AUDIO FOR DISTANCE EDUCATION AND OPEN LEARNING

A PRACTICAL GUIDE FOR PLANNERS AND PRODUCERS

John Thomas

Published by
The Commonwealth of Learning and the
International Extension College

The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education knowledge, resources and technologies.

The International Extension College (IEC) is working to promote development and improvement in the quality of life in less developed countries through the expansion of educational opportunities.

Audio for distance education and open learning:
A practical guide for planners and producers

ISBN: 1-895369-92-4

also available on-line in Acrobat PDF format at www.col.org/audiohandbook

Typeset by Anna Wilson-Nunn on behalf of IEC

Published by:

The Commonwealth of Learning

1285 West Broadway, Suite 600
Vancouver, BC V6H 3X8
Canada

Tel: +1 604 775 8200
Fax: +1 604 775 8210
E-mail: info@col.org
Web: www.col.org

International Extension College

Michael Young Centre
Purbeck Road
Cambridge CB2 2DS
United Kingdom

Tel: +44 (0) 1223 414760
Fax: +44 (0) 1223 414762
E-mail: info@iec.ac.uk
Web: www.iec.ac.uk

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Acknowledgements

I would like to acknowledge my debt to former colleagues at the BBC, from whom and with whom I learned my trade in the 1970s. I would also like to express my thanks to my long-suffering students at Christ Church College, Canterbury, where I first taught radio and educational broadcasting in the early 1980s. In particular, I would like to thank the International Extension College (IEC), which opened my eyes to the wider possibilities of distance education, and in the 1980s and 1990s gave me the opportunity of working on more than 20 projects using audio for distance and open learning in 15 developing countries. I learned a great deal from my colleagues and friends at the IEC and from the many hundreds of distance educators I worked with in Africa and Asia. If there is value in this handbook, much of it comes from their collective wisdom. For its shortcomings, I can claim sole responsibility.

JHT
Songkhla, Thailand
April 2000

INTRODUCTION

What is the purpose of this handbook?

The purpose of this handbook is to offer a practical guide to good professional practice in the design, development and delivery of audio materials – radio, audio cassettes and audio-vision – for distance and open learning.

Who is the handbook intended for?

The handbook is intended for all those who are involved in the design, development, production and use of audio materials in distance education and open learning. It will be of particular interest to teaching staff and radio/audio producers who are using – or planning to use – audio as part of their courses.

However, the handbook will also be of interest and value to others who are involved in or affected by the use of audio in distance and open learning – for instance, policy makers and planners, managers and administrators, those working on related media (e.g. print, TV and video), face-to-face tutors and facilitators.

The handbook is relevant to both formal and non-formal education. It should also be of value to those involved in professional and vocational training. The approach adopted is appropriate to both industrialised and developing countries. However, an attempt has been made to make the handbook particularly relevant to those working in institutions and projects with limited access to resources.

What does the handbook cover?

The handbook consists of nine chapters, with a brief appendix at the end suggesting further sources of information and advice.

- Chapter 1 looks at the different forms of audio and their potential for distance and open learning.
- Chapter 2 discusses the planning and design of audio materials – at the institutional or project level, at the level of particular courses, and at the individual programme level.
- Chapter 3 takes a step-by-step look at the process of developing and producing audio materials and printed support.

- Chapter 4 is the first of four chapters on the practical skills needed for audio. It deals with scripted talks, interviews and discussions.
- Chapter 5 goes on to location recording, the use of portable equipment, how to edit audio material and prepare it for use in the studio.
- Chapter 6 develops and extends the above skills, applying them to the compilation and production of documentaries, features and magazine programmes.
- Chapter 7 concludes the section on practical skills with a look at the techniques of audio drama and the use of music in distance and open learning.
- Chapter 8 looks at the ways students can use audio materials – both individually and in groups – and the support that can be offered to students and their tutors.
- Chapter 9 discusses the monitoring and evaluation of audio materials and ways in which their quality and effectiveness can be improved.

The handbook concludes with some suggestions on sources of further information and advice on the creation and use of audio materials for distance and open learning.

How can the manual be used?

The handbook can be used in several different ways:

- It can be used by individuals as a basic self-instructional text on the planning, design, development, production and use of audio materials for distance and open learning.
- It can also be used within institutions and projects as resource material by groups of staff – ideally combining subject specialists and audio producers – who come together for training and professional development in the use of audio for distance learning.
- In addition, following individual or group-based use, the handbook can also serve as a source of reference material and guidelines on the range of activities and skills involved in using audio for distance education and open learning students.

Readers are encouraged to use the handbook in whatever way best suits their own personal and professional development needs. Any comments or observations on the text – and any suggestions for its improvement – would be welcomed by the author and publishers.

Chapter 1

THE POTENTIAL OF AUDIO

Introduction

This chapter offers an introduction to the use of audio for distance education and open learning. Its aim is to start you thinking about the potential roles of radio, audio cassettes and audio-vision as part of the distance and open learning projects and programmes with which you are involved.

The chapter starts, paradoxically perhaps, by looking at the role of printed texts in distance and open learning. It looks at their strengths and weaknesses; and suggests that they can usefully be supplemented and supported by other media – particularly electronic media. It then looks more closely at audio media – especially radio and audio cassettes – and goes on to argue that their impact and effectiveness can be increased by combining them with visual materials.

Six key questions

The chapter explores six key questions:

- Why is print so widely used in distance education and open learning?
- How can its educational effectiveness be increased by using electronic media?
- What are the main strengths and limitations of radio and audio cassettes?
- What do we mean by 'audio-vision'?
- Why is it particularly useful to distance educators?
- How can audio-vision benefit distance and open learners?

The power of print

Most distance education and open learning institutions, particularly in their more formal courses, rely on printed texts as their main medium of communication for teaching and learning.

> Is this generally true of the institutions you know? If so, why do you think this is? What is it about print that makes it so attractive to distance educators?

There are a number of reasons why printed texts are so widely used in distance and open learning. For instance, from the teachers' point of view:

- Print offers a powerful educational technology. Its use of words, numbers and a range of illustrations, means that you can teach most subjects effectively through print.
- Print is also a familiar medium, which is traditionally associated with education. Most teachers – particularly in secondary and higher education – are experienced and comfortable in expressing themselves through the printed word.
- The technologies for producing print are widely available. And although initial development costs can be high, provided sufficient copies are made, print is also a fairly cheap medium to produce.
- In addition, print is durable. It is relatively easy to store, and fairly cheap and easy to distribute.

Print also has a number of advantages from the students' viewpoint:

- Again, it is a familiar and attractive medium. It is traditionally associated with teaching and learning and it carries with it legitimacy and authority as a means of transmitting and receiving knowledge.
- Print is also widely accessible. Provided the students have an adequate level of literacy – and in some cases numeracy – they can gain access to the learning materials. The use of print does not require any special technology.
- Print can be used flexibly. Although the content and structure are generally fixed, students have a high degree of control over the way they use it. Print can be used when, where and how the student chooses.

For all these reasons – and others you may have thought of – printed texts are an attractive medium for both teachers and students in distance and open learning. But what – if any – are its limitations?

> What do you see as the main drawbacks of print as a medium for teaching and learning at a distance? How is its effectiveness limited?

Print imposes a number of limitations on both teachers and learners. For instance, from the teacher's point of view, although printed texts can teach most subjects, there are some subjects which it is either very difficult, or in some cases, almost impossible, to teach effectively using print on its own.

> Can you think of subjects or topics that it would be difficult or impossible to teach through print on its own? Are there particular types of learning that require the use of other media?

The classic examples are from subjects in which sound or movement play an essential part. For instance:

- Listening and speaking skills in language teaching
- Appreciation and performance in music, dance and drama
- Topics in science and technology involving dynamic movement

It is also difficult, using print on its own:

- To convey personal experience and human interaction
- To teach subjects involving attitudes, beliefs and values
- To offer students the experience – the sounds and sights – of places and situations with which they are not familiar

No doubt you can think of other more specific examples from your own particular area of experience.

> What about the student's perspective? What do you see as the main disadvantages of only studying from printed texts?

First and foremost, access to printed learning materials requires an adequate level of verbal and visual literacy. This is important in the formal sector. It is likely to be even more important – especially in developing countries – for non-formal education and training. However, even for students with an adequate level of literacy and numeracy, print can still present problems. For instance:

- Print is essentially a one-way medium. It offers few opportunities for real dialogue and interaction between teachers and learners.
- Print also tends to be rather impersonal. Many teachers find it difficult to communicate in a relaxed, informal and personal way through text. As a result, many teaching texts tend to be rather formal and uninviting.
- Many students find it difficult to adjust to working with self-instructional text. This is particularly true if they come from mainly oral cultures and have little experience of learning from print. Working on print can be very demanding. Working on print alone, unless it is very well designed, can soon become tiring and tedious.
- Print can also become dated. There are strong economic reasons for not revising teaching texts too often. Major revisions are expensive and time-consuming. Once printed materials have been produced, they tend to be used for a considerable number of years.

So how can we respond to these problems? One answer has been to provide distance and open learning students with opportunities for face-to-face contact with tutors and fellow students. This is now a common feature of most distance education and open learning systems. In addition – and more important from the point of view of this handbook – since the early 1970s, distance educators have increasingly tended to supplement and support their use of printed texts with the use of other media. As new technologies have become more widely available, we have tended to move from print-dominated 'correspondence education' to an idea of distance and open learning, in which print is still important, but where it is increasingly supported by electronic media.

The role of electronic media

This is not the place for a detailed history of the impact of electronic media on distance and open learning. However, a brief reminder may be of value.

Electronic media in distance and open learning: the briefest of histories

- **1970s:** Broadcast media – radio and television – were the first to be used by distance educators, linking the print-based tradition of correspondence education with that of formal and non-formal educational broadcasting.
- **1970s and 1980s:** As the technologies became cheaper and more accessible, audio and video cassettes increasingly took over the role of broadcasting, offering greater flexibility and more opportunities for media integration and student-active learning.
- **Late 1980s and 1990s:** Again, as the technology became cheaper, more accessible and more powerful, computers and telecommunications (particularly in combination) became increasingly important, particularly in the more industrialised parts of the world. And this is a trend that is continuing into the 21st century. Also, audio and video tapes were supplemented by high-quality compact disks (CDs), capable of storing large amounts of multi-media material, and by computer-mediated audio via the World Wide Web.

Each of these electronic media can support, supplement and substitute for printed text in various different ways, offering access to a range of new and otherwise inaccessible learning materials and experience:

- **Radio** – offers sound, particularly the human voice. It also offers natural and created sounds. Radio can bring to the learner the sounds of people and places; the sounds of real and imagined situations; sounds designed to stimulate, support, illustrate and enrich the learning process.
- **Television** – provides moving images and colour. It also uses sound and can incorporate text. It offers access to a dynamic world of visual experience. It can take students on visits and field trips; it can demonstrate experiments and practical skills; it can illustrate difficult concepts and abstract ideas. It can also analyse and reconstruct complex processes in time and space; and use its technology to provide microscopic and macroscopic views of the world.
- **Audio and video cassettes, CDs** – have most of the capabilities of radio and television. But they also offer the student a higher level of control over the learning process. You can listen and view

whenever you like. You can stop, start, rewind and fast-forward the tape, and this means you can use the material as often as you like. It also makes it easier to integrate listening and viewing with other learning activities – reading, writing, applying knowledge, practising skills, reflecting on attitudes and values, reviewing progress and sharing ideas.

- **Personal computers and telecommunication networks** – The combination of powerful personal computers, appropriate software and access to telephone lines can in principle serve nearly all the functions outlined above. The technology allows teachers to send a wide range of materials to students – text, sound, still and moving images. It allows students to receive this material and work on it in various ways. It also gives access to a much wider range of information and opinion – e.g. via the Internet and the Web.

More importantly – at least from our experience so far – the technology also offers opportunities for interaction that were not available with earlier electronic media. Broadcasting and cassettes – like print – are essentially one-way means of communication. Computers linked to telephones – and the use of facilities such as electronic mail (e-mail) and various forms of teleconferencing – allow rapid and convenient two-way communication between teachers and students, and also between the students themselves. In this way, they facilitate the type of interaction that is essential to effective education.

Audio media

The focus of this handbook is on radio, audio cassettes and audio-vision. There are three main reasons for this. Of the electronic media discussed above, radio and audio cassettes are:

- The most accessible – to both teachers and students
- The most affordable – in terms of the costs of production, distribution and use
- The most appropriate – for a wide range of teaching and learning purposes

It's true that the audio media can't offer the moving images of television and video. Nor can they provide access to the amount of information, or the opportunities for interaction, available from the combination of computers and telephone networks.

But the costs of producing the visual media (television, video, computer-based learning), and of using them, are very much higher. And access to the technology, particularly in developing countries, and

especially among the poor and educationally disadvantaged, is still very limited, and likely to remain so well beyond the year 2000.

In contrast, radio programmes and audio cassettes are relatively cheap to produce and distribute. Production facilities are widely available. Access to reception, reproduction and playback facilities is widespread. Even in the poorest rural and urban areas – where the need for distance and open learning is often greatest – radio sets are common, and cassette players are increasingly available.

Audio technology is simple, cheap and widely available. The audio media are attractive and popular. They speak directly to their audience in a personal, powerful and persuasive way. They are also extremely effective in terms of teaching and learning – especially when combined and integrated with print and other learning activities.

So what can audio media offer to distance education and open learning? We started to answer this question earlier, in the section on electronic media. Now let's take the discussion further.

Radio

Radio has the major advantage that it can reach large numbers of listeners, spread over a large geographical area, more or less simultaneously, and at relatively little cost. So what can we do with the medium? Here you may find it useful to think of radio as serving the following five main roles or functions. First the list – and then a brief commentary on each of them.

Five main roles for radio

- News and information
- Motivation and mobilisation
- Tutorial support
- Resource material
- Direct teaching

News and information

Radio can bring up-to-date news and information to distance and open learning students:

- About opportunities and options available to them
- About their courses, course materials, assignments and exams
- About the experience of fellow students and trainees
- About issues of common interest and concern

And because radio is a public medium, it can also inform a wider audience of potential students of what opportunities are open to them, what the courses involve, and what they have to do to enrol.

Motivation and mobilisation

Because radio relies mainly on the human voice, it is a very personal and direct medium. It can provide encouragement and support to students at times when they need it most:

- When they lack confidence to embark on a course of studies
- When they first start studying and are anxious about whether they can cope
- When they are facing their first assignment or examination
- When they are finding the work difficult and are tempted to give up

By providing timely encouragement and support, radio can reduce the drop-out rate and increase the rates of course completion.

Tutorial support

Radio can provide tutorial support, both of a general kind and linked specifically to the courses students are studying. For instance:

- Assistance with study skills – organising time, making notes, preparing assignments, revising for and taking exams;
- Introductions to new areas of study and reviews of topics covered;
- Help with key concepts, difficult ideas and new approaches;
- Additional illustrations, examples and explanations, alternative ways of applying knowledge and developing skills;
- Advice, guidance and feedback on study activities and practical work.

In this way, radio tutors can provide the personal contact with a teacher that many distance and open learning students feel they lack

and very much appreciate. It also gives them a sense of being 'real' students, in direct contact with their teachers and the institution.

Resource material

Radio can offer listening and learning experiences that are not readily available through print or face-to-face contact. For instance:

- It can bring students the voices and views of people with particular experience and expertise.
- It can take students to places and situations that they would not normally be able to visit and experience.
- Radio drama can stimulate and excite the imagination; transport students to real and imagined worlds; expose them to ideas and opinions outside their normal experience; explore difficult and sensitive issues; and challenge conventional ways of thinking.

Radio can provide examples and illustrations of the application of knowledge and skills. It can present a range of resource material, which students can analyse and evaluate, and which can serve as a stimulus for reflection, discussion and debate.

Direct teaching

Radio can also be used for direct teaching – as a substitute rather than a support to the use of print or face-to-face contact. All of the roles mentioned above can be combined, to form a rich and varied body of teaching and learning materials.

- This is particularly important when open and distance learners have low levels of literacy, or are finding it difficult to adjust to the demands of using printed texts.
- It is also important when sounds are central to the process of teaching and learning – as in language or music teaching.
- In addition, direct teaching by radio can provide valuable support to conventional teachers. It is particularly useful for subjects in which teachers lack confidence or experience, perhaps because of inadequate training or the introduction of new approaches and subjects into the curriculum.

Some uses of radio for distance and open learning

The BBC-OU Partnership
Starting in 1971, the British Open University (OU), in partnership with the BBC, used weekly radio programmes (as well as television) in support of its first four Foundation Courses. The programmes were closely integrated with the printed course materials and were accompanied by specially prepared 'broadcast notes'. The BBC and the OU also ran a weekly radio magazine programme called 'Open Forum', providing news and information for OU students and with an opportunity to share their ideas and experiences as distance learners.

BBC Further and Continuing Education
In preparation for the launch of the OU, the BBC (in collaboration with the British National Extension College) ran three 'gateway' courses ('Reading to Learn', 'Man in Society' and 'Square Two'), using radio and printed materials, preparing for foundation courses in arts, social sciences and mathematics. These offered potential OU students an opportunity to get back to study and to experience what it was like to be a distance learner.

These were followed in the mid-1970s by two further radio-based distance education courses 'Living Decisions' and 'What Right Have you Got?'. The first dealt with decision-making in the family and the community; the second looked at the rights and responsibilities of the citizen in Britain.

Each series consisted of 26 weekly radio programmes, with an accompanying course book. Listeners were invited to join study groups set up by local adult education organisations to follow the series. And for those who wanted a formal qualification, an optional GCE 'O' level exam was available from one of Britain's public examinations boards.

