tutors more favourable than with most other programmes. In the case of remote students, telephone or audio-conferencing may prove valuable.

We envisage also that there will be scope for more imaginative networks than hitherto - not simply between Open University students but between Open University students and native speakers. The possibilities for computer networks will also need to be exploited.

We also forsee the possibilities of more imaginative residential schools than we are normally able to offer. Not only will there be a need for residential schools in the country of the target language, but employment related visits and family holiday together with language study should all be considered.

Assessment

The Open University currently makes very considerable use of tutor marked and computer marked continuous assessment in addition to examinations. We would expect to make use of audio tapes for assessment as well as written assignments.

Finally, there may be opportunities for using additional media depending on the numbers of students who enrol and the extent to which students frequent particular study centres. The use of videodisc in particular may well prove cost-effective.

Using media for teaching languages at a distance

While the Open University has over 20 years of using media and technology for distance teaching, it does not have at the moment any experience itself in using media for language teaching. What then can we learn from our own experience in other fields, and what can we learn from other people's experience in the use of media for teaching languages at a distance?

Other people's experience: broadcasting

For over 20 years, broadcasting organisations such as the BBC in the UK and Sveriges Radio in Sweden, have been using radio, television and specially prepared text-books for teaching languages at a distance, sometimes supported by face-to-face tutorials in further education colleges or self-help study circles. In recent years, such courses have been supported by audio-cassettes, slides and video-cassettes. Language courses offered by broadcasters have a number of common characteristics (from Bates, 1984):

1. The courses are primarily broadcast-led; other media (including face-to-face tuition) are seen as extras or supporting material. Thus the decision to use broadcasting as the main teaching medium is made by the broadcasting organisation for institutional rather than pedagogical reasons.

2. Broadcast language courses attract large numbers of students. Although it is difficult to measure accurately the numbers of people watching foreign language programmes, the BBC frequently sells more than 200,000 copies of its supporting books for a particular language series. The Swedish English language series START was seen by over 10% of the total adult population in Sweden, and books sales for the series totalled the staggering figure of 800,000 copies in the first three years alone. (The total Swedish population is approximately 8.5 million). For broadcasters, the sales of accompanying books and tapes can be quite a profitable source of income.

3. Language courses delivered by broadcasting attract people mainly at the 'starting' level; few progress to more advanced levels; most viewers already have some prior knowledge of the language; and drop-out appears to be very high. There must therefore be grave doubts about the effectiveness of such programmes for providing a high level of functional language skills, although they certainly seem to encourage people to join more conventional language courses.

4. Support services, in the form of additional inter-personal interaction, appear to be essential for language courses delivered by broadcasting. These support services though are not usually provided by broadcasting organisations, although other agencies, such as further education colleges or study circles, may help on a voluntary basis. Rybak (1983) managed to reduce by half the

drop-out rate on a BBC French language series ('Ensemble') by single-handedly editing and distributing a regular newspapaper/magazine to accompany the series, and by organising self-help groups.

The evidence is clear then. Broadcast-led language courses can play a valuable role in getting adults to come back to the early stages of language learning, and for providing revision for those with already some prior knowledge of a language, but for more advanced and lasting language development, other means need to be developed for distance learning. Given the advantages and limitations of broadcasting, and in particular the rapid development of new technologies such as video-discs, computers and satellites, what media should one be using now for distance teaching of languages?

The problem of choice

First of all, let us look at the incredibly wide range of different media now available to the distance teacher:

Text:	Print
	Electronic publishing
Audio:	Radio
	Audio-cassettes
	Language laboratories
	Telephone teaching
TV:	Broadcast television
	Video-cassettes
	Cable and satellite
	Video-disc
Computers:	Computer-aided instruction (CAL, CBT, CAI)
	Intelligent computer-assisted instruction (AI)
	Computer conferencing and electronic mail
	Data-bases (CD-ROM, CD-I, interactive video-disc)
People:	Face-to-face tutorials
	Residential (summer) schools
	Self-help groups

Most of these media have been used, in one way or another, for teaching languages in some part of the world. What the list indicates though is the growing need for criteria for selecting and using media for language teaching, particularly at a distance.

Secondly, it is clear that there are at least two quite different levels of decision-making in using media for distance teaching. The first is at a stratgic level, where decisions are made *in principle* that certain media will be used. These are often political decisions. taken at a level beyond that of the language teacher. This strategic level determines that certain media are available to an institution, while others are not (e.g. broadcasting). Within a general framework that dictates that certain media will be available, there is also a need for *tactical* or detailed decisions: if we do have television and print, what should we use them for - or should we use them at all - on this particular course or for this particular bit of teaching?

At the Open University, experience has led us to identify certain criteria as critical in making both strategic and tactical decisions. These criteria can be summarised by the acronym: A C T I O N, which stands for:

Access
Costs
Teaching functions
Interaction
Organisational issues
Novelty

Access.