Cooperatives in Zambia
In the early 1980s, the Cooperative College in Lusaka launched the first of its National Cooperative Study Group Campaigns. These followed in the tradition of the Radio Farm Forums, started in Canada in the 1940s, and continued in Ghana and India from the 1950s and 1960s. The aim of the campaigns was to encourage and support the formation of multi-purpose cooperatives, and to promote their efficient organisation and management. The first campaign was entitled 'Together We Fight Poverty'. It consisted of a series of ten dramatised radio programmes, broadcast nationally over a ten-week period in each of Zambia's seven official vernacular languages. The programmes provided stimulus material for a national network of study groups, which met on a weekly basis to follow the series. The participants listened to the programme, discussed its content, and decided what action to take locally. The study groups were supported by a trained group leader and a specially prepared campaign handbook. More than 25,000 people were said to have participated in each annual campaign.

English for teachers in Namibia
In the early 1990s, shortly after Namibia achieved its independence, radio was used as the basis for a one-year course, designed to help Namibian primary school teachers improve their spoken English.

A series of 32 half-hour radio programmes were produced under the title 'Let's Speak English'. The programmes were broadcast weekly over the three terms of the school year. Each programme consisted of a short drama episode, carrying forward the story of Namib School – a typical primary school in the new Namibia – followed by language instruction and opportunities to practise listening and speaking skills.

The programmes were supported by a two-volume course book, which reinforced and extended the material in the programmes, and provided further suggestions for developing listening and speaking skills. Teachers were encouraged to meet in groups once a week, at the end of the school day, to listen to the programmes together, and work on the relevant chapter of the course book. It was

planned that 8,000 teachers should follow the course in its first year – and most of them did. The series also proved popular with a wider audience of Namibians who wanted to improve their English – and the programmes were still being re-broadcast in 1999.

Interactive Radio Instruction (IRI)
Since the 1980s, radio has been used as the main medium of communication for a series of projects designed to improve the quality of teaching in schools, particularly where there is a shortage of skilled teachers and other learning resources. The project was initiated in the US by the Radio Learning Group, with support from international donors. It was used first for the teaching of mathematics in Nicaragua; later for the teaching of English to Grades 1-3 in Kenya; and was subsequently extended to a number of other subjects in a wide range of developing countries.

The approach involves the intensive use of radio for direct teaching. The programmes are:

- usually 20-30 minutes in length
- broadcast regularly, often daily, throughout the school year
- developed and produced using clear principles of instructional design
- highly interactive, involving frequent student activities in response to the programme material
- supported by specially prepared printed materials for the students
- plus detailed notes for the teachers – on how to prepare the class for listening, what to do during the broadcast, and how the programme material could most effectively be followed up.

IRI pilot projects were carefully monitored and evaluated. Students generally liked using radio and showed significant learning gains. Some teachers were initially sceptical, but grew to value the programmes. However, such programmes were expensive to develop and produce. As a result, although the pilots were generally very successful, in a number of cases governments were unable or unwilling to continue the projects beyond the internationally funded pilot phase.

So far, we've concentrated on the positive side of radio – on its strengths and the unique opportunities it offers to distance and open learners. But what about its drawbacks and disadvantages?

> What do you see as the main limitations on the effectiveness of radio as a means of communication in distance education and open learning?

Here's a list of some of the main disadvantages of the medium. You may want to add others:

- Radio programmes are broadcast at fixed times. These may not always be convenient for students. Also, they may not fit in with the student's work on the other media being used in a course.
- Radio reception in some areas may be poor. Some students will not always be able to receive a clear signal.
- Radio is transitory and ephemeral. Its programmes can usually only be heard once and then they disappear. You can of course record the programmes off-air for later listening: but then we're not really talking about radio, but rather audio cassettes. Also, programmes can be repeated: but that reduces the time available for other educational output.
- The pace of radio is dictated by the broadcasters. Students can't pause to think about what they've just heard. They can't stop the programme to apply knowledge or practise skills. They usually have to wait until the programme is finished.
- Radio is essentially a one-way medium. It talks to the student; but it doesn't usually give the student a chance to answer back – to raise questions or ask for further explanation. (This situation is changing with the use of the phone-in and e-mail: but not all students have access to these facilities.)
- Radio transmission time is likely to be limited. Teachers and students may not have as much access to the medium as they need.
- Also, much of the airtime made available to education tends to be at unsociable and inconvenient hours – late at night or early in the morning And as more radio stations are being privatised, educational broadcasting is becoming much more expensive.
- And of course, radio is a sound-only medium. It lacks the visual dimension that will be very important in many types of teaching and learning.

> Can you suggest how some of these problems can be overcome? What can be done to maximise the effectiveness of radio and minimise its drawbacks?

To some extent, we can overcome these limitations through good planning and design. We can choose to use radio for appropriate audiences, and for purposes to which it is well suited. We can design radio programmes in such a way that it's easy to learn from them. And we can provide printed materials – specially prepared radio notes – to support the programmes. There will be more on effective planning and good design in the next chapter.

But these are only partial solutions. They can only overcome some of the problems. As we suggested earlier, since the 1970s, distance educators have increasingly responded to the limitations of radio by shifting their attention (and their resources) to the production and use of audio cassettes.

Audio cassettes

As we noted earlier, audio cassettes have most of the capabilities of radio. They're probably not as good as radio for news and information; but they can certainly fulfil the other four roles – motivation and mobilisation, tutorial support, resource material and direct teaching – as well or better. However, audio cassettes also have a number of added advantages.

- Audio cassettes offer students a much higher level of control over the way they use the material. Provided they have access, either individually or in groups, to cassette players and sources of power, students can listen when, where, how and as often as they like.
- The technology also allows students to stop, start, re-wind and fast-forward the tape. This makes it much easier to integrate the use of audio with other learning materials (e.g. printed texts), and learning activities (e.g. reading, writing, applying what they've learned, practising skills, sharing and discussing ideas and experience).
- Audio cassettes are also generally no more expensive to produce and distribute than radio, unless very large numbers of students are involved. Initial production costs for radio and audio cassettes are likely to be more or less the same. Multi-copying, packaging and distribution of cassettes will involve additional expense; but these costs are generally offset by the fact that radio stations are increasingly tending to charge educational institutions for the transmission of radio programmes. But even if audio cassettes do

cost more, this is usually more than justified by their increased educational effectiveness.

Radio still has a role to play, especially in communicating fairly simple messages to large numbers. It is still important in most countries as a source of news and information. Radio is also likely to be important for mass education campaigns and for courses with very large student enrolments. But for most other purposes, the advantages of audio cassettes, even if they involve additional costs, are likely to be overwhelming. And, as we shall see later, the problem of costs can be addressed by exploring the possibilities of the group-based use of audio cassette technology.

Audio cassettes for formal and non-formal distance education

The British Open University
From the 1980s on, the British OU increasingly switched from the use of radio to audio cassettes. This was partly because, as the number of its courses grew, it became more difficult to secure adequate transmission time, and in any case it was difficult to justify using radio for the smaller numbers of students taking each of the more advanced and specialised courses. In addition, however, there was a growing awareness of the educational effectiveness of audio cassettes, particularly in combination with printed and other visual material – what came to be known as 'audio-vision'.

Teacher education in Kenya
In the 1980s, many of Kenya's secondary teachers were non-graduates. The government of Kenya decided that all those teaching in secondary schools should have a university degree. Since it was not possible for all non-graduate serving teachers to return to full-time education, the University of Nairobi decided to offer its BEd degree as a part-time distance education programme.

The materials for the programme – printed course books and integrated audio cassettes (used primarily for tutorial support and additional resource material) – were based mainly on conventional BEd courses being taught at Nairobi and Kenyatta Universities. They were developed in a series of workshops held in the late 1980s and early 1990s. In addition to being used in

Kenya, they were also used during the 1990s at Makerere University in Uganda and at the Open University of Tanzania in Dar es Salaam.

Training primary teachers in Uganda
Audio cassettes were also used successfully in the 1990s for a three-year programme of in-service training for 3,000 untrained primary teachers in war-torn northern Uganda. The Northern Integrated Teacher Education Project (NITEP), based in Gulu, used audio cassettes in support of its extensive printed materials. The tapes were produced in workshops by project staff. They were accompanied by specially prepared notes for students and tutors, and used in the group tutorial sessions which were held every two weeks. The tapes were warmly welcomed by the trainees, many of whom found working on the printed materials very difficult. They were also welcomed by tutors, for whom the tapes served as useful resource material, particularly on subjects in which they had not specialised in their own training.

Non-formal education and training in Pakistan
In the early 1980s, the Allama Iqbal Open University (AIOU) in Pakistan launched FEPRA – the Functional Education Project for Rural Areas. This was a pilot project designed to test the feasibility of delivering basic functional education and training to rural communities using audio cassettes, flip-charts and village-based study groups.

The project operated in a number of villages in the Punjab. Courses were offered in subjects such as vegetable growing, poultry keeping, animal husbandry and first aid. Each course consisted of a series of audio cassette programmes in Urdu, with accompanying flip-chart illustrations. The programmes were listened to and discussed in groups of about 20 villagers. Each group selected its own group leader and secretary. After receiving a brief training, they were responsible for arranging and facilitating group meetings. The project was carefully monitored and evaluated, and has since become a regular part of AIOU's non-formal educational provision.

Similar non-formal projects in Africa
Similar approaches to those developed in Pakistan were used in various parts of Africa during the late 1980s and 1990s:

- **Tanzania:** In the Lake Regions of western Tanzania, the HESAWA project (Health through Sanitation and Water) used dramatised audio cassettes (in Kiswahili), with flip-charts and illustrated manuals, for a series of ten-session water and health campaigns in the late 1980s. Study groups of about 20 participants met regularly in about 200 villages, listening to the drama, discussing the issues and applying what they had learned in community-based projects.
- **South Africa:** In the mid-1990s, the Adult Basic Education Project (ABEP) at the University of Fort Hare used audio cassettes (in the Xhosa language) and flip-charts to extend its services to mainly non-literate rural communities in the Eastern Cape. Working with other university departments, ABEP offered a series of short practical courses on subjects chosen by the local communities – such as first aid, poultry keeping and vegetable growing. The project was later absorbed into the university's regular adult education programme.
- **Sudan:** In the mid-1990s, the Sudan Open Learning Organisation (SOLO) used drama on audio cassettes for health education among Ethiopian and Eritrean refugees in eastern Sudan. Two series were produced: 'Health Begins at Home' (on personal hygiene and environmental sanitation) and 'First Steps on the Road to Health' (on maternal and child health). The tapes were produced in Tigrinya and Arabic; reached several thousand refugees through a network of study groups; and were said to have had a significant impact on health practices. The tapes were also broadcast on local radio for the benefit of the local Sudanese community. Plans were in hand to extend the project to the settlements of displaced Sudanese around Khartoum and Omdurman.

So how can we make the most of this technology? How can we best exploit its potential for distance education and open learning? One answer is to add a visual dimension to the medium: to go beyond the sound-only capacity of radio and audio cassettes, and to move into the richer and more rewarding world of audio-vision.

Audio-vision

By audio-vision, we simply mean the combination of audio media – radio and particularly audio cassettes – with visual material. The visual materials are usually in printed form – e.g. specially prepared notes, worksheets, flip-chart illustrations, posters, etc. But they can also be in the form of slides, film strips, models or real objects, either specially provided for the student, or available in the local environment.

An example from the British Open University

A geology course from the British OU illustrates the range of visual materials that can be used with audio cassettes. In addition to the printed course materials and audio cassette, students are provided with:

- A film strip with illustrations of different types of rock
- A simple (and cheap) film strip viewer
- A small sample of rock
- A small plastic magnifying glass

The tutor talks to the individual students on the cassette. From time to time, he asks them to look at an illustration in their printed material, or to view a particular frame on the film strip. At one point, the students are asked to inspect a particular surface of the rock sample with the magnifying glass and say what they can see. Then, as they continue to look at the rock sample, the tutor talks them through its distinctive characteristics.

Three main advantages of audio-vision

From the teacher's point of view, the combination of audio and visual materials offers at least three major advantages:

- First, it extends the scope and increases the effectiveness of audio. More subjects can be taught more effectively using audio with visual support.

- Secondly, audio-vision promotes student-active learning. This can happen both when the tape is running and when it's been stopped. As well as listening, students are encouraged to look at illustrations, analyse and interpret visual material, and undertake a range of other activities which reinforce learning.
- Third, visual materials also help students concentrate on the audio. Many students find it difficult to concentrate on sound-only material, particularly if they're new to studying with audio. Well designed visuals help students focus their attention on the sounds, and help them get more out of the experience of listening.

These three advantages can also be seen as benefits from the students' point of view. Audio-vision means students can be offered audio-based learning on a wider range of subject matter. It encourages greater interaction with the audio materials, with opportunities to apply what they're learning, develop and practise skills, explore attitudes and values, and learn more effectively. Audio-vision also helps them focus on what they're listening to and get more out of it. Students also find that the visual material is often useful as a summary of the audio and an aid to revision. And perhaps most important, most students seem to enjoy using audio-vision. It adds variety and interest to their experience of learning at a distance.

For all these reasons, there's a strong case for considering audio-vision as part of the learning package offered to distance and open learners. Once this decision has been made in principle, the next question is what needs to be done to put it into practice. That is what the rest of this handbook is about. It looks at the main skills involved in the planning, design, development and production of audio and audio-vision materials. It also looks at the way they are used by students and how the effectiveness of the materials can be monitored and evaluated. But before you go on to these later chapters, you might find it useful to review what we've covered so far.

Checklist on the potential of audio

Having worked through this chapter, you should now be able to answer the following questions:

- What do you see as the main limitations of printed texts as a medium of communication in distance education and open learning?
- What are the main options available to the distance educator in terms of using electronic media? How can they help to overcome the limitations of print?

- What are the particular strengths of radio, audio cassettes and audio-vision as teaching and learning media for distance education and open learning students?

When you are satisfied that you can answer the questions in the checklist, then it's time to move on to the next chapter, which suggests how you can set about planning and designing effective audio materials for distance and open learning.

Chapter 2

PLANNING AND DESIGN

Introduction

This chapter is about the planning and design of audio media – radio, audio cassettes and audio-vision – for distance and open learning.

It starts from the assumption that you have made a decision in principle to use audio as one of the media in a distance learning package; and that you now want to go on to the detailed planning and design of the audio material and accompanying visual support.

The chapter starts by distinguishing between three levels and types of planning:

- Institutional planning
- Series planning
- Programme planning

Here the emphasis is mainly on series planning. Institutional planning is dealt with briefly, since it involves a range of management questions which are beyond the scope of this handbook. The detailed planning of individual radio programmes and audio cassette materials is dealt with in the next section as part of the development and production process.

The chapter then asks three essential questions:

- What needs to be planned?
- Who should be involved in the planning and design of audio?
- How can the process be best organised and managed?

In responding to the first of these questions, the chapter offers an eight-point checklist, which will guide you step-by-step through the planning and design process. The second question leads to a discussion of the different professional skills needed for effective planning and design. And then, thirdly, we look at how the process of planning and design can best be organised and managed.

So by the end of the chapter you should know:

- What you need to do to plan and design an effective series of radio programmes or audio cassette materials
- What professional skills are needed for the planning and design process
- How this process can most effectively be organised and managed to get the best results

Three levels of audio planning

It's useful to think about the planning and design of audio materials at three main levels:

- **Institutional planning** – involving the allocation of resources for audio to particular areas of an institution's activities – e.g. departments, programmes of study or courses – usually expressed in terms of policy, staffing and budgets.
- **Series planning –** which involves the planning and design of a series of radio programmes or audio cassette materials linked to a particular course or programme of studies, usually presented in the form of a fairly general series outline.
- **Programme planning –** which covers the detailed planning and design of individual radio programmes or audio cassette sequences, and is usually put on paper in the form of a detailed programme or audio cassette outline.

Here we're focusing mainly on series planning. But before we do, let's put series planning in context, by looking briefly at its links with institutional and programme planning.

Institutional and series planning

Institutional planning involves making decisions about the overall allocation of resources – human, technical, financial – to the planning, development, production and distribution of audio materials. These decisions are usually made at a senior management level within an institution. In relation to audio, the senior management team of a distance or open learning institution typically has to decide:

- What proportion of the budget should be allocated to audio – as opposed, for instance, to the production of printed materials, television or video, the provision of student support services, etc.
- How the audio budget should be distributed between different departments, programmes of study, perhaps even down to the level of individual courses.

- How to make the most efficient and effective use of the professional skills and technical facilities available to the institution.

To make such decisions rationally, planners and managers need good quality advance information, about the range of options available to them, and the extent to which the various options are likely to help the institution achieve its goals – e.g. to provide the best quality distance and open learning to the largest number of educationally disadvantaged students.

It is at this point that we can see most clearly the link between series plans and institutional planning. For an institution to make rational choices on the allocation of resources to audio, it needs clear advance information on how, why and with what effect, different departments and courses are proposing to use audio.

This is exactly the type of information that a carefully prepared series outline provides. As you will see later in the chapter, such an outline will typically cover:

- who the audio is intended for
- what contribution it will make to teaching and learning
- what it will cover and what form it will take
- how it will be integrated with other media and learning activities
- what will be involved in developing and producing the materials
- how the audio material is intended to be used by the students
- how its impact and effectiveness will be monitored and evaluated

Armed with this information, planners and managers can make comparisons and rational choices between the different options presented to them; and in this way maximise the efficiency and effectiveness with which an institution uses its scarce resources.

Series and programme planning

The detailed planning and design of individual radio programmes and audio cassette sequences will be dealt with in the next chapter, as part of the development and production of audio for distance and open learning. At this point, however, it's worth noting that agreeing on a clear series outline leads to a number of positive advantages for those involved in developing and producing the audio materials. For instance:

- The series outline provides clear guidelines on the amount and type of audio to be produced. It will also spell out the role of audio in relation to other media and learning activities.
- It will also become possible to integrate the development and use of audio more closely with that of other media being used – for instance, print, television and video – and with the face-to-face support offered to students at tutorial sessions and residential courses.
- This in turn will make it possible to exploit the unique characteristics of different media (including audio); to use them in a way that maximises their effectiveness; and to provide the students with better quality learning materials, and a more interesting, satisfying and worthwhile experience of studying at a distance.

In this way, the preparation of series outlines for audio not only makes it possible for institutions to undertake rational forward planning, but also enables subject specialists and media staff to make the most effective use of audio and other media in distance and open learning. This is why series planning is important. Now we go on to the question of how to do it – asking three key questions:

- What needs to be planned?
- Who should be involved in the planning and design of audio?
- How can the process be best organised and managed?

What needs to be planned?

Here the focus is mainly on series planning. So the question we're asking is: What needs to be planned and designed if you are preparing a series of radio programmes, audio cassettes or an audio-vision package for distance or open learners? In answering this question, you may find the following checklist useful. It is presented first in summary form. Then we will look at each item in more detail.

Checklist for audio planning

- Audience
- Aims and objectives
- Content and structure
- Form and format
- Support material
- Resources

- Scheduling
- Monitoring and evaluation

Now we look at each of these items in more detail. Under each heading we suggest the key questions that need to be asked and answered in series planning. And we also provide some additional information that may help you answer the questions. In this chapter, we concentrate on the first five headings. The next two – resources and scheduling – we'll look at in Chapter 3, as part of development and production. And we'll deal with monitoring and evaluation in the final chapter of the handbook.

If you are currently in the early stages of planning an audio series, you might find this is a good opportunity to prepare a series outline. You can apply what you're learning under each heading to your own particular project. By the time you've covered the first five headings, you should have most of the information you need for an effective series outline.

1. Audience

In planning any audio series, it's important to know the main characteristics of your target audience. Without this knowledge, it's difficult to know how to communicate with them in a way that they'll understand and respond to.

Some key questions

- What do you need to know about your target audience?
- How much of this information do you have already?
- What do you need to find out?
- How can the information be obtained?

What we're doing here is preparing an 'audience profile'. There are at least three types of information that you'll find useful:

- **Demographic data –** e.g. information on age, gender, literacy and education levels, occupation, environment (e.g. rural/urban), etc.

- **Knowledge, skills and attitudes –** information on what the students are likely to know already, what they can do, their attitudes to the subject matter and their expectations of the course.
- **Access, facilities and study skills –** access to audio equipment (radios, cassette players, sources of power), quality of reception, experience of learning from audio.

It's easy enough to identify the information you need. It's usually more difficult to obtain it. Some of the information may already be available – from colleagues, from other educational institutions, from national and local organisations. If the information is available, do your best to obtain it. If not, or if you suspect the information may be inaccurate or out-of-date, you'll need to try and obtain it for yourself. There are a number of ways of doing this – e.g. sample surveys, questionnaires, interviews. But most of these methods are expensive and time-consuming, especially in developing countries.

Probably the most efficient and economic way of obtaining the information you need is to meet with a small number of 'focus groups' – i.e. groups of people who are broadly representative of the audience you're aiming at. The information you obtain may not be statistically representative of the target audience. But it will at least give you a chance to discuss the questions raised above with a group of people who are fairly typical of your potential students, and will help you begin to see the world from their perspective.

There's no standard way of presenting an audience profile. You can organise it in whatever way you find most useful. Once you've completed the task, the next step is to start thinking about how the audience profile will influence and shape the way you design and present your audio series.

> What can you learn from the audience profile? How will it help you design better audio materials?

In general, the audience profile should help you decide:

- What the students want and expect from the course and its audio material
- The prior knowledge, skills and attitudes you can assume from your students
- The level and style of language that will be appropriate
- The type of examples and illustrations you should use
- Whether to use radio or audio cassettes – or neither or both
- Whether to aim for individual or group use of the audio materials

- What type of support material and study activities would be appropriate

We'll return to most of these questions as we work our way through the checklist; and a number of them will also be discussed later in the handbook.

2. Aims and objectives

When planning audio for distance and open learning, it's important to be clear about exactly what you want to achieve through the use of the medium. One way of clarifying your thinking on this is to spell out your general aims and specific objectives in using audio.

We have already looked at some of the main roles of audio in Chapter 1. We can use these roles as a basis for a checklist that will help you start thinking about some of the general aims for which you might want to use audio materials in your courses.

Checklist on aims for audio

- Do you want to use audio to provide news and up-to-date information to your students?
- Can you use audio to motivate students and to provide general encouragement and support?
- Is there a more specific tutorial role that you want audio to play? Are there parts of the course that would benefit from additional tutorial support?
- Are there additional learning resources that could be offered through audio, which could not be provided in other ways?
- Are there parts of the course in which audio could usefully play a direct teaching role? Are there parts in which such a role would be essential?

Once you've spelled out your general aims, you can then elaborate them in terms of specific objectives or competencies that you want the students to acquire or develop. You may find it useful to think about objectives or competencies in terms of knowledge, skills and attitudes. These three headings again offer a useful checklist for a more detailed statement of how you're planning to use audio.

Checklist on specific objectives for audio

- What kinds of knowledge can you communicate effectively through audio, or through a combination of audio and visual materials?
- Are there particular skills (either intellectual or physical) that you want the students to acquire or develop through the use of audio?
- What role can audio play in helping students think about their own attitudes and value systems? Can it be used to encourage critical thinking, discussion and debate?

However you decide to approach the question of aims and objectives, it's important to be clear about exactly what you want to achieve through audio. Clarity at this stage will help you decide:

- What to include and what to exclude from your audio series
- How audio will relate to other media and learning activities in a course

In addition, if you don't know precisely what you're trying to achieve through audio, you'll find it very difficult later to discover how successful you've been and whether it's all been worth the effort.

The precise nature of aims and objectives will of course depend on the subject matter and the particular type of course to which they relate. But whatever the context, they should have the following characteristics. They should be:

- Clear and unambiguous – preferably free from educational jargon
- Realistic and relevant – in terms of what can be achieved through audio
- Capable of being evaluated – i.e. it should be possible (at least in principle) to find out whether the aims and objectives have been achieved

3. Content and structure

Once you've identified and characterised the audience, and defined your aims and objectives, then it's time to go on to the content and structure of the audio series. You've answered the 'who?' and 'why?' questions; now we turn to the questions of 'what?' and 'how?':

- What content do you want to include in the audio series?
- How should this content be organised for presentation to the students?

If you've defined your aims and objectives clearly, identifying content and deciding on a structure or sequence should not be difficult. In order to achieve each objective, you'll need to present a certain amount of 'content' – i.e. appropriate audio material. And for this content to make sense to the students, it will need to be presented in a logical and coherent order.

Checklist on content and structure for audio

- What subject matter or topics will the audio material deal with?
- In what order should they be presented to the student?
- How will the audio material relate to the other media being used in the course – e.g. printed texts and other visual materials?
- Should there also be a link between the audio series and any face-to-face tutorial sessions that form part of the course?

Once you have identified the audience, defined your aims and objectives and decided on the main content and structure of your audio series, then you are probably in a position to start preparing a general series outline. This usually includes information on:

- The target audience
- The aims and objectives for audio
- The subject matter to be covered
- The order in which it will be dealt with
- The relationship of audio to other parts of the course – e.g. print and face-to-face contact

There's no standard format for this outline. But you might find it useful to present the information in the following type of table.

Preliminary draft for an audio series outline

1. Audience:	[A brief statement identifying your target audience and its main characteristics]
2. Aims and objectives:	[A statement of your general aims in using audio, followed by the specific objectives you want to achieve through the medium]
3. Content and structure:	[A list of the subject matter/ topics to be covered, arranged in order of presentation, with an indication (if appropriate) of links to other media and study activities, and (where possible) a timetable for presentation]

This preliminary series outline will become a basic working document for the development of the audio material. You can add to it and amend it as your thinking develops. It can serve as a basis for communication between the different people involved in and affected by the development of audio. (This is a topic we look at later in this chapter.) And it can also be used to incorporate your collective ideas and agreements about the purposes of audio and how it's going to be used.

4. Form and format

There are two main types of decision you need to make here:

- First, whether to distribute the audio material to students through broadcasting or in recorded form – i.e. whether to use radio programmes or audio cassettes
- Secondly, what particular forms and formats of audio will enable you to communicate most effectively with your students

Radio versus audio cassettes

We discussed the comparative strengths and limitations of radio and audio cassettes in Chapter 1. It was suggested there that radio has the great advantage of reaching large numbers of students simultaneously and at relatively low cost. But it also has the major disadvantage of giving students relatively little control over their use of the audio

materials. Audio cassettes may involve additional copying and distribution costs, but they offer a much higher level of student control. As a result, audio materials can be more closely integrated with other media and learning activities, and this can make possible more student-active learning.

What are the main factors you need to take into account in deciding whether to use radio or audio cassettes?

Checklist on choosing between radio and audio cassettes

Your decision on whether to use radio or audio cassettes will usually depend on the following main factors:

- Your target audience – the number of potential students, their geographical spread, and their access to audio technology and sources of power
- The type of course and subject matter you're teaching (e.g. formal/non-formal), the role of the audio material and its relationship to other media and learning activities
- Your access to suitable radio transmission times and the competing demands for them from other programmes and courses
- The relative costs of distributing the material on radio and on cassette, and your judgement about the educational benefits of using one medium rather than the other

Audio forms and formats

The second type of decision you need to make, whether you're distributing by radio or on audio cassette, is about how you can use the medium most effectively. This is in part a question about audio forms and formats.

- By 'form' we mean a particular type of audio material – such as those discussed below
- By 'format' we mean the different ways in which these forms can be combined, to communicate with your students

Detailed decisions about form and format are usually made at a later stage, when individual programmes or audio sequences are being developed. But even at an early stage of planning, it's necessary to think in general terms about the type of audio material you're likely to use, since this will have important implications in terms of the resources you'll need (human, technical, financial) and the time it will take you to develop and produce the audio materials.

Just as ideas for subject matter grow out of your thinking about aims and objectives, so ideas for form and format need to emerge from decisions made about content. Content should dictate form and format; not the other way around.

The range of audio forms is extensive. The table below gives an idea of the main types of audio material that can be used in distance and open learning.

Some basic audio forms

Types of audio material	**Brief explanation**	**Main uses in distance education**
Scripted talks	Carefully planned and structured communication, written down, rehearsed, and presented at the microphone	Talks are particularly suitable for considered presentations by teachers, audio tutors and presenters, subject specialists, and others with particular experience or expertise.
Unscripted interviews	Carefully planned (but preferably not rehearsed) question and answer sessions, designed to obtain lively spontaneous material from people with particular knowledge, experience or skills	Interviews offer an effective and convenient alternative to scripted talks, when the interviewee (the person being interviewed) doesn't have the time or skill to prepare and present a scripted talk. They also have the added advantage

		of sounding informal and natural; and therefore offer an attractive contrast to more formal scripted speech.
Discussions	Carefully planned dialogues or debates, preferably unscripted, and usually involving two or three participants with a chairperson	Discussions are a useful way of exposing students to contrasting views and opinions on subjects on which there are legitimately differing viewpoints. They can also provide students with resource material for analysis and comment, and help them sort out their own views on disputed questions and issues.
Actuality and commentary	Material recorded on location (i.e. outside the studio) and designed to convey a sense of place and atmosphere	Very useful for giving students the vicarious experience of field trips and visits to places of interest and relevance to what they're studying
Archive material	Recorded material, usually of historic or academic interest, most commonly held in collections by broadcasting organisations	This material can be used as evidence or illustration in audio materials. It offers access to people and events in the past, which are of interest and relevance to present learning needs

Music	Instrumental and/or vocal material, which can be used to add to the attractiveness of audio presentation, as a way of indicating the structure of programmes, or as an alternative to speech as a memorable way of communicating ideas and information	Music can be used in a variety of ways to enhance the experience of using audio. It is routinely used to indicate the beginning and end of programmes (signature tunes), and also to signal activities (e.g. stop the cassette). It can also be used effectively (mainly in non-formal education) to support and reinforce key learning messages
Drama/simulation	A narrative presentation, using actors and sound effects, reflecting real or imagined people and events, and usually involving a process of conflict and conflict resolution	This is a form which is widely used in both formal and non-formal education, as a way of handling inaccessible or sensitive areas of experience. It allows the audio producer to convey real or imagined situations and events, in an interesting and involving way, and can provide a rich source of stimulus material for students at a distance.

These forms can either be used on their own – talks, interviews, discussion, drama – or they can be combined into various formats. The range of formats is only limited by the imagination and creativity of the scriptwriters and audio producers. Some of the more common formats are illustrated below.

Some common formats for audio

- **Documentaries:** Factual reports on past or present questions, issues, situations or events, incorporating narrative, description and analysis, and usually combining several of the following elements – scripted talk, interviews, discussion, actuality and/or archive material.
- **Features:** Audio material dealing with similar factual themes to documentaries, but approaching them in a more imaginative, creative and artistic way, often incorporating elements of music and drama.
- **Magazines:** A popular and widely used format; usually broadcast on a regular basis (daily, weekly, monthly); dealing with a number of different topics, linked by a common theme; using a range of different audio forms; and usually presented (in distance education) by an audio teacher or tutor.
- **Drama with tutorial commentary:** Audio material relying mainly on drama to communicate with students; but including tutorial commentary, usually offering introduction, interpretation and reinforcement of the themes explored in the drama.

There are no rules and regulations that govern the choice of forms and formats. This is essentially a creative and imaginative task. However, we can offer some general guidelines and some practical tips.

- First, you need to think about the subject matter – What type of audio material will communicate the content most effectively?
- But you also need to think about your audience – What types of audio material are they likely to find interesting, involving, stimulating, thought-provoking, challenging, understandable?

The list of adjectives could go on! Perhaps the most useful thing would be to offer some practical tips drawn from experience.

Forms and formats – some practical tips

- Keep your radio programmes and audio cassette sequences fairly short. Fifteen to 20 minutes is probably the maximum length for concentrated listening. And you can cover a good deal of ground in five to ten minute audio slots.

- If you're planning to use scripted talks, keep them short as well. You can cover a lot in five minutes. Unless the speaker is very skilled, it's difficult to hold the listener's attention for as long as ten minutes, and almost impossible for 15 or more.
- The same goes for interviews and discussions. Try to keep interviews down to five minutes. Discussions will probably need to be a bit longer (depending on the number of participants). But again you can cover a great deal in ten to 15 minutes.
- Try to vary the forms and formats as much as you can. This will add variety and pace to the students' listening experience. It will also help to keep them interested and involved. Don't get into a rut. Keep surprising your students. And remember, there's no reason why educational audio material shouldn't also be interesting, entertaining and enjoyable!

This list of practical hints could of course be extended. But that would be moving away from planning and design, and into the development and production of audio materials, which is the main focus of the next chapter. At this stage, what's important is to start thinking about the type of audio material you're likely to be developing. The following checklist is intended to help you in this.

Checklist on audio forms and formats

- Are you proposing to use radio or audio cassettes for your course?
- In terms of form and format, what types of audio material is your course likely to require – talks, interviews, discussion, actuality and archive material, drama and music?
- What resources – human, technical, financial – do you think you will need to develop and produce these materials?
- How long will the process take? How will the schedule for audio relate to that for other media – e.g. print and other visual media?
- Given the resources and time available, are the emerging plans for audio realistic? Or do they need to be revised and modified to take account of what is practically possible?

Some of the questions in the checklist above will be dealt with in more detail in the next chapter. But it's important to be aware of them – and to start thinking about them – at this stage. So, if you're preparing a

series outline, you can now add your ideas about form and format to the topics you have listed under content and structure.

5. Support material and activities

It was suggested in Chapter 1 that the educational impact and effectiveness of audio can be substantially increased by combining audio media with specially prepared visual materials. Combining and integrating audio with visual elements – i.e. creating audio-vision – encourages the active involvement and participation in the process of listening and learning. You may find it useful to think about the combination of audio and visual materials in terms of a 'before-during-after' sequence.

Combining audio and visual materials – before, during and after listening

Before listening: Visual material can help prepare students for listening.

- What would it be useful for students to read, look at, think about or investigate, before they start listening to a particular piece of audio?
- What activities and preparations would help them get the most out of the audio material they'll be listening to?

During listening: Having something relevant to look at while you are listening helps concentration and promotes active learning. In addition, by combining sound with appropriate visual images, it's possible to extend the range of subject matter that audio can deal with. Audio-vision is a relatively low cost but potentially very powerful educational technology.

- What would it be useful for students to look at while they are listening? How could visual material enhance or extend the experience of listening and learning?
- Are there other things that students could usefully do while listening to audio – e.g. examining objects, carrying out tasks, reacting on paper to what they're listening to?
- In the case of cassettes, are there exercises and activities that students could usefully do when the tape is stopped? How could you use printed/visual materials to offer students opportunities to apply knowledge, practise skills and reflect on attitudes and values, and generally to support and reinforce their learning from audio?

After listening: Here visual material can be used for a range of follow-up, reinforcement and revision exercises and activities.

- What would it be useful for students to do after they have listened to a piece of audio material? How can print encourage and support such activities?
- How can support materials encourage the application of newly acquired knowledge, the practice and development of skills and the further exploration of attitudes and values?
- How can support materials promote the longer term impact and influence of audio in distance and open learning?