For distance education, access to technology is perhaps the most important *strategic* criterion. Basically, where and when will the student learn? At home; at his or her work-station; at a local education centre; or at a residential school?

As indicated in Table 1 (below), *home-based learning* will be limited in most European countries to relatively few technologies: print, terrestrial broadcasting (but not for European-wide teaching), audio-cassettes, and possibly the telephone in some European countries. Secondly, the position is rapidly changing for some technologies; for instance, 77% of Open University students already had home video-cassette players at the end of 1988, and probably nearly all homes in the UK will have them by 1996; compact disc players are also expected to reach high penetration in some EEC countries by 1996. However, there will be difficulties in home-based access for several other technologies.

Table 1: Home Access to Technology (Western Europe)

	Now	1996
Print (via mail)	-100%	100%
Terrestrial broadcasts (radio and TV)	-100%	?
Audio-cassettes	90-99%	99%
Telephone	50-90%	70-99%
Cable TV	10-80%	20-80%
Video-cassettes	30-80%	50-99%
Viewdata	1-40%	5-90%
Home computer	1-40%	10-70%
Compact disc	5-35%	50-90%
Satellite TV	0-5%	5-63%
Video disc player	0-1%	5-35%

Neither satellite TV reception nor home computing is expected to be in more than 65% of homes in any European country by 1996. This could mean that for some home-based target groups (particularly the unemployed and the less educated), a number of technologies will still be inappropriate for home learning.It also seems unlikely that video discs will be a serious proposition for home-based learning in the near future. Lastly, there are very large national variations, particularly regarding cable TV and viewdata (i.e. telephone-based teletext services).

On the other hand, language teaching delivered at the *work-place* or in *local colleges* will be less restricted. For instance, at a reception or work-station cost of between UK£400 and £1000, satellite TV and computer-based learning become realistic propositions for individuals at their work-place. Satellite TV will provide an important source of actuality material for language teaching, if properly harnessed by teachers. Even video-discs become viable for *local colleges* where they can be shared by several users, or in businesses where they are likely to have another function as well (such as marketing holidays in travel agents).

We can see then that likely access, and in particular the location of study, is a crucial factor in media selection for language teaching at a distance.

Costs

A cost analysis is an essential step in any decision to base teaching on audio-visual media.

It is surprising how few cost analyses - of any kind - have been done in advance of policy decisions regarding audio-visual media selection for distance education.

We can make some general statements about costs. First, it is important to distinguish between *fixed* and *variable* costs. The cost of a television production may be considered fixed, because it will be the same whether one or 1000 students view the programme; face-to-face lecturing costs though are not fixed; they increase in proportion to the number of students - the more students, the more lecturers required. Table 2 shows how media differ considerably in their fixed costs of production:

Table 2: Fixed production costs (including overheads) for one hour of teaching material

Audio-cassette/radio/teleconference/ face-to-face:	1 unit
Televised lecture	2-5 units
Print	2-10 units
'High-quality' TV programme	20-50 units
Pre-programmed computer-based learning	20-50 units
Computer-controlled video-disc (from scratch)	50-100 units

Audio-visual media also differ considerably in their *variable* costs for delivery. The variable cost for delivering a broadcast television programme is zero: it costs the same to transmit whether watched by one or one million viewers; video-cassettes on the other hand vary according to the number of delivery points. The cut-off point for Open University television distribution is 350 students per course: above that number it is cheaper to broadcast; below that number it is cheaper to send the students a video-cassette, provided it is returned at the end of a course and re-issued. With audio distribution the cut-off point is approximately 1000 students: above that number, radio is cheaper; below that number, it is cheaper to send students audio-cassettes (which they keep).

Audio-cassette production and distribution is very cheap. Delivery costs of one hour of audio material is less than UKf0.5 per student, including copying, the cost of the cassette, and postage. These cut-off points between broadcast and cassette distribution are specific to the Open University situation, since they relate to the costs charged by the BBC for national transmission, and delivery to individual students' homes. Variable costs for face-to-face tuition are very high, although the fixed costs are generally low.

However, a number of general points can be made about the balance of costs for audio-visual media.

1. Educational media vary considerably in both their fixed and variable costs. Audio-cassettes, computer conferencing and face-to-face teaching have low fixed-costs, while good quality broadcast television, video-discs and computer-based learning have high fixed costs. Audio-cassettes, radio, terrestrial broadcast and satellite television all have low variable costs; face-to-face teaching, computer conferencing, and video-discs all have high variable costs.