So what are the key questions you need to think about and answer in relation to support material? You may find the following checklist useful.

Checklist of key questions on support material and activities

- Would it be useful to support the audio material with specially designed and carefully integrated printed and/or other visual material?
- If so, how should this material be presented to the students? Can it be included – e.g. in a print-led course – in the main teaching text(s)? Or would it be better to prepare a separate booklet or pack of printed materials to accompany the audio?
- What would be the implications of the different options in terms of resources and scheduling? Are either or both practically feasible? Which option is likely to be most beneficial for the students?

So far, in developing a series outline, we've gone through the first four steps. We have:

- Identified and characterised the target audience
- Spelled out our main aims and objectives in using audio
- Listed the main content in order of presentation
- Considered the type of audio material that would be most appropriate and started to think about the implications of this in terms of resources and scheduling

Now you can complete the process by adding your ideas on the type of support material and learning activities that would be useful to your students.

Presenting series outlines

It was suggested earlier that preparing series outlines is useful because it helps you communicate more effectively with colleagues and others who are interested in how you are planning to use audio. This raises the question of presentation. How can you present your series outline in such a way that it communicates the essential ideas effectively?

There's no standard format for this document. But one way of presenting your ideas would be to identify the target audience and the general aims at the start of the document; and then to organise the rest of the more detailed information in four related columns, along the lines suggested below.

Specific objectives	**Content and structure**	**Form and format**	**Support materials and study activities**
[Here you can list the specific objectives which you are seeking to achieve through audio.]	[You can then connect each of the programmes / topics in the series to one or more of the specific objectives.]	[For each of the programmes / topics you can indicate the type of audio material that you expect to use.]	[Similarly, here you can show what type of support material and study activities you would suggest for each programme or topic.]

This is just one simple example of how you might present the information. There are many other ways in which you could do it. You could, of course, also add other material to the outline. For instance, in a print-led course, you could indicate how the audio material relates to the printed components of the course. The important thing is to present your thinking in a way that is clear, and allows you to communicate effectively with your colleagues and others who need to know about your audio plans.

Resources, scheduling, monitoring and evaluation

As we suggested earlier, although resources, scheduling, and monitoring and evaluation are important aspects of series planning, we'll delay our discussion of them until we've looked more closely at who should be involved in planning, and how it should be organised and managed; and also until we've considered what is involved in the development and production of audio materials (Chapter 3). Once we've covered these topics, you should be fully equipped to complete and finalise your series outlines.

Who should be involved in planning?

So far in this chapter we have tended to discuss planning and design as though it was the individual responsibility of a single person. The main reason for this has been to encourage you to think through the various issues involved in the planning and design of audio. However, in practice, this activity is usually – or at least should be – undertaken by a group of people, each with particular knowledge and professional skills, working together as a team.

There are at least two key roles that need to be involved in the planning and design of audio for most types of distance and open learning:

- **Subject specialists –** preferably with knowledge and experience, not only of teaching the subject at an appropriate level, but also of the particular audience for whom the audio materials are intended
- **Audio producers –** preferably with professional experience of educational broadcasting and/or audio cassette production in areas close to the subject matter of the course, and again familiar with the target audience

There are also a number of other professional skills that can make a useful contribution to the planning and design of audio and its supporting materials. Among the more important are the following:

- **Educational technologists/instructional designers –** with a particular interest in how adults learn at a distance, and skills in designing adult learning materials
- **Local tutorial staff –** who are familiar with the target audience and can advise on their particular learning needs and the type of study materials that are likely to be most useful to them
- **Print specialists and graphic designers –** who can advise on the design and layout of printed and visual support materials
- **Evaluation specialists –** who can investigate and advise on the impact and effectiveness of audio and printed support materials as they are being developed and when they are being used by students

The contributions of the first two professional roles are fairly self-evident:

- **Subject specialists** – provide knowledge of the subject you want to teach. They normally determine what the content of the audio material will be. So it's important that their knowledge is accurate and up-to-date; and that they also have experience in teaching the subject to the type of target audience you're aiming at.

- **Audio producers –** bring knowledge and skills in how to communicate effectively using sound. They should be able to suggest the subject matter that can best be dealt with through audio; the forms and formats that are available; and how they can be used most effectively. At a later stage, audio producers will also play a key role in realising the ideas that emerge from the planning stage in the form of radio programmes and audio cassettes that the students listen to.

The contributions of the other three professional roles are perhaps less immediately self-evident:

- **Educational technologists/instructional designers –** have expertise in the dynamics of the teaching and learning process. They should therefore be able to advise on the structuring of the audio material, the design of visual support and audio-based learning activities, and the relationship of audio to other components of a course.
- **Local tutors –** will bring to planning and design their knowledge and experience, not only of the students, but also of the environments in which they live and work: the facilities available to them, the particular problems they face and the type of support they need. For this reason, they will be especially useful in advising on whether to use radio or audio cassettes; whether audio should be used individually or in groups; and what type of support material would be most helpful.
- **Print specialists and graphic designers –** will be able to contribute in the design and layout of printed and other visual materials developed in support of audio. They will also have a particular role to play, working closely with educational technologists/instructional designers, in advising on the effective integration of audio materials and the printed components of a course, and later in implementing decisions in this area in the development and production process.
- **Evaluation specialists –** will probably not have a major role in the early stages of planning. But it's important that they should be involved from the start, so that they have a clear idea of what the course is trying to achieve, and the evolving logic of the approach adopted. In this way, they'll be in a better position to advise those involved in developing the audio and support material during the process of formative evaluation.

Two further points need to be made before we move on – which will lead us into our final question:

- First, not all of these professionals need to be involved in all stages of the planning and design process. As we move from institutional

to series and programme planning, the degree and type of involvement of the different roles will change.

- Secondly, in multi-media distance education, those involved in the planning and design of audio (and other media) tend to be a sub-group in a larger course planning and development team, which involves other specialists and probably also needs administrative and managerial support.

These two points raise a number of important questions about the organisation and management of the planning process, which is the final question we consider in this chapter.

How should planning be organised and managed?

We now turn to the question of how the different professional roles outlined above can be organised and managed to plan and produce effective audio materials for distance and open learning. The question is not an easy one, since the different roles are drawn from very different professional backgrounds.

- **Subject specialists –** usually come from academic and teaching backgrounds. They often tend to be more concerned with the content of their subject than with the different ways it can be communicated. They may have some experience of communicating through print; but often they have little or no experience of electronic media, including radio and audio cassettes.
- **Audio producers –** will usually have come from a broadcasting background, and will have professional experience in communicating through electronic media. As a result, their main interest is likely to be in the medium; and they may have little or no knowledge or experience of the academic discipline or subject area on which they are working.

Similarly, educational technologists/instructional designers, local tutorial staff and evaluation specialists will all approach planning from a particular professional perspective. In addition, the different backgrounds may also raise questions of relative status and seniority. Moulding this type of diverse group into a coherent planning team may not be easy.

What kind of problems are likely to arise within multi-disciplinary planning teams? What particular problems might arise between subject specialists and media personnel? How do you think these problems might be resolved?

In fact, it's fairly common in distance and open learning institutions for there to be some degree of conflict and tension between subject specialists and media staff.

Subject specialists sometimes regard media producers as focusing too much on the process of 'communication' and not being sufficiently concerned with content. They see them as being more concerned with the 'medium' than with the 'message'.

Media producers tend to see subject specialists as being too narrowly concerned with questions of 'content', and not paying sufficient attention to the way in which the content is communicated. At its worst, this type of tension can lead to conflict between the two groups. And if the conflict is not resolved, it can lead to a breakdown in communication, to the detriment of the learning materials being planned and designed. Often the situation is made more difficult by status differences between subject specialists and media staff within an institution.

A possible solution – the OU course team

Perhaps the best known solution to this type of problem is that developed by the British Open University in the early 1970s, and later adopted and modified by a number of other distance teaching institutions – i.e. that of the 'course team'.

Essentially, the approach involves setting up a multi-disciplinary team – including subject specialists, media personnel and other professionals – who meet together on a regular basis, and take collective responsibility for the planning, design and development of a distance education course.

The great strength of this approach is that, at its best, it can produce a mutually inter-dependent group of professionals, with a shared ideology, and developed skills in producing high quality and carefully integrated distance and open learning materials.

The main disadvantages of the course team approach are that:

- It tends to be very demanding and expensive in terms of staff time
- It requires a capacity for long term planning which many institutions (especially new ones) find difficult to establish
- It involves an open and democratic style of management which for some participants may be unfamiliar and uncomfortable

In practice, relatively few institutions operate a fully developed course team model. In most, the design and development of courses is the responsibility of a relatively small group of people (usually subject specialists), who may from time to time call on others (e.g. media producers) to assist them. In this context, there is relatively little opportunity to develop a shared professional outlook. Management tends to be hierarchical; the potential for conflict between different specialists is increased; and the degree of integration between different media tends to be reduced.

In this type of situation, the opportunity to realise the full potential of audio is limited. In print-led courses – mainly in formal education – ideas for print are usually developed first, with audio being planned later. Audio producers are not usually involved in the initial planning; and there's little opportunity to develop the collaborative approach mentioned above. As a result, the potential for conflict between audio producers and subject specialists in the planning and development of audio material is increased. The unique strengths of audio tend not to be exploited. And audio is often grafted on, as a supplementary component, which is peripheral to the main body of the teaching system.

For these reasons, there is a strong case for having some sort of course team, with collective responsibility for the planning and design of audio materials, in conjunction with other teaching and learning materials. The essential members of such a team are subject specialists and audio producers. If it's possible to include educational technologists, instructional designers, tutorial staff, evaluators and administrative support, so much the better. But if not, don't worry. Even without these additional specialisms, it's still possible to make good quality audio materials – as you'll discover as you continue to read the handbook.

Checklist on the planning and design of audio

This chapter should have enabled you to do the following things:

- Distinguish between different types or levels of planning
- Identify the main questions that need to be asked and answered in the planning and design of an audio series
- Identify the key people involved in planning and design, and outline their main contributions to the process
- Recognise some of the problems you're likely to encounter in the organisation and management of planning and design, and suggest some possible ways of solving them

By the end of this chapter, you should have a fairly good idea of what is involved in the planning and design of audio materials. The outcome of this activity is a series outline – which sets out what you're planning to do with audio for your distance or open learning students. However, before you can do this, the audio material and supporting print/visuals need to be developed and produced – translated from ideas in your head and on paper, into actual radio programmes or audio cassettes. It's to this activity that we turn in the next chapter.

Chapter 3

DEVELOPMENT AND PRODUCTION

Introduction

This chapter provides an introduction to the process of developing and producing audio and associated print materials for distance education and open learning.

By development and production we mean the process of transforming a set of ideas about how to use audio – i.e. the outcome of the planning and design stage – into a form that can be distributed to students as radio programmes or audio cassettes with visual support materials.

The chapter starts from the assumption that you have already decided to use audio; and that you have gone through the basic planning process outlined in the previous chapter. It then goes step-by-step through each of the main stages of transforming your ideas into audio and audio-visual materials that the students can use:

- Preparing programme outlines
- Researching content and contributors
- Commissioning and collecting material
- Compiling audio and support materials
- Drafting presentation scripts
- Rehearsal and recording in the studio
- Post-production editing
- Review and formal approval
- Copying and packaging cassettes
- Storage and distribution to students

Once you have a clear idea of the various tasks involved, you'll be in a better position to decide on realistic schedules for developing and producing audio and related materials – information which you'll need to complete the series outline discussed in the previous chapter. You'll also be better equipped to go on to the next two chapters – which look at the key skills needed in developing and producing audio and printed support materials for distance and open learning courses.

From planning to production

Planning, development and production are obviously closely related and overlapping processes. The decisions you make when preparing your series outline provide a basic framework of ideas within which the process of developing and producing audio materials takes place.

Without good planning it is impossible to produce effective audio for distance and open learning. But without good development and production practices, it is equally impossible to realise even the best made plans for audio.

The role of the producer

The role of the producer is central to developing and producing good quality audio. The producer brings to the task a set of professional skills that are essential for effective communication using sound – including that of coordinating and managing the wide range of activities that are necessary to translate a set of ideas for audio (the series outline), into a set of radio programmes or audio cassettes with printed support material.

However, producers cannot complete this task on their own. Just as planning and design involve the knowledge and skills of a range of people, so does audio development and production. Producers need to work in close collaboration with subject specialists, scriptwriters, contributors, audio presenters, perhaps actors and musicians, and certainly technical staff. The producer's role is to combine, coordinate and direct the team's activities to develop and produce effective audio materials and carefully integrated printed support.

In addition, the audio producer's role often involves close liaison with a number of other people and organisations – for instance:

- With the producers of other media and learning materials – e.g. print, television and video, and computer-based materials
- With national and local broadcasting organisations and the providers of technical facilities and services
- With those responsible for regional and local tutorial and student support services

And all of this activity usually takes place within a context of limited resources and demanding deadlines.

It was suggested in the previous chapter that planning and design benefits from a fairly open and democratic management style, encouraging the active participation of the various professionals in the

team. However, as we move into development and production, the type of activities involved requires a shift towards a more hierarchical style of management. It is difficult, if not impossible, for good audio to be produced by a committee. The closer you get to the studio, the more you need effective leadership and clear managerial responsibility. However, this does not mean that the producer needs to become a dictator. On the contrary, successful production is nearly always characterised by a high level of consultation and consensus building.

This is one reason why some sort of course team approach is valuable in developing audio material (and other media) for distance and open learning. It is also one of the reasons why it is important for audio producers to be involved in the work of the course team from the earliest stages of planning and design. This not only gives the producers a better understanding of the approach being adopted to a course. It also provides an opportunity to contribute ideas on the potential role of audio. In addition, it allows time for mutual confidence and trust to develop between subject specialists and audio producers, which will be of continuing value as the audio material moves towards the production stage.

One area in which agreement is of particular importance is that of editorial control. Who has the ultimate responsibility for deciding on the content and form of the audio material and its supporting print? This question does not normally lead to conflict in an effective course team, in which the different members have had sufficient opportunity to recognise and appreciate each other's specialist knowledge and professional skills. What tends to emerge in such situations is a broad consensus that subject specialists take the main responsibility for matters of curriculum and content, while the expertise of producers is recognised in relation to the form, format and style of audio presentation. And where there are differences, they tend to be readily resolved.

Stages of development and production

The particular process through which audio is developed and produced will depend on the type and complexity of the learning materials you're working on. A simple 10-15 minute radio talk usually involves less work than a complex 20-30 minute documentary or drama programme, or an audio-vision package using a range of audio forms and substantial printed support.

However, in most audio productions – whether radio, audio cassettes or audio-vision – it's possible to identify a series of key stages in the development and production process. As we indicated at the beginning of the chapter, you may find the following ten-point sequence useful.

Ten stages in the development and production of audio

- Preparing programme outlines
- Researching content and contributors
- Commissioning and collecting material
- Compiling audio and supporting materials
- Drafting presentation scripts
- Rehearsal and recording in the studio
- Post-production editing
- Review and formal approval
- Copying and packaging cassettes
- Storage and distribution to students

Looking through this sequence of key stages in development and production, it soon becomes clear that:

- Many of the tasks are overlapping
- Different people are involved to different degrees at each stage of the process
- The amount of time and effort required at each stage will vary with the complexity of the materials being developed and produced

These are some of the issues we'll touch on as we work through the list step-by-step. We'll look at the first item in some detail. The remainder we'll deal with more briefly.

Preparing programme outlines

In the previous chapter, we looked at the preparation of general series outlines, covering the provision of audio for a whole course. Here we focus on preparing detailed outlines for the individual radio programmes or audio cassette sequences which form part of a series. For this task, we use the same checklist and the same five headings we used for series planning in the previous chapter. But this time we'll adapt them to the detailed planning and design of individual programme and audio cassette sequences.

1. Audience

You will have already prepared a general audience profile at the series planning stage. Here you need more specific information, linked

to the particular subject matter of an individual programme or audio cassette sequence:

- What level of knowledge and/or skills will the students have achieved by the time they listen to the audio material?
- What assumptions can you reasonably make about what they know already, what they can do, and what they need to learn?

In formal courses (usually print-led), this generally involves relating the audio to the students' progress on the printed course materials. In non-formal courses, you will often need to obtain specific information on the students' knowledge, attitudes and practices in relation to the topic of the audio material. (These are often called KAP studies – knowledge, attitudes and practices.)

- How much of this information do you have already?
- What do you need to find out?
- What sources of information are available to you?

2. Aims and objectives

At the series level, we usually develop general aims and objectives for the use of audio within a course. Now you need to identify specific objectives for a particular programme or audio cassette sequence. What exactly do you want your students to learn from the audio and associated print material? Again you may find the knowledge–skills–attitudes checklist useful.

- What knowledge do you want the students to derive from the audio?
- What new skills or competencies do you want them to develop?
- What attitudes and values do you want the students to think about and explore?

You may find it helpful to express your objectives in behavioural or competency-based terms – i.e. in terms of what the students should be able to do as a result of their audio-based study, which they could not do before.

For instance: 'After listening to the audio material, the students should be able to...' – followed by an observable activity, e.g. identify,

describe, distinguish between, demonstrate, analyse, explain, solve, select, apply, evaluate...and so on.

Beware of words and phrases like 'be aware of', 'appreciate' and 'understand', the evidence for which is often difficult to observe directly. Obviously we do want students to be aware of, appreciate and understand. But rather than trying to observe them directly, we need to look for activities or indicators that show that awareness has been raised or that something has been appreciated or understood.

Also, don't limit yourself to short-term learning gains. Be aware of longer-term learning processes. Much of the knowledge you'll be teaching, and many of the skills and attitudes, will not be acquired immediately during an audio-based study session. Learning often takes longer. Knowledge needs to be applied before it is internalised. Skills need to be practised. Attitudes and values need to be explored and tested.

In this sense, audio – like other media – is usually a stimulus to longer-term learning, rather than a vehicle for immediate learning gains. For this reason, it's important in drafting your objectives to take account of longer-term follow-up activities, usually included in the printed support material.

Some benefits of clear objectives

- They enable you to think more clearly about what exactly you want to achieve through the use of audio and supporting printed material.
- They provide clear criteria for selecting relevant audio and print material, and rejecting irrelevant or unnecessary material.
- They help you find out how successful your audio and print have been in doing what you wanted them to do. They also help you identify specific areas of success or failure and suggest how the materials can be improved.

3. Content and structure

The series planning stage identified broad areas of subject matter for audio, decided on the order of presentation and related audio to the other media components of a course. This is often presented as a series of titles for programmes or audio cassette sequences, perhaps with brief notes on what each will contain.

Here we move from the 'macro' to the 'micro' level – deciding on the content and structure of individual radio programmes or audio cassette study sequences. If you have defined your objectives clearly, identifying relevant content should not be difficult. As we noted above, your objectives should give you clear criteria for inclusion and exclusion of subject matter and related audio and printed materials.

Nor should structure present too many problems – at least in the sense of deciding on a logical and coherent order in which to present the subject matter. In formal courses, this will often be determined by the order of the topics in the printed texts. In non-formal courses, the subject matter itself will often have a fairly self-evident internal logic that will make the ordering of the material relatively straightforward.

However, there is another sense in which the term 'structure' is often used – namely, in a pedagogical or instructional design sense. This refers not only to sequencing, but also to the way you present audio and print materials to students.

Here the question of whether you are delivering the audio material by radio or on cassettes becomes important. Because the technology differs, each of these media has its own disciplines in terms of how you structure and present audio material to students. This is a question to which we'll return in the next chapter. For the moment, it is sufficient to think of structure in terms of the order or sequence in which you are going to present the subject matter to the students.

4. Form and format

You will have already decided (as part of series planning) whether to use radio or audio cassettes. And you may also have made some preliminary decisions about what forms and formats are likely to be most effective.

We discussed the range of forms and formats in Chapter 2, where we also suggested some of the main ways in which they can be used in distance and open learning. Here you need to apply this knowledge to the particular subject matter you are dealing with in the audio material you're planning.

- Which audio forms and format are likely to be most appropriate to the subject matter and the audience?
- How can you combine and vary these forms to give the audio material interest, variety and pace?
- How should you present this material to the students? Is there a role for an audio tutor? What will this involve?

5. Support material and activities

This is also a subject we discussed at some length in Chapter 2. At the series planning stage, two basic decisions should have been made:

- First, whether you are planning to combine and integrate the audio with some sort of printed/visual support material
- Secondly, if so, whether the support material will be included in the main course text (e.g. in a formal course), or presented as a separate booklet or study pack which will accompany the audio (which can be done for either formal or non-formal courses)

Once you've made these basic decisions, you can go on to the detailed planning and design of support material for the radio or audio cassette sequence you're working on. In either case, you'll probably find the simple 'before–during–after' approach useful.

Checklist for preparing support material

Before listening

- If students are following a print-led course text, how far should they have progressed before listening to this particular piece of audio?
- More generally, what would it be useful for students to have read, looked at, reviewed, thought about or discussed, before listening to the audio?
- What activities will help them prepare for and get the most out of the audio material?

During listening

- What would it be useful for students to look at while listening? What visual material would extend the scope of the audio material, add to the experience of listening, and help student concentration?
- Are there other things that students could usefully do while listening – e.g. examining objects, carrying out tasks, making notes or reacting on paper to what they're hearing?
- In the case of cassettes, should you encourage students to stop the tape at particular points, so that they can test their understanding, apply what they're learning, practise skills, and reflect on attitudes and values?

After listening

- What follow-up activities would students find useful after listening?
- How can newly acquired knowledge and skills be applied or practised?
- Are there attitudes and values that it would be useful to explore through discussion and debate?
- How can the longer-term influence and effects of the audio material be supported and reinforced?

Your responses to these questions will determine the type of support material you will need to develop and produce – for instance:

- As part of the main course text (e.g. in formal print-led courses)
- As a separate audio booklet (in formal or non-formal courses)
- As a set of visual materials (e.g. flip-chart illustrations, usually in non-formal courses)
- Or as a combination of the different types of the support material suggested above

We will look at some of the practical questions involved in developing and producing these materials in later chapters.

Presenting detailed outlines

One way of presenting detailed radio or audio outlines is to adapt the approach suggested for series planning. First, make a note on how far the students should have progressed in their studies when they listen to the audio:

- What level of knowledge and/or skills will they have achieved?
- What assumptions can you make about what they know already, what they can do, and what they need to learn?

Then organise the rest of the information in four related columns, as follows:

Specific objectives	**Content and structure**	**Form and format**	**Support materials and study activities**
[Specific objectives to be achieved through the individual radio programme/audio cassette session.]	[A list of the subject matter/topics to be covered, linked to one or more of the specific objectives.]	[For each topic, an indication of the type of audio material you are planning to use.]	[Support material and study activities – before, during and after listening to the audio material.]

As you develop this outline, you should start to hear the programme or audio cassette material in your head. You should also try to imagine yourself in the position of the students listening to and learning from the material.

- What will the students be listening to? How will they react to it?
- What will they be looking at or doing – before, during and after listening?
- What will they gain from the experience? How will it help their studies?

As with the series outline in Chapter 2, the detailed outline suggested above – sometimes called a 'running order' for audio material – will be a basic working document for the development of individual radio programmes or audio cassette sequences.

- You can add to it and amend it as your thinking develops.
- It serves as a basis for communication between the different people involved in and affected by the development and production of the audio material.
- It can also incorporate your collective agreements about the purposes of a specific piece of audio and how it's going to be used.

This is clearly an important document. It serves as a blueprint and guide for the rest of the development and production process. And it's for this reason we've looked at it in some detail here. The remaining stages we can deal with rather more briefly.

Researching content and contributors

This stage involves identifying and selecting key contributors and suitable audio materials for the radio or audio cassette material you are working on – writers, interviewers and interviewees, participants in panel discussions, actuality and archive material, drama and music – depending on the type of audio material you are preparing.

This is an activity that is undertaken jointly by subject specialists and audio producers:

- Subject specialists will clearly take responsibility for the professional credentials and credibility of the contributors.
- Audio producers will be concerned with the capacity of the contributors to communicate well, and the technical quality of the sound.

At this stage, it is important to be ambitious on behalf of your students. Aim to provide them with the best quality audio materials available – in terms of both the subject matter and the technical quality. At their best, distance education and open learning have now achieved a good deal of status and prestige. You should therefore be able to attract the highest quality of contributors to your programmes. You should also be able to gain access to the places and situations you want your students to experience. Don't be afraid to use the senior staff of your organisation to assist you in gaining the access and cooperation you need.

At the same time, be realistic about the resources you have at your disposal – e.g. time, money, transport, technical support. Often this will require you to make compromises between what you would ideally like and what is practically possible. However, don't settle for easy options. Be imaginative and resourceful. Go for the best quality of material you can get with the resources at your disposal.

Enterprise and imagination in Tanzania

The HESAWA project in western Tanzania (see Chapter 1) produced four audio series on health and water education. Each series consisted of 10 x 30-minute dramatised audio cassette programmes. The project did not have access to professional scriptwriters, actors or studio facilities. Despite this, good quality audio drama was produced, which was enjoyed by its village-based audiences and proved educationally very effective.

Each series of programmes was produced by a four-week workshop attended by 16 local health, water and education officers, assisted by an experienced audio producer.

- The storylines were developed and the drama improvised by the workshop participants, none of whom had previous experience of audio or drama.
- The programmes were recorded on location, using a portable open-reel tape recorder and a single microphone.
- Multiple cassette copies were produced by a local music store, which also serviced the cassette players provided on loan to the 200 village-based study groups.
- The workshop participants, assisted by a graphic artist, also produced a set of flipchart illustrations and an illustrated booklet to accompany each series.

All of which shows what it's possible to accomplish with minimal resources. Similar approaches – again with minimal resources – were adopted by the University of Fort Hare in South Africa, by SOLO in Sudan and by NITEP in northern Uganda, brief details of which are given in Chapter 1.

Commissioning and collecting material

Once you have identified and selected key contributors, you need to approach them, provide a briefing on what you want them to do, and – if they agree – offer them a contract for the work they will undertake.

Initial approach and briefing

When approaching a potential contributor, you need to indicate:

- Who the material is intended for
- What it is designed to achieve
- How the material will be used by students
- What exactly is expected from the contributor
- The timescale for the development and production of the material
- Any payment that will be offered for the contribution
- Plus any other information the contributor needs

This is one of the reasons why having a detailed outline for audio material is useful. The outline will provide you with all the basic information you need for a full and effective briefing.

Contracting

Once someone has agreed to contribute to the audio material, there is a strong case for issuing a formal contract or letter of agreement covering the work they have agreed to do. This document will usually indicate:

- The nature of the work to be done
- The time within which it should be completed
- Any payment that will be made for the work

In addition, the contract will also normally include provisions on how the audio material can be used, on what happens if either side fails to fulfil its obligations and on how any disputes relating to the contract will be settled. Once the contract has been signed, it becomes a legally binding agreement between the contributor and the organisation producing the audio.

This type of formal contract may seem unnecessarily legalistic within an educational context. However, issuing such a document has the advantage of:

- Defining clearly what you expect of your contributors
- Indicating when and in what form you expect it
- Spelling out any financial arrangements involved in the agreement

This can avoid acrimonious disputes later on. It can also provide you (metaphorically speaking!) with a stick with which you can beat your contributors if they don't deliver on time.

> **Payment and results**
>
> Some institutions pay contributors once they have finished the work. Others find it useful to pay fees in two or three instalments. For instance:
>
> - An initial payment on signing the contract – which motivates them and creates a moral obligation to complete the work on schedule

- A second payment when they've completed their contribution – which encourages them to deliver on time
- A final payment when the audio material has been completed and approved – which means they are still available for final revisions

Alternatively, you could have a simpler system, with half the fee being paid on signing the contract, and the other half when the work has been completed.

But whichever system you adopt, it's important that fees are paid promptly and on time. Otherwise, contributors will soon lose their eagerness to work for you and their commitment to the project.

Generating and collecting material

When your contributors have been contracted, the next task is to generate or collect the material. Depending on the type of audio material you're developing, this process can involve both subject specialists and audio producers in a wide range of activities:

- Planning and writing scripted talks and designing support material
- Commenting on and editing other people's draft scripts and support material
- Rehearsing and recording scripted talks in a studio or on location
- Planning, setting up and recording interviews and panel discussions
- Recording actuality, sometimes with commentary and analysis
- Casting, rehearsing and recording audio drama and simulations
- Rehearsing and recording specially commissioned music

We'll be looking at some of the main skills involved in developing and producing these different types of audio and support material in the next two chapters.

A note on copyright

You may also be involved in locating, selecting and negotiating the use of a variety of pre-recorded sounds – e.g. archive material, sound effects and commercially recorded music recordings – some of which will involve copyright payments.

The law relating to copyright – and the extent to which it is observed and enforced – varies from country to country. It is not possible, therefore, to give country-specific advice in a handbook such as this.

However, it is important for you to be aware that some of the pre-recorded audio material you want to use may require copyright clearance and the payment of fees to the copyright holders. You should take professional advice on the requirements of copyright law in your own country. Failure to do so could result in you and your institution suffering serious legal penalties.

Compiling audio and support materials

Once you've generated and/or collected the audio and support materials you need for your radio programme or audio cassette sequence, the next task is to select, edit and order the material for presentation to the student.

Selection

Very often, when you've recorded or collected the material you need for an audio presentation, you'll find that you have more than you can accommodate within a radio transmission slot or on a cassette. You may also find that the quality of some of the material – pedagogically or technically – is less good than you would have hoped for.

In either case, you need to decide what to include and what to drop. Here again, clearly defined objectives will help you make your decisions.

- What material is essential to achieving your objectives?
- What can you drop without damaging the effectiveness of the audio material?
- What needs to be excluded on professional or technical grounds?

These decisions are not always easy. Both subject specialists and audio producers can become very protective of audio material they have generated or collected. However, the disciplines of the media require us to learn to let go of material that is less essential or not of sufficiently good quality. Once we've made these decisions, we implement them through editing.

Editing

In the case of scripted materials, you can edit them on paper before recording. However, unscripted materials (e.g. interviews, discussions, actuality, improvised drama) cannot be edited in advance – though they can (and should!) be carefully planned. In these cases, editing follows recording.

Three main reasons for editing

- To make sure that the content of the audio material is exactly what you want
- To improve audibility and the clarity of communication
- To ensure that the audio material fits into the time-slot available to you

Audio editing is partly a technical task requiring the skills of a producer or technician. But it is also an editorial task, involving decisions about the inclusion and exclusion of content, which are mainly the responsibility of subject specialists. So, for both technical and editorial reasons, audio editing is usually undertaken jointly by subject specialists and producers working closely together.

Three ways of editing audio

In a physical sense, there are three main ways of editing recorded audio material:

- **'dubbing'** (copying) – generally used when editing audio cassette material, or when open-reel recording tape is in short supply
- **cutting** – a more precise method involving physically cutting and re-joining open-reel recording tape
- **electronic editing** – i.e. editing digital audio tape (DAT) using a computer with appropriate audio editing software

These are important practical skills which give subject specialists and producers a high level of control over the audio materials they are producing. We shall return to them in more detail in Chapter 5.

Ordering

Decisions about the order in which you present material to students will usually have been made at an earlier stage, as part of preparing the detailed outline for an audio presentation. However, once you've completed the selection and editing of the audio material, it is worth looking again at the order in which you are presenting the subject matter. At this stage, you may find that, as a result of selection and editing, you can improve the impact and effectiveness of the audio material by modifying or re-arranging the order in which you present it.

Once selection, editing and ordering have been completed, then an 'insert tape' can be prepared – i.e. a tape of pre-recorded and edited material, arranged in order of presentation, ready for use in the final studio recording. However, before such a recording can take place, an audio presentation script has to be drafted.

Drafting presentation scripts

So far, we have been mainly concerned with the 'raw material' of a distance education radio or audio cassette programme – the scripted talks, interviews, discussions, documentary and dramatised materials that you want to present to your students as a stimulus or support to learning. Here we turn to the question of presentation. How can you present the audio materials to your students in such a way that they get the maximum benefit from them?

Presentation is particularly important in distance and open learning. For students to get the most out of audio, they need to know:

- Who or what they are listening to
- Why they are listening – what they can expect to gain from it
- How they should listen – what they should look at or do while listening
- How the audio material fits in with other parts of the course
- What they can do to follow up and reinforce the audio experience
- When they should listen again and what they should expect to hear

It is possible to present this information in printed notes accompanying the audio material; and it's useful for the students if you do this. As we suggested earlier, such notes can provide a useful reminder of the

content of the audio and may also be helpful for revision and preparing for exams.

However, there is also a strong case for including the information as part of the audio material. It provides the students with a second source of information, closely linked to the material they are listening to. More importantly, it does so in a direct and personal way. It allows the student to hear his or her teacher, talking directly, personally and (hopefully) with understanding and enthusiasm, about the audio material that is being listened to.

Roles of the audio tutor

The presenter of audio material– or the 'audio tutor' – has a number of important roles to play:

- Introducing the audio material, and explaining its aims and objectives
- Linking audio to other parts of the course – print, TV/video, tutorial support
- Introducing contributors and alerting students to what they should listen for
- Directing students' attention to visual materials and study activities
- Drawing out the main teaching points to be gained from the audio
- Suggesting follow-up activities and providing feedback and tutorial support
- Providing continuity and coherence within and between audio-based study sessions

The specific way in which the audio tutor's presentation script is drafted will depend on the type of audio material and whether it is being broadcast on radio or distributed on cassette. This is a question that will be considered in the next chapter, together with notes on the layout of scripts and their presentation in the studio.

Rehearsal and recording in the studio

Once your pre-recorded audio material is edited and ready, together with any associated print or visual materials, and when the audio tutor's presentation script has been finalised, then it's time to take the radio programme or audio cassette sequence into the studio for

rehearsal and recording. Or occasionally, in the case of radio, for 'live' transmission.

Roles and responsibilities in the studio

There are four main roles and sets of responsibilities in the recording studio:

- **Radio/audio producer –** who takes overall responsibility for the direction and management of the studio session, and of the rehearsal, recording and professional quality and standards of the audio material
- **Contributor(s) –** those who are taking part in the final recording of the audio material – e.g. the announcer, audio tutor, and any other people who are contributing
- **Technician(s) –** who are responsible for setting up and preparing the studio for rehearsal and recording (checking recorders, microphones, acoustic etc.), operating the equipment, mixing and balancing the sound, and delivering professionally acceptable sound quality
- **Subject specialist/adviser –** a member of the course team, who can advise on matters of professional quality in relation to the content of the audio and printed support materials

Ideally, the studio script should have been circulated in advance to all those involved in the recording. In this way, they will have had a chance to familiarise themselves with the form and content of the programme. This allows audio tutors to get to know the script in advance and to practise their own part in it. It also gives technicians advance warning of any special requirements for the studio session. For a complex recording, it's useful for the producer and technician(s) to meet in advance of the recording session, to discuss any technical difficulties involved in the production.

What happens in the studio?

Once all the participants have arrived, there is a fairly standard sequence of events for rehearsal and recording:

- **'Taking level' –** when the technician checks and balances the sound levels of the pre-recorded insert material and studio microphones. The technician also decides (with the producer) whether 'equalisation' would improve the quality of the various sound sources. The technician records these decisions on the studio script so that they can be implemented during the recording. This stage also provides a useful opportunity to check the order of the insert tape and compare the opening and closing words or sounds of each band with those recorded on the script.
- **Rehearsal –** which provides an opportunity for the audio tutor to practise the presentation of the script; and for the technician(s) to rehearse the mixing and balance of the recording. During the rehearsal, the producer's main role is to listen carefully to the performance of the audio tutor and any other contributors, to offer constructive criticism and advice, and to encourage and promote the highest professional and technical standards. The rehearsal is also a good opportunity to check the timing/duration of the script; and if necessary to adjust it accordingly.
- **Recording:** If the rehearsal has been well conducted, the recording should be straightforward. As indicated above, the producer's main role is to manage, direct and monitor the recording. The technician(s) are responsible for delivering good quality sound. The audio tutor (and any other contributors) should then be able to concentrate on communicating effectively with the students. And the subject specialist/adviser is there to make sure the content of the audio material is of an acceptable professional standard.
- **Playback and checking:** Following the recording, at least part of the final version should be played back to check the technical quality. This is also a good opportunity to do any minor editing that may be necessary to tidy up the programme. Usually, the audio material will have been timed (at least approximately) during the recording. However, if there is time at the end of the session (and if the programme is fairly short), then it's a good idea to use the opportunity to take an accurate timing of the final version.

Post-production editing

Even after a carefully prepared, well organised and efficiently managed studio session, some further editing may be necessary. There are several reasons why this may happen:

- It's often difficult to predict or keep exact timings for complex studio productions. So the programme may over-run, and need to be made shorter to fit the time-slot available.
- Often, the effectiveness of the presentation can be improved by further editing – e.g. by making some of the pauses longer or shorter, or by editing out repetitions which prove unnecessary when you hear the whole programme.
- Sometimes, despite the best efforts of the producer, audio tutor and subject specialist, errors are made in presenting the script, which can be corrected by judicious editing.

Three main reasons for post-production editing

- To ensure the radio or audio cassette material is of the right length
- To improve the audibility and educational effectiveness of a programme
- To correct any errors that may have been missed during script editing or studio recording

However, too much reliance on post-production editing should be avoided – for the following reasons:

- Because it's time-consuming;
- Because there are limits to the improvement you can make by editing
- Because it suggests that the planning, preparation, presentation and production of the programme could be improved

If it is possible to get the audio material right during the final studio recording session, so much the better!

Review and formal approval

In many distance and open learning institutions, audio and other materials are subject to a process of review and formal approval before they can be made public and distributed to students. This process is sometimes carried out by the course team or by the department responsible for the course. Sometimes it is the responsibility of a specially appointed body within the institution – e.g. a Course Approval Committee which has to review and approve all new courses produced by the institution.

Whatever the composition of the review body, it usually has three main functions:

- **Editorial review –** to consider and comment on the content and presentation of the audio and support material; to ensure that they are accurate, up-to-date, accessible and at an appropriate level; and to suggest ways in which the quality of the materials might be improved.
- **Professional review –** to consider and comment on the educational and professional standards of the material; to check that they conform to the highest standards of professional practice in distance/open learning media production; and to advise on how the production and presentation of the material might be improved.
- **Technical review –** to consider and comment on the technical standards and quality of the material; to check on the clarity and audibility of the sound and on the design of the supporting printed/visual material; and to suggest ways in which technical procedures, practices, standards and quality might be improved.

It is clear from the range of functions outlined above that the review body needs to have a broadly representative and professionally experienced membership. It would normally consist of:

- One or more senior subject specialists, with substantial knowledge and experience of the subject matter being taught
- One or more senior staff from the media production departments – with knowledge and experience of audio and the other media being used
- One or more representatives of the course team responsible for the planning, development and production of the material

In addition, the review body would benefit from the services of an independent chairperson – probably a senior figure within the institution, but without direct involvement in the departments producing the materials.

A number of options are open to the review body:

- It can approve the audio and supporting print materials
- It can approve the material, subject to certain conditions
- It can approve the material, with recommendations for future action
- It can reject the material, and insist that it either be dropped or re-made

In most cases, provided the materials have been carefully planned, developed and produced, the resulting audio and print package is likely to be approved. However, the decision of the review committee is not the only matter of interest. Its comments and observations can also be of interest and value, particularly in guiding the development and production of future audio and support materials. In this sense, the review procedure can usefully be seen as part of the formative evaluation process.

In those (hopefully) rare cases where audio material is rejected by the review committee, the production team clearly has a serious problem. Re-making audio and its supporting materials is costly and time-consuming. It also plays havoc with budgets and production schedules. For this reason, in planning the development and production of audio, it is important to build in contingency factors, both in terms of staff time and budgetary allocations. We shall return to this question when we consider scheduling below.

In the case of radio, once the programme has been formally approved, it is ready for storing prior to transmission and student use; though it may also be necessary to draft continuity announcements for the transmitting radio station. However, in the case of audio cassettes, two further stages need to be completed before the students can use the material – copying and packaging, and storage and distribution.

Copying and packaging cassettes

There are two main ways in which multiple cassette copies can be made from the master open-reel tape that emerges from the final studio recording session:

- If an education institution or a local commercial enterprise has invested in appropriate equipment, multiple cassette copies can be produced directly from the open-reel master tape. This produces high quality copies at high speed. But the substantial investment in the equipment is only justified if very large numbers of cassettes are to be produced.
- However, it is more common, particularly if smaller numbers of cassettes are required, to produce first a master cassette copy from

the studio master tape; and then to use this as the original for high-speed multi-copying on more modestly priced equipment. This produces slightly less good quality copies; but they are generally of an acceptable standard, particularly if most of the material on the cassettes is speech-based.

Institutions and projects need to decide which of these two methods to adopt. In either case, there are some general guidelines that can be adopted in relation to the copying and packaging of audio cassettes.

Some guidelines on copying and packaging audio cassettes

- It is important to use good quality cassettes produced by reputable manufacturers –in terms both of the quality of the tape and of the cassette mechanism.
- C60 and C90 cassettes (giving 60 and 90 minutes of playback time) are probably the best to use. The tape on C120 cassettes (two hours of recording) is too thin for repeated use, and likely to twist and break.
- It is worth using the more expensive chrome oxide (Type II) tape for master cassette copies. But the cheaper 'Normal' (Type I) tape is generally acceptable for student copies.
- Dolby NR (noise reduction) should not be used in copying, since many students will not have this facility on their cassette players, and using Dolby will result in increased 'tape hiss' when they are listening to the cassette.
- It is important to sample and check the quality of the cassettes regularly during the high-speed multi-copying process.
- Also, make sure that the cassette copying equipment is regularly serviced and maintained. This applies especially to the cleaning and de-magnetising of the recording heads on the cassette copier.
- Once sufficient cassette copies have been made, then they need to be adequately and accurately labeled. Information can either be printed directly onto both sides of the cassette, or printed on specially designed labels that are attached to the cassette. In either case, provided sufficient information is given, this makes it unnecessary to produce printed inlay cards and the cassettes can be distributed in clear plastic boxes.

- The following basic information needs to go on the cassette: the name of the institution or project, the title of the course and/or programme of studies, and (if there is more than one cassette for a course) its number in the sequence. It's also important to label the sides of the cassette (usually A and B) and it may be helpful to indicate what material is on each side.
- A typical cassette label might look something like this one suggested for the Bangladesh Open University

Bangladesh Open University
School of Social Science, Language and Humanities
Bachelor in English Language Teaching (BELT)

Cassette 1 Side A

ELB 1503 – English Language Teaching and Learning
[Further information – e.g. Module Number and Title]
© BOU, 1997

Storage and distribution to students

When the cassettes have been copied and labeled, they should then be stored in a relatively cool, dry and clean place, ready for collating and joining up with any other materials that form part of a course – e.g. audio notes, printed study texts etc. - ready for distribution to students.

In some institutions and projects, the binding/packaging of printed materials is done in such a way that audio cassettes can easily and conveniently be included with the print. One way of doing this is by incorporating a plastic envelope (for the cassettes) in the cover of the printed material. Another is to enclose the cassettes in a folder or box that also contains the printed materials.

Audio cassettes can be distributed in a variety of ways, depending on local circumstances. Whether they form part of a larger learning package, or whether they stand on their own, they will probably take one of the following routes:

- They can be distributed by post to the individual students.
- Alternatively, if the postal service is regarded as slow or unreliable, or if it is not accessible to some students, or if the package of learning materials is unusually large, a courier service might be used.

- In some cases, particularly in larger organisations, materials are sent to regional centres and then on to local study centres, where they are collected by students, either on a pre-arranged date or when they are attending one of their regular tutorial sessions.
- Another method is for tutors or study group leaders to collect the materials at one of their induction or training sessions and then to pass them on to their students when they return home.
- And in some cases, students collect their materials from the headquarters or regional centres when they attend weekend courses, residential schools or examination sessions.

All of these methods can work effectively. What's important is to find one that works well and reliably for your students in your own local situation – and at a price which you and your students can afford.

However, even in the best designed systems, it's inevitable that some audio cassettes (as with other materials) will get lost, damaged or stolen. Audio cassettes are perhaps particularly vulnerable, since they can easily become detached from their accompanying printed materials. They can also be damaged by poor quality cassette players. And – unlike most other learning materials – they also have commercial value, in that they can usually be re-used for other purposes, most commonly music recording.

Three main consequences follow from this:

- First, in estimating the number of cassettes needed, in addition to those required for students, tutors and institutional use, a percentage (perhaps 5%?) should be added to cover wastage – e.g. accidental damage or loss, or (very rarely we hope!) theft.
- Secondly, before distributing the cassettes, the appropriate plastic 'tabs' should be removed, to prevent accidental (or intentional!) re-recording – except in specific circumstances, when you want to encourage the students to re-record on the cassettes, e.g. to practise language skills, undertake assignments or provide feedback on some aspect of a course.
- Third, sets of replacement tapes should be held centrally, or at regional or local centres, which could be provided to tutors and registered students (perhaps for a nominal charge, or at cost price) if and when they need them.

One final question arises – namely, whether an institution or project should attempt to recover and re-use audio cassettes, once students have completed their courses. An economic argument could possibly be made for this in terms of cost savings. However, a stronger counter-case could probably be made, in terms of the administrative costs of recovery, checking and re-using audio tapes, and the inherent dangers

to audio quality in such a procedure. It therefore makes more sense to build the costs of the audio cassettes into the overall cost of producing course materials, and allow the students to keep their audio cassettes – along with the printed materials – as a (hopefully welcome) reminder of their time as a student.

Scheduling development and production

Now that we have reviewed the main stages of the development and production process, we can turn to the question of scheduling, and also complete the series outline discussed in the previous chapter.

- How long will development and production take?
- Over what time period should the activity be spread?
- When should the process start?

Scheduling is a topic on which it is difficult to generalise. It depends on a number of factors, including the following:

- The number of subject specialists and producers involved, their motivation, energy and experience, and the resources and facilities available to them
- The amount, nature and complexity of the audio and support material being produced
- Whether the audio component is to be transmitted on radio or distributed on audio cassettes
- The extent to which the audio materials are integrated with other distance education media – e.g. printed texts, TV/video etc.

However, there are a few general statements about scheduling we can make with some degree of confidence.

- We can make rough estimates of the amount of time it will usually take subject specialists and producers to develop and produce different types of audio material with printed support.
- We can also usually determine two key dates: (a) the latest date by which radio programmes have to be transmitted or audio cassettes have to be distributed to students; and (b) the earliest date we can start work on developing the materials. These dates will give us the limits within which we can design our schedules.
- We also know that complex programmes take longer to produce than simple programmes; and that the greater the level of

integration between audio and other media, the longer the development and production process is likely to take.

Armed with this information, we can now begin to look more closely at scheduling.

How long does development and production take?

One way of approaching this question is to take the ten development and production tasks we identified above, and make a rough estimate of how long each task is likely to take – building in a reasonable allowance for unanticipated delays and contingencies. Assuming that an overall plan for the series (series outline) has been prepared, we can make rough estimates of the time required as follows:

- Preparing detailed programme outlines (say half a working day)
- Researching content and contributors (say one day)
- Commissioning and collecting materials (say two days)
- Compiling audio and print materials (say one to two days)
- Drafting presentation script (say one to two days)
- Rehearsal and recording in the studio (say half a day)
- Post-production editing (say half a day)
- Review and formal approval (say half a day)
- Copying and packaging cassettes (usually no course team time needed)
- Storage and distribution to students (usually no course team time needed)

That adds up roughly to about seven to nine working days for one radio or audio cassette programme, plus printed support material. Of course, not all programmes will take the same amount of time. As we suggested earlier, a simple 15 minute scripted talk will usually be quicker to produce than a complex 20-30 minute documentary or magazine programme. Also, experienced subject specialists and producers will usually work faster than new ones.

Implications for scheduling

What these estimates mean, in effect, is that for fairly simple 15-20 minute audio programmes, with straightforward support material, you should probably allow about one working week (five working days).

For more complex audio material, requiring a lot of location recording and tape editing, or more elaborate support material, you should probably allow up to two working weeks.

In addition, you should probably add on some time for unforeseen delays – e.g. unavailability of contributors, sickness, family and other commitments.

Simpler programmes can usually be produced in sequence – with subject specialists and producers completing one programme before going on to the next.

More complex programmes tend to take longer to set up and produce, with the work being spread over a longer period. As a result, for more complex programmes, subject specialists and producers often find themselves working on more than one programme at a time, with each programme at a different stage of development.

When should development and production start?

We suggested earlier that there are two key dates which set the limits within which we can prepare development and production schedules:

- The radio transmission date or the date by which audio cassettes have to be distributed to students. This defines the end point of the schedule. It is the last date by which audio production has to be completed.
- The earliest date on which it is possible for you to start work on developing the audio and support materials – often defined by progress on the printed component of a course, by the completion of the audio series outline or by freedom from other commitments.

By definition, the development and production process must take place within the time-frame prescribed by these two dates. The end-date – when the audio material has to reach the students – is usually easy to determine. However, exactly when development and production needs to start will depend on a number of other factors. We can illustrate this

through a series of examples – starting with a simple example and then making the situation more complicated.

Basic guidelines for scheduling

- Start from the date by which the audio material has to reach the students.
- Estimate how long it will take to produce the audio and supporting print.
- Work backwards from the distribution date, to establish the **latest** date by which you have to start work on the programmes.
- Look at audio's relationship to other media, and any other relevant factors, to decide the **earliest** date by which you can start production.
- Design a schedule which allows you to deliver the audio material on time, and which starts as early as is practically possible.

Example 1: A simple radio series

Assume you are working on a fairly simple radio series, consisting of 24 x 15-minute weekly radio programmes. The programmes are designed to provide tutorial support for a formal course. The printed text for the course has already been produced; and there are no special notes to accompany the radio programmes.

How long before transmission would you need to start work on developing and producing the radio programmes?

In theory, you could develop and produce each of these programmes in the week before transmission. This is because:

- They are fairly simple programmes
- The printed materials which they support have already been produced
- There are no special notes to accompany the series

However, such a schedule would be a bit risky. It doesn't allow any time for contingencies – sickness, equipment failure, transport problems etc.

It would be safer to complete the production of each programme at least two or three weeks before transmission. If you wanted to, you could of course produce the programmes even earlier; though this would limit your scope for including up-to-date news and information in the programmes.

Example 2: Simple audio cassette material

Now take the same example – 24 x 15 minutes of audio, providing tutorial support for a formal course, with the printed text already available. But this time, assume you are distributing the material on cassette.

> What would be the implications of the shift from radio to audio cassettes for the scheduling of the development and production of the material?

Instead of producing 24 x 15-minute weekly radio programmes, you will be producing either six C60 or four C90 cassettes (360 minutes of audio). The production process will still take 24 weeks. To this, you should probably add on a further three or four weeks for contingencies.

In addition, you'll need extra time for multi-copying, labeling and packaging the cassettes. You'll also need to allow time for combining them with the printed materials and dispatch to students – say another four to six weeks? That means that the total development, production and distribution time will be 31-34 weeks. So the process must start at least seven or eight months before the students are due to begin their work on the course.

It would of course be possible to send the materials to students in batches – for instance, two batches of twelve weeks work, or three covering eight weeks each. This would not affect the time required for production; but it would mean you could start the production schedule later. You could be working on the second or third batch of cassettes while students were using the first batch. However, you would also have to take into account that this would involve the institution in additional dispatch costs – which could be substantial if large numbers of students were enrolled.

Example 3: A more complex illustration

Assume you are still dealing with a 24-week course. But now the course team has decided – at the series planning stage – to use audio in a more demanding way. It is still planning to provide on average 15 minutes of audio material per week. But it is proposed that:

- Audio will draw on a wide range of forms and formats (talks, interviews, actuality, drama); that most of the material will be recorded on location and need editing; and that the material will be presented by an audio tutor.
- The audio will be closely integrated with the printed text for the course – which will include preparation for listening, illustrations and exercises for use with the audio and suggested follow-up activities.
- The audio material will be on four C90 cassettes which will be delivered to students with the printed text at least one month before the course is due to start.

So far, work on the printed text for the course has not started. But it is expected to take about two years to plan, write, edit, produce and distribute the printed materials to students - with the time roughly allocated (by months) as follows:

Months 1-3	**Months 4-6**	**Months 7-9**	**Months 10-12**	**Months 13-15**	**Months 16-18**	**Months 19-21**	**Month 22**	**Months 23-24**
Plan and comm-ission	Write first drafts	Review first drafts	Write second drafts	Review and revise second drafts	Prepare final version	Produce printed material	Delivery to students	2 months contin-gency

Given the situation outlined above, what sort of schedule would be needed for the development and production of the audio materials for the course? When should the process start? And how should it proceed? How will the work on audio materials relate to that on the printed text?

There is no 'correct' schedule for this type of planning activity. Several possible approaches could be adopted. The purpose of the example is to get you thinking about what is involved in scheduling, and the sort of issues faced by distance educators in a fairly realistic situation. What follows is one approach to developing a schedule for this type of situation. You might be able to suggest alternative (and better) approaches.

First, we know that the audio material needs to reach the students, together with the print, at least a month before they are due to start studying. This gives you your starting point. Now work backwards from that.

As with the print, you will need a month for delivery to students. And it would also make sense to build in a two-month contingency period. In addition, you will need another, say, one month for multi-copying, labeling and packaging, and combining the cassettes with the printed materials. So that means you should aim to complete audio production at least five months before the students are supposed to start studying, though that includes the two months contingency time we have built in.

So how long should you allow for the development and production of the audio material? We know that the audio material is more complex than that in the earlier examples. It uses a wider range of forms and is closely integrated with the printed material. So development and production is likely to take longer.

Let's assume that each 15-minute audio segment will take on average about one-and-a-half weeks – i.e. 7-8 working days. That means that producing the audio and supporting print material would take about 36 working weeks (24 x 1.5 days) or about eight-and-a-half months. So development and production work must start at least 13.5 months (5 + 8.5) before the students are due to start using the materials – or just over a year before they receive them.

So if that is the **latest** date by which development and production has to start, what is the **earliest** starting date that is possible? We know that the audio and print materials are to be closely integrated. This means that the initial planning of the audio can (and should) start at the same time as the initial planning and commissioning of print – i.e. about a year earlier than the latest date by which audio development and production has to start.

Once the initial joint planning of the print and audio has been completed, it will then be possible to go on to development work on the audio material – preparing detailed outlines, selecting contributors, writing and collecting insert material, preparing the accompanying visuals, and so on.

However, given the close integration of audio and print, it would probably be unwise to start finalising audio scripts and recording final versions of the audio material until the main teaching text has at least reached its second draft stage – e.g. months 13-15 (review and revision of second drafts) in the print schedule above, or even better months 16-18 (preparing final versions). In this way, it will be possible to make accurate and precise cross-references between the audio and printed materials.

What this suggests is that, if audio and print are to be closely integrated, we need to develop an audio development and production schedule which is closely linked to that for the printed materials. One possible pattern might be as follows:

PRINT								
Months 1-3	**Months 4-6**	**Months 7-9**	**Months 10-12**	**Months 13-15**	**Months 16-18**	**Months 19-21**	**Month 22**	**Months 23-24**
Joint planning print and audio	Write first drafts	Review first drafts	Write second drafts	Review and revise second drafts	Prepare final version	Produce printed material	Delivery to students	2 months contin-gency

Prepare detailed audio outlines	Identify and select contrib-utors etc.	Develop insert material	Develop insert material	Select, edit and order inserts	Finalise studio scripts and visuals	Final record-ing and copying	Deliver to students	2 months contin-gency
Months 1-3	**Months 4-6**	**Months 7-9**	**Months 10-12**	**Months 13-15**	**Months 16-18**	**Months 19-21**	**Month 22**	**Months 23-24**
AUDIO								

There are several important points to note about this type of integrated scheduling:

- The planning of audio is integrated with that of the printed materials right from the start.
- The development and production process for audio is phased – first planning for the whole audio series; then development of insert materials; and then finally presentation script and studio recording. Further detailed schedules will be needed for each of these phases.
- The development process for print usually takes longer than that for audio. In the early part of the schedule (e.g. months 7-12) audio can be developed at a fairly leisurely pace. Later in the schedule (e.g. 16-20) audio activity is much more intensive.

In addition, once you've mastered the idea of scheduling, you should be equipped to go back and complete the scheduling item in the general series outline which we discussed in the previous chapter. On the two remaining headings, there's more on resources in the chapters which follow, and monitoring and evaluation will be dealt with in the final chapter.

Checklist on the development and production of audio

By the end of this chapter:

- You should have a clear idea of the roles and responsibilities of subject specialists and producers in the development and production of audio for distance and open learning.
- You should also be aware of the main tasks involved in the development and production of audio, the type of activities they cover, and some of the main questions and issues to which they give rise.
- In addition, you should be able to use this knowledge to work out realistic and practical schedules for the development and production of audio materials for distance education and open learning students.

However, knowing about the development and production process is not the same as being able to accomplish the tasks which it involves. To do so, you need to acquire a range of practical skills. We introduce some of the basic skills involved in audio in the next four chapters.

Chapter 4

PRACTICAL SKILLS – TALKS, INTERVIEWS AND DISCUSSIONS

Introduction

This is the first of four chapters which introduce some of the main practical skills needed for the development and production of radio programmes and audio cassettes for distance and open learning. This chapter deals with:

- Planning and writing scripted talks
- Presenting talks at the microphone
- Briefing and supporting script writers
- Planning and conducting interviews
- Arranging and chairing discussions

The next chapter (Chapter 5) will go on to discuss the skills involved in:

- Recording interviews on location
- Editing audio material for studio use

Chapters 6 and 7 look at the planning and production of the following types of audio material:

- Documentary and feature programmes
- Magazine programmes
- Scripted and improvised drama
- Music for distance and open learning

Not everyone involved in preparing and producing audio for distance and open learning will need to acquire all the skills discussed in these two chapters. Some of the tasks will be mainly the responsibility of subject specialists; others will largely be carried out by audio producers. But most will be undertaken jointly; and will involve close collaboration between subject specialists and producers. For this reason, it is important for all those involved in developing and

producing audio to have a basic understanding and appreciation of the essential skills and professional practices involved in the process.

It is also important to recognise that these skills cannot be acquired simply by reading about them in a handbook like this. The development of skills comes through practice. What you will get from this chapter is a starting point – or if you are already experienced, a reminder – of the basic skills involved in audio development and production.

To develop and improve these skills, you need to put them into practice – writing scripts, conducting interviews, preparing documentary programmes and audio drama. And the practice needs to be self-critical. You need to review what you have done, and see how it can be improved. Practice may not make perfect: but it is essential to developing and improving your skills.

Planning and writing scripted talks

The scripted talk is a basic audio form. If well written and effectively presented, it is a very useful way of communicating information, experience and advice to students. If poorly written and badly presented, it can be difficult to follow, hard to understand, boring to listen to, and discouraging to the students. The suggestions that follow are intended to help you communicate clearly and effectively through the scripted talk.

There are two main ways of trying to help people write good talks. The first is to provide a set of rules to follow; the second is to try to help people understand the nature of the communication process in which they are involved. The second approach is adopted here. If you understand what you are doing when you write a talk, recognising and applying the rules will follow naturally.

Comparing print and audio

Perhaps the easiest way of approaching audio script writing is to compare what is happening when you communicate through print with the process of communicating through audio.

Print

When you communicate in writing, the readers can control the way they use the material. They can first skim it to get a general idea of the content and structure. They can then read it quickly or slowly, depending on how interested they are or how difficult they find the subject matter. If they don't understand something, they can go back and read it again; and they can do so as often as they like. And because print is a visual medium, you can help them navigate their

way around the text by using devices such as a table of contents, headings, icons, paragraphs and punctuation.

Audio
Audio is not a visual medium. Listeners can't move around radio programmes, or even audio cassettes, in the way they do with print. They can't easily skim ahead to see what's coming. They can't speed up or slow down the presentation. Nor do they have the visual clues to help them follow the sequence and structure of the material. All of these elements have to be built into the writing and presentation of the audio script. The scriptwriter has to present the material in such a way that it can be easily followed and understood by students the first time they hear it. Listening is different from reading. And 'writing for the ear' is different from writing for the eye.

Writing for the ear

The comparison outlined above has a number of implications for the drafting of scripted talks:

- At the beginning of the talk, you need to tell the student, not only what it is about and what they will learn from it, but also how the material is organised and structured. You need to give them a verbal map – to help them follow the material you are presenting to them.
- As you proceed through the talk, you need to give your listeners frequent signposts, so that they know where they are, where they have been, and where they are going. As you make each main point, you need to repeat and reinforce it, and make a clear link to the next stage of your presentation. Don't be afraid of planned repetition and cumulative reinforcement: it helps your students follow and understand what you are saying to them.
- You should also consider whether a visual presentation of the main points – e.g. through key words or diagrams presented in the main course text or audio notes – would help the students concentrate on what they are listening to, follow it more closely and understand it better.
- Remember too, that although you will be writing the script, its purpose is to help you **talk** to your students. Audio tends to be a more informal medium than print. The script is not a formal document to be read; but rather an aide-memoire to help you talk to your students in a natural, friendly and conversational way.

The script writing process

So how should you set about writing a good talk?

- First, be aware of your audience. Know who you are talking to. Have a picture of them in your mind. What assumptions can you make about them? Why are they listening? What do they know already? What do they want and need to learn? What level and style of language will be appropriate? What sort of examples and illustrations will be relevant to them?
- Secondly, be clear about what you want to say and why you want to say it. Set yourself clear objectives for the talk. How do you want your students to benefit from it? What do you want them to learn? How will the talk fit in with the rest of their course materials?
- Third, make a note of the main points you want to cover and arrange them in a logical order. Don't try to cover too much in the talk. It is better to deal thoroughly with two or three points than to cover a larger number of items superficially. Keep your talk fairly short. You can cover a lot of ground in five minutes. It is difficult for most people to hold the interest and concentrated attention of even the best motivated students for as long as ten or 15 minutes.
- Next, when you have outlined the content in note form, ask yourself whether a visual aid would help focus the students' attention. (Imagine you were covering the same material in a conventional classroom. What would you put on the blackboard to help students follow your presentation? Could you include this visual information in the course text or in audio notes?) If so, prepare these visuals first, before you start drafting the talk. Keep the visuals simple, direct and uncluttered.
- Now you can start to draft your script. Imagine you are having an individual tutorial with an intelligent and well motivated student. How would you **talk** your way through the points you want to make? If you are using visuals, have them in front of you as you draft the script. Say **out loud** what you would say to the student in a face-to-face situation. Then write it down. Try to capture the natural way you talk as you write the script. Keep it direct, informal and conversational. Say it first – preferably out loud – then write it down.
- At this stage, remember the importance of structure. For your talk to be effective, you will need:

    - a clear introduction – telling the students what the talk is about, what they will learn from it, how it relates to their other learning materials and how the subject matter is organised and structured;

  - a well-structured middle section – which takes the student step-by-step through the material, with regular signposts, planned repetition of key points – both for emphasis and to make sure they are understood – and cumulative reinforcement;
  - a brief concluding section – which draws out and underlines the main messages, reminds students of how they can apply the knowledge and/or practise the skills you have been dealing with, and leads them on to the next stage of their studies.

- Some people find it helpful to use a tape recorder when drafting a scripted talk – recording the talk first, and then using the tape as an aid to writing the script. If this method appeals to you, try it out, and see if it works. Each scriptwriter needs to find an individual way of working that suits their own style and produces the best results.
- When you have drafted your script, try it out on a friend or colleague, or preferably on the audio producer you're working with. Ask them to put themselves in the position of the student and listen to the talk as you read it through to them.

  - Is the purpose of the talk clear?
  - Is the language and style appropriate?
  - Are there sufficient practical examples and illustrations?
  - Can they follow what you are saying easily?
  - Do the main points come out clearly?
  - How could the talk be improved?

  You will usually find that just by reading the script out loud, you will think of ways of improving it. But an extra pair of ears can also be helpful. Be open to other people's comments and constructive criticism. Remember, the aim is to improve the effectiveness of your communication to the student.
- Lastly, when you have finalised the script, read through it again and check the duration. If you find the script is too short for the time-slot you have been given, ask yourself whether there are extra examples or illustrations that your students would find useful. If the script is too long – as will probably be more often the case – look for a complete section to cut. It is usually better to drop one topic or part of the subject matter, than to cut down on the introduction, signposting, planned repetition, or concluding section.

Incidentally, in English, a good audio talk is usually delivered at about 130-140 words a minute. So a five-minute talk will be about 650-700 words. If you are working in a language other than English, you would probably find it useful to work out a similar words-per-

minute rate. Once you have this figure, you can use it to estimate the duration of written scripts.

Checklist on drafting scripted talks

- Be aware of your audience
- Be clear about what you want to say and why
- Make a plan of the main points
- Decide if a visual aid would help – if so, prepare it first
- Start writing – say it first, then write it down
- Read the script to a friend, colleague or producer – make improvements
- Check the duration against the time-slot available – adjust accordingly

Presenting scripted talks at the microphone

Drafting the script is only the first stage in developing a talk for audio. Once you have written the script, you need to present it at the microphone. Good presentation cannot make up for a poorly written script. But a well written script can be ruined by poor delivery at the microphone.

Laying out the script

The first thing you need for good microphone presentation is a well laid out script which you can read easily and confidently in the studio. Your script should therefore be:

- Word-processed, typed or written out clearly – so that you, your producer and the studio technician don't have to struggle to read it
- On one side of good quality paper – so that you don't make unnecessary noise when turning pages
- Double- or triple-spaced – so that when you read it you can move easily from one line to the next, and you also have space to write in any corrections you want to make during the rehearsal
- With each page ending on a full stop (end of a sentence or ideally a paragraph) – so that when you move from one page to the next, you can do so with a natural pause

- With wide margins – so that there is room for the producer and technician to write in production or technical notes during the rehearsal or recording
- And with the pages clearly numbered for easy of reference

Once the final script has been completed, you need to make at least three or four copies. In addition to your own copy, you'll certainly need copies for the producer and technician, and you might also need copies for colleagues or members of the course team

Script layout in brief

- Use good quality paper
- Word-process, type or write clearly
- Single-sided, double- or triple-spaced
- Wide margins
- End each page on a full stop
- Number the pages

Marking up the script

When you read a script at the microphone, you will be using your voice to bring out the meaning of the words on the page. To convey your meaning clearly, you will need to stress key words and phrases, to pause at various times in your delivery, and to vary the rhythm and pace of your voice. The more effectively you can use your voice, the better you will communicate, and the easier it will be to hold the interest and attention of your audience.

The most important thing in achieving good delivery is that you understand, care about and concentrate on the **meaning** of what you are saying. If the meaning is clear in your mind, and you are concentrating on communicating it effectively, the emphases, pauses, rhythm and pace of your delivery will emerge naturally.

However, some people are nervous at the microphone, especially if they are new to recording; and this can affect their concentration. And even experienced broadcasters sometimes find it difficult to sustain their concentration in a long or difficult script. For this reason, many people find it useful to 'mark up' their scripts, as an aid to concentration and as a way of improving their delivery.

There are two main marks that you might find particularly useful:

- You can underline key words or phrases, to show that you need to emphasise them, to bring out the meaning of a sentence
- You can use a slash or oblique (/) to indicate a pause, or a double-slash (//) to suggest a longer pause

Also, some people find it useful to include directions in the text – e.g. (PAUSE) or (REPEAT); or to make notes on delivery in the margins – e.g. 'Important Point!' or 'Emphasise!'. Personally, I don't find this particularly helpful. I think it's better to rely on your understanding of the text to know what is especially important and what needs to be emphasised. But I do find it useful to spell out phonetically words that I think I may have difficulty in pronouncing.

However, be careful not to over-use these techniques. If you have too many words or phrases underlined, or too many pauses marked (/), they begin to lose their meaning. And too many notes in the text or margins can distract your attention from the main content of the script. Use script-marking sparingly. Reserve it for parts of the script where getting the emphasis or pauses right is particularly important. Remember / concentrating on the meaning / is the best guarantee of success.

Getting the words off the page

Once you have read through, checked and marked up the script, you are ready to go on to rehearsal and recording.

Rehearsal

Rehearsal is very important. It gives you a chance to practise delivering your script in front of the microphone. It also helps you to relax and get used to hearing the sound of your own voice in the studio. During the rehearsal, the producer will listen to your delivery, and offer advice and guidance on how you can improve your performance.

Initially, most people – particularly if they are a bit nervous – tend to read scripts much too quickly. Usually, one of the producer's first jobs is to slow down your delivery. Slowing down the delivery has two advantages:

- First, it gives the students time to take in what you are saying to them.
- Secondly, it allows you to use the richness and range of your voice to bring out the meaning of what you are saying and to make your presentation more interesting and involving.

Don't be afraid of slowing down your delivery and using strategically placed pauses. It may sound very slow to you: but from the listener's point of view, it simply makes your talk more accessible and easier to follow.

Once you have got the pace right, then you can concentrate on the expression. Audio is essentially a very intimate medium. Although thousands of people may hear your voice, in fact you are normally speaking to them as individuals. The basic style of audio is therefore conversational – as if you were having a one-to-one conversation with an individual. However, since your listener can't see you, and has to rely only on your voice, your conversational style needs to be slightly heightened – i.e. you need to use your voice a bit more expressively than you would in a normal face-to-face conversation.

So how will you know when you have got the pace and expression right? This is perhaps a less difficult question than it seems. Most people know when they have got it right, because it feels right. You begin to feel that you are no longer reading a script, but actually talking to your students. This depends partly on how well the script is written – i.e. whether you have managed to capture the way you normally speak in the script. But it also depends on how well you are 'getting the words off the page' – i.e. whether the script has ceased to be a formal document you are reading and become a vehicle for talking to your students in a direct and personal way.

Once you get to this point, it's time to move on from rehearsal to recording. It is important not to over-rehearse a scripted talk. When you and the producer are satisfied that you are delivering the script to the best of your ability, then it is time to record. Over-rehearsal leads to staleness and frustration. After a certain point, instead of improving, the performance starts to get worse. One of the skills of a good producer is to be able to judge when this point is about to be reached.

Recording

If rehearsal has gone well, the recording should be straightforward. A good rehearsal will give you (and the producer) confidence. You will be familiar with the script. You may have made some marginal adjustments to improve it. And you can be relaxed in the knowledge that you have got the pace and expression about right.

Some people find it useful when rehearsing and recording to imagine one of their students sitting opposite them. Others find their presentation improves if they actually have someone in the studio with them – a person to whom they can **talk** the script, rather than read it. This is a matter of personal style and preference. Whatever produces the best performance is worth trying.

If the script is fairly short, most producers will record it in one go. If it is longer, the producer may decide to record it in sections. Whether the script is long or short, concentration is essential. When you are recording, you have a lot to concentrate on.

- First and foremost is the **meaning** of what you are saying: if you know exactly what you want to say, you'll probably say it well.
- But at the same time, you need to be aware of how you are using your voice. You need to vary your voice; make use of emphasis and pauses; keep it lively and interesting. If you begin to sound bored, you will soon begin to bore your listeners.

Still, however good your concentration, you will occasionally make mistakes. You may misread a word, stumble over a phrase, get the emphasis wrong in a sentence, or misjudge a pause. Don't worry about this. Even the most experienced of broadcasters make mistakes. This is something your producer will be listening out for. If he or she spots a mistake, they will usually stop the recording, and ask you to re-record the section.

But even producers are not perfect. Occasionally their concentration will lapse, and they may not always spot the error. However, if you make a mistake, you will usually be aware of it. You need to agree with your producer how to deal with this situation.

- If the producer is in a position to edit the tape (either by cutting or electronically – for more on this, see below), all you need to do is pause for a moment, go back to the beginning of the sentence or paragraph, and read it again. Later, the producer can edit out the mistake, and leave in the corrected version.
- Alternatively, if tape editing is not possible, you may need to pause for a little longer (while the technician re-winds the tape) and then record the section again, on a signal from the producer, from an agreed point in the script.

Either way, audio has the great advantage of easy editing – allowing you to deliver the script exactly as you want to. The relatively simple technology makes it possible to aim for and achieve the highest standards in scripted talks and other audio materials.

Getting the words off the page – a quick guide

- Mark up the script as an aid to concentration
- But don't overdo it, or the marks will lose their significance
- Concentrate first on meaning, then on presentation
- Always rehearse in the studio before recording
- Use the rehearsal to relax and improve your performance
- Develop a lively conversational style – talking to one listener
- Slow down – if you go too fast, you can't use your voice effectively
- Pauses and emphasis will make your meaning clear
- Don't be afraid of making mistakes – editing is easy in audio
- Keep up your concentration to the end – keep it lively and interesting

Briefing and supporting script writers

So far, we have been assuming that you will be writing and presenting the scripted talk yourself. But very often subject specialists and producers will be commissioning outside experts to prepare scripted talks for audio material. In this situation, most of the advice in the two previous sections still applies, but it will need to be mediated, through either a subject specialist or an audio producer. In either case, the suggestions below may be of value.

Selection

Make sure that you choose an expert who is authoritative, articulate and available. Be ambitious – aim for the best person you can find. But be careful – satisfy yourself that the person you choose is willing and able to invest the time and effort required to produce a good scripted talk.

Briefing

Once a suitable speaker has agreed in principle to write and present a talk, it's important to provide an adequate briefing. You will need to explain to them:

- Who the talk is intended for
- What you want to achieve through it
- What content the talk needs to cover
- What context it will be used in
- How long the talk should be (number of words)
- When you need the final draft, and when you plan to record
- Whether any payment is involved and if so how much
- How and when the talk will be delivered to the students.

Contracting

Once you have the contributor's agreement to the items above, you should issue a formal contract or letter of agreement covering the work, and including the main points on which you have agreed. This may seem unnecessarily formal. But a clear agreement at this stage can save you all sorts of problems later, and also protect the quality of your audio material.

Agreeing an outline

Before the contributor starts writing, it usually makes sense to agree on a detailed outline for the talk. This should indicate the main topics to be covered, the order in which they will be dealt with, and any support material and student activities that would be useful.

Support

Depending on their experience and skills, contributors may need more or less support in the preparation of scripted talks. For the relatively inexperienced, you may need to brief them in some detail about what is involved in writing a script for audio. This is a task which often requires a good deal of sensitivity and tact, particularly if you are dealing with high status people. Nevertheless, it is important that you should do it, in the interests of your students. Just because someone is in a senior position, it does not necessarily mean that they know how to write and deliver an effective script.

Discussing the draft

When writers produce a first draft of a talk, get them to read it through to you, as if they were in the studio. Listen carefully – and ask yourself:

- What does it sound like?
- Has it got a good opening?
- Are the main sections clear?
- Do they flow naturally from one to the next?
- Are the main points emphasised and reinforced?
- Is the language appropriate to the audience?
- Are there sufficient examples and illustrations?
- Does it sound informal and conversational?
- Can you follow the talk easily?
- Does it cover the subject adequately?
- Are the conclusions clear and relevant?
- Is it about the right duration?

Go through the script carefully with the writer. Offer encouragement, advice and guidance as appropriate; and discuss ways in which the script can be improved. If something **sounds** wrong in the script – if it is unclear, awkward or uncomfortable – ask the writer, 'What exactly are you trying to say here?'. The answer to this question will usually give you the exact words you need for the script.

Unless time is very short, do not re-write the script for your contributor. Let the writers revise scripts for themselves. In this way, they will develop their skills, and also maintain 'ownership' of the script, which will be important when they get to the studio. Encourage them to prepare a second draft, and if necessary go through it again in the same way.

Rehearsal and recording in the studio

The conventions for setting out and marking up the script, and the disciplines of rehearsal and recording, were discussed in the previous section. Clearly, they apply as much to distinguished outside contributors as they do to colleagues within your own institution or project. However, these conventions and disciplines may be a bit more difficult to impose on outside experts.

It is always important to explain to outside contributors why you are doing things the way you do. If you explain why you would like the

script laid out in a particular way, or why it is important to slow down someone's presentation or get them to use their voice more effectively, contributors will usually respond positively. And you will also gain credibility for the professionalism of your approach.

Courtesies

When you are working with an outside contributor, make sure you ask them how they would like to be described in the audio material. And also, when they have completed the work, write them a brief note, thanking them for their contribution. In the case of particularly senior or distinguished people, it is often a good idea to ask the head of your organisation to write the letter. Courtesies such as these not only reflect well on the institution or project's reputation, they also encourage support and cooperation in the future.

Planning and conducting interviews

Unscripted interviews offer an attractive alternative to scripted talks as a means of presenting information and experience. Interviews have a number of advantages:

- They can be recorded either in a studio or on location using portable equipment.
- They do not require the preparation of a script. This saves time. It also means that the person being interviewed does not need to have script-writing skills – or even be literate. This latter point is of particular importance in non-formal distance education.
- Interviews produce lively natural speech. This provides an attractive contrast to more formal scripted material. Also, if interviews are recorded on location, they can be very atmospheric. They take the listener out of the studio and into the real world. This can add authenticity and immediacy to your audio materials.

However, compared to scripted talks, unscripted interviews have one major disadvantage. They offer subject specialists and producers less immediate editorial control over the content, structure and duration of the material. However, there are ways of overcoming this problem. For instance, through:

- The careful selection and briefing of interviewees
- The drafting of appropriate and well focused questions
- The ability to edit interview material after recording

You may find the following guidelines useful in setting up, preparing and recording interviews for distance and open learning.

Setting up interviews

Even though interviews are normally unscripted, this does not mean they are unplanned. The careful planning and preparation of interviews is essential.

Defining the purpose

As with the scripted talk – or any other type of audio material – you need to identify clear aims and objectives for the interview. What do you want the students to learn from the interview? What new knowledge and/or skills do you want them to acquire? What attitudes and values do you want to challenge or reinforce?

Researching the subject

You need to know enough about the subject of the interview so that you can:

- Explain what your students know about the subject already and what they need to learn
- Select a suitably qualified and experienced interviewee (person to be interviewed)
- Draft a set of questions that will bring out the information and opinion you and your students need
- Understand the answers and know when to seek clarification or ask a follow-up question

You do not need to know so much about the subject that you are better informed than the person you are interviewing. If that were the case, you wouldn't need an interview. It would probably be better for you to write a talk yourself!

Selecting the interviewee

The person you choose for the interview needs to be:

- **Authoritative** – have sufficient expertise and/or experience to talk in a well informed way about the subject of the interview
- **Articulate** – able to express themselves clearly on the subject matter, in a way that is appropriate to the target audience
- **Available** – willing and able to be interviewed at a time and place that is within your resources and schedule.

Availability is clearly essential. But you may sometimes need to make difficult choices between expertise and articulacy. The best informed person may not be most articulate; the best talker may not have the greatest knowledge. Go for the best mix you can. If in doubt err on the side of knowledge and experience.

Preparing the questions

As suggested earlier, keep your interviews fairly short. With careful planning, you can cover a lot of ground in 3-5 minutes. More than five minutes (after editing) is probably too long – unless there are particular reasons for having a longer interview.

For most interviews, four or five questions are usually enough. Arrange them in a logical order. Your last question should be designed to bring out and emphasise the main point(s) of the interview.

In general, your questions should:

- Be short and to the point
- Use simple and direct language that is easily understood by the interviewee and the listeners

You should avoid using:

- Double or multiple questions – i.e. two or more questions in one – instead, ask two separate questions
- Leading or closed questions – i.e. questions which invite a particular answer, usually 'yes' or 'no' (e.g. 'Wouldn't you agree that....?') – instead, use open questions, usually starting with 'what', 'how', 'when', 'where', 'why'

Briefing the interviewee

You need to explain to the person you are going to interview:

- Who the interview is intended for
- What it will cover
- How the material will be used
- Roughly how long you are aiming for
- When and where you plan to do the recording
- Whether payment is involved, and if so, how much

The interviewee may ask you for a list of questions. This often happens with senior officials. If possible, try to avoid giving a precise list of questions. If you do, there is a danger that the interviewee will

prepare written answers, and then want to read them when you come to record the interview.

This is usually disastrous. Instead of having a lively spontaneous interview, you end up with a dry, formal and uninspiring piece of audio. And even if you persuade them to give up their script, they tend to spend the interview trying to remember the script, rather than concentrating on what they are supposed to be talking about.

In general, it's much better to give your interviewee a list of the main **topics** you want to cover – rather than the precise questions. However, if you do have to put the questions in writing, make a point of asking the interviewee not to prepare written answers, and explain why. In some cases, you can suggest that the interviewee might like to make brief notes on the main topics, to which they can refer if they need to.

Contracting the interviewee

As with the scripted talk, once you have agreed on the form and content of the interview, there is a strong case for issuing a formal contract covering the work, including the main points listed above.

Recording the interview

Studio versus location recording?

The main arguments for studio recording are:

- It is usually more convenient and saves you time.
- You have the services of a technician. So you don't need to concern yourself with the technical quality of the recording. Instead, you can concentrate on the content of the interview.
- You don't need to worry about the availability of transport, portable recording equipment, batteries etc.

The main advantages of location recording are:

- It is usually more convenient to the interviewees, who may also feel more relaxed in their own environment, rather than in the less familiar atmosphere of the studio.
- Location recording will give you a more 'atmospheric' sound than the studio. This will add to the interest and attractiveness of the audio material.
- From the students' point of view, sounds recorded on location tend to give a greater sense of immediacy and authenticity to the audio material.

However, if you are recording on location, remember that you will need transport and recording equipment, and it will probably take you more time. In addition, if you are not familiar with or confident in using microphones and portable recorders (see below), you will also need the assistance of a producer or audio technician.

[**Note:** Technical aspects of choosing a suitable acoustic for recording, and using microphones and portable recording equipment are dealt with in Chapter 5. Here we concentrate on the non-technical aspects of the interviewing process.]

Establishing rapport

Before starting an interview, it's important to establish a good atmosphere and relationship with the interviewee. One useful way of doing this is to briefly remind the interviewee (and yourself) of the main topics you will be covering in the interview. However, at this stage, be careful not to slide inadvertently into a rehearsal. Interviews usually work best with careful planning and briefing, but without rehearsal. If you are not happy with any of the questions or answers when you record, you can always re-record them later.

Another technique for establishing rapport is to explain what is involved in obtaining a good recording. You can do this while the equipment is being set up, and when you are 'taking level', adjusting the balance and doing a test recording.

- Set up the equipment; take level and check the batteries.
- Ask a couple of 'throw away' questions (which you will not need for the interview).
- Then play back the recording to check the sound quality and balance.

[For more on these activities, see Chapter 5.]

You can use all of these activities as a way of helping your interviewee relax and establishing a good rapport in readiness for the interview.

Asking the questions

In preparing for the interview, you may have written out the questions in full. However, when you record, it's probably better to work from brief notes – e.g. a set of key words or phrases on a file card or the back of an envelope – which you can glance at occasionally (if you need to) during the interview. In this way, you can maintain eye-contact with the interviewee and concentrate on listening to the content of the interview.

Listening is the most important skill required of a good interviewer – far more important than the ability to ask elegant and erudite questions. You need to listen carefully to the answers being given – so that you can adjust your questions if necessary, and follow up any answers that need further expansion or illustration.

The interviewer is there to represent the student. You are asking the questions on the student's behalf. If **you** don't fully understand the answers, your students certainly will not; and if you feel the need for further clarification or examples, so will they. So listen carefully and follow up any points that you feel need further explanation – e.g. What exactly do you mean by...? Can you give me an example of that? Can you take that point a bit further?

Give the person you are interviewing your complete attention. This is why eye-contact is important. During the interview, you also need to give encouragement and positive feedback to the interviewee. But be careful to give this visually (e.g. by nodding and smiling), rather than vocally (e.g. through repeated sounds and expressions of agreement). Such sounds, if used regularly, can become extremely irritating and distracting to the listener.

In general, as we suggested earlier, it is best not to rehearse interviews. Unlike the scripted talk, the first version of an interview is usually the best. If you rehearse, what tends to happen is that when you come to the recording, instead of concentrating on the subject matter, the interviewees are distracted by trying to remember how they expressed themselves in the rehearsal. So it is best to go straight into the recording without rehearsal.

However, if you or the interviewee are unhappy with any of the answers, it is easy to stop the interview, and to go back and record the question and answer again. This can easily be edited later. Similarly, if any of the answers is obviously too long or too short, you can pause, go back and record them again.

It is often a good idea to ask a final question which is designed to bring out and underline the main point(s) of the interview. Also, after the final question, it's usually worth asking the interviewees if there is anything they want to add to what has been covered in the interview. This sometimes produces useful material which can be edited into the interview later.

With some contributors, particularly if they are new to being interviewed, the first version of the interview may not be very good. It may be too long or too short, pitched at the wrong level, or too rambling and diffuse. Some interviewees need to go through the interview once, to clarify their own thinking and to work out exactly what they want to say.

In this situation, after the initial (unsatisfactory) recording, give the interviewee positive feedback and encouragement. (There is always something good you can say about an interview, even if it was very disappointing!) You can then point out (politely) how you think the interview might be improved; and suggest that it might be a good idea to try the interview again.. Most interviewees respond well to this type of suggestion. They usually know when the interview hasn't been very successful, and welcome an opportunity to try it again. In most cases, the second version is a great improvement on the first.

After the interview

Once you have finished the interview, play back at least part of it to check that the quality is satisfactory. If so, fine. If not, you still have the interviewee with you to re-record. In addition, the interviewee is likely to want to listen to at least part of the tape. Incidentally, if you are planning to edit the tape extensively, it's a good idea to mention this to the contributor and explain why. Interviewees tend to assume that anything you record you are likely to use – which is not always the case.

After the playback, make sure that you label the tape or cassette (and its box) with the following information:

- The name of your institution or project
- The course for which the material is intended
- The name of the interviewee
- The subject of the interview
- When and where the interview was recorded
- Any special information about the recording – e.g. recording speed, mono/stereo, whether Dolby NR (noise reduction) was used, recording quality etc.

For longer interviews which you are planning to edit, and interviews you want to use in documentaries or features, it is useful to make a 'log' of the interview – i.e. a written record that will make it easier to locate relevant material later. The log can take various forms, but it should include the following main information:

- Basic information about the interview (as above)
- The questions asked, arranged in order
- Brief notes on the answers and their duration
- Brief notes on the quality of the answers and their usefulness

One way of presenting the information would be as follows:

Interview Log

Institution/project: **Interviewee:** **Date recorded:** **Special notes:**		**Course:** **Subject:** **Place recorded:**	
Questions	**Answers**	**Comment**	**Duration**
1:..... ..... 2:..... ..... 3:..... ..... etc.....			

This type of interview log will be very useful and save you a lot of time when you are selecting and editing material for use in the studio.

Checklist on setting up and conducting interviews

- Define the subject of the interview
- Identify your aims and objectives
- Research the subject and possible interviewees
- Draft the questions
- Select, brief and contract your interviewee
- Meet to record the interview in the studio or on location
- Establish rapport, but avoid rehearsal
- Record the interview
- If necessary, record it again
- Play back at least part of the tape to check technical quality
- Label the tape and its box
- Prepare a written log of longer interviews as an aid for editing
- Write a thank you letter to the contributor

Arranging and chairing discussions

Panel discussions are useful when you want to expose your students to two or more different viewpoints on a subject that is relevant to their studies – for information, analysis, or to help them sort out their own views about the subject.

Planning and preparing discussions

Many