2. In distance education production is the main cost. The production costs for any course are fixed, i.e. independent of the number of students, and fixed costs usually far exceed variable costs. This means that the economies of scale apply: the more students, the more cost-effective media become. To determine whether or not to move to open or distance learning, it is necessary to know the unit cost of teaching by conventional methods. The actual number of students where audio-visual teaching becomes more economical will depend on the unit costs of conventional teaching. As a rule of thumb, for high fixed-cost media such as good quality television and computer-based learning, in-house or commissioned production is uneconomical (i.e. has higher unit costs than conventional teaching) unless each course averages 500 students or more a year (or 3 000 to 5 000 in total), or costs are recovered through sales of programmes or hiring out production facilities. For audio plus print, the figures can be reduced by about one tenth. For computer-controlled video-disc production, the figure is between 2000 to 5000 a year, or 20000 to 40000 overall. In-house production is uneconomical unless a total of at least 50 hours a year of instruction is produced within that medium each year, in order to maximise fixed costs.

3. Broadcast or satellite distribution, even at marginal cost rates, is likely to be uneconomical with less than 500 students per course for television, or less than 1000 students per course for audio.

4. Audio-cassettes are a particularly economical medium; even audio-cassettes plus print is usually a cheaper combination than the cheapest form of video or computer-based learning.

Teaching functions

Many might feel that teaching considerations should be the first criterion to be considered. If the medium is not effective, then no matter how cheap, or how convenient it may be for

access, it should not be used. However, it is much easier to discriminate between media on the basis of access or cost, than it is on teaching effectiveness. Basically, there is a lack of sound theory of media selection based on pedagogic criteria.

Nevertheless, there is a strongly developed pedagogy for language teaching based on the different kinds of skills required to become proficient in functional language use. When the Open University began teaching science courses in the early years, we were faced with a similar problem about what media to use for teaching science - or indeed whether one could teach science at a distance at all. However, our science colleagues also had a strong pedagogic model of science teaching, based around the development of a range of skills. A similar approach to that adopted for teaching science at a distance - which at least in the case of the Open University has proved highly successful - is recommended for teaching languages at a distance, namely to base media selection on a detailed analysis of the teaching objectives and skills required in learning a language.

As well as analysisng the various language skills required, it is also important to examine the relationship between the *presentational* characteristics of media and teaching strategies, so that skills can be matched to appropriate media.

Media differ in the extent to which they can represent different kinds of information. Table 3 indicates some differences.

Table 3: Differences in symbol systems between media

Lecture	Audio	Print	Computer	Television
Voice Voice	No	No	Voice	
Written language	No	Written language	Written language	Written language
Colour	No	?	?	Colour
Still picture	No	Still picture	Still picture	Still picture
No	No	No	Animation	Animation
? Events	Events	No	Events	
No	No	No	No	Full

movement

? = usually at higher cost, or only occasionally, or with difficulty

What this means in teaching terms is that some media are better than others for certain kinds of representation of particular significance to teaching. In particular, we can see that media differ in their ability to handle particular kinds of language teaching. We can see that all media can handle language, either in written or spoken form. However, only television can provide full symbolic representation of events or movement. Television in particular is very rich symbolically, able to handle all forms of representation of knowledge, except direct experience. This makes it particularly useful where *non-verbal* and *contextual* information is important.

However, television that exploits the richness of full movement is much more expensive to produce than the use of television for relaying lectures, but using television to relay lectures fails to exploit the unique presentational characteristics of television; indeed, audio plus printed notes is equal symbolically to a televised lecture and is more likely to be effective, for reasons we shall see shortly.

Research has also indicated that while abstract ideas or general principles can be represented equally well through any medium, media differ in the extent to which they can help develop different *skills*. Part of this relates to the control characteristics of media (see below) and part to the representational features. For instance, computers are excellent for presenting and testing rule-based procedures, or areas of abstract knowledge where there are clearly correct answers. Thus computers may be useful for teaching grammar and vocabulary. Television on the other hand, because of its richness of symbolic representation, and hence the need for interpretation, is better at handling ambiguous situations, where a variety of possible learner responses is equally acceptable. Television is particularly important of course for providing a context for language learning, where non-verbal information provides help in interpreting meaning.

These differences between media indicate the importance of teachers identifying clearly not only the content of a course, but what kinds of learning (comprehension, application of principles to actual cases, listening, inter-personal skills, correct grammar construction, idiomatic speech, etc.) and where possible matching these to media selection and use.

Interaction and control

Another important criterion influencing choice of media is the control over the medium

available to the learner. For instance, broadcasting (terrestrial, cable or satellite) is an ephemeral medium. The value of cassettes or discs lies not just in their ability to allow students to view or listen to audio-visual material at more convenient times. They also enable learning from television and audio to be much more active. Indeed, the cassette is to the broadcast what the book is to the lecture. Table 4 below compares the control characteristics of broadcasts and cassettes.

Table 4: Broadcasts vs Cassettes

Broadcast	Cassette
Fixed time to view/listen	Available when needed
Ephemeral/once only	Repetition/search/ mastery
Difficult to reflect	Analysis/relating/ reflection
One speed	Individually paced
Integration more difficult	Integration easier

Research has indicated that learning from ephemeral media, like lectures or broadcasts, is much more difficult than learning from permanent material, like books, cassettes or discs. Furthermore, there are design implications, once audio-visual material is available in permanent form. Television material for use on cassette for instance does not have to resemble the continuous, lengthy broadcast format. Video-cassettes can contain short, unlinked sequences, with activities following each sequence, and feedback provided on the activity, either on the cassette itself, or in notes. Video-cassettes in particular lend themselves to group use, because of the need for interpretation and discussion of video examples. This can increase the activity and participation of the learner, and thus can be particularly valuable for language teaching.

Interactivity - the ability for the learner to respond in some way to the teaching material, and obtain comment or feedback on the response - considerably increases learning effectiveness. This is at its strongest in computer-based learning, where learners can be tested, corrected, or given remedial activities by the computer, but only where student responses can be accurately predicted, and where the language to be learned is strongly rule-based. The attraction of computer-controlled video-discs is that they combine the strong interactivity of computers with the powerful representational qualities of television. However, his is an extremely expensive medium. Audio and video-cassettes can be designed to increase learner interaction, and do allow for more open-ended and

interpretative responses than computer-controlled learning, but in turn do not provide individualised feedback.

While computer-assisted language teaching often lacks the flexibility required to cope with students learning languages, because of the fixed nature of the pre-programmed teaching package, electronic mail and computer conferencing, which use computers for exchanging messages between remote sites between 'real' people, provides much more flexibility, and can provide useful support for students studying at a distance.

Personal interaction seems essential for the development of fluent language skills. While face-to-face tutorials can be invaluable in providing this, other technologies, such as audio-conferencing by telehone, or computer conferencing, can be invaluable for learners who find it difficult to make face-to-face meetings, because of time or distance.

One important implication is that while it is essential to provide flexible and responsive forms of inter-personal communication for language teaching, face-to-face tuition is only one way in which this can be done; some technologies, such as the telephone and computer conferencing, can also provide this at a distance. The need for face-to-face contact is not likely to be eliminated altogether by the use of print and other technologies, but the *dependency* on face-to-face tuition can be reduced. This allows greater flexibility, particularly for working adults.

Organisational issues

The policies and structures within a teaching organisation can support or hinder the use of audio-visual media for teaching.

Thus if an organisation with multiple outlets already has a computer network in place, and technical staff to develop and maintain that network, the introduction of computer-based learning or computer conferencing becomes that much easier and more realistic. Teaching then becomes a marginal cost on an already established system.

Another factor is the existing organisation of the teaching department. If teaching has traditionally been based on face-to-face instruction, it is going to be difficult to persuade the teaching department itself on the value of open learning or distance teaching methods. It will mean transferring, for instance, part of the teaching budget away from teaching staff into operational departments, such as computing or audio-visual production. Unless this is done, though, it will be hard to justify the use of audio-visual media on cost grounds. There will also be a major requirement to train teaching staff in the selection and use of

media for language teaching.

There is already considerable experience of the organisational requirements of using satellites for language teaching. Programmes need to be selected and recorded for use at convenient times. Teachers and learners need guidance on how to use such actuality material. These organisational issues can often make or break the value of using technology for language teaching.

Novelty

We have seen that audio-cassettes combined with print materials can be a very low-cost but highly effective teaching medium. But computer-controlled video-discs are much more sexy, and it may be easier for to get external funds to develop video-discs for language teaching, at much higher costs, than the worthy but dull audio-cassette and print. Furthermore, the teaching insitution may feel it is being left behind by competitors who have 'high-tech' teaching provision. While novelty is not a 'noble' reason for choosing a particular technology for language teaching, it can be a powerful motivator for innovation in teaching methods.

We have seen then that there are several factors to be taken into consideration when deciding on the potential use of media for language teaching: access, and where learners are to study; costs, particularly production costs, related to numbers of students; teaching requirements, in terms of skills and the kind of teaching required; the control characteristics of the media, and the extent to which they encourage active learning; and the organisational framework in which audio-visual media will be introduced for teaching purposes.

However, it is also clear that whatever decisions are made about choice and use of media for teaching languages at a distance, there is still a need for the general principles of good language teaching to be observed: clear identification of objectives, in terms of the skills and levels of knowledge to be achieved; means to provide students with interaction, feedback and opportunities for practice, through all modalities; and the context and environment which leads to interest and enthusiasm for learning a language. These can be done at a distance, through skilful use of technology, but the underlying language teaching skills are needed even more.

This leads on then to the decisions we have made about the role of technology at the Open University. It must be stressed that at the moment we have made only *stratgeic* decisions, but nevertheless, our policy for the use of media is now reasonably clear, and can be outlined as follows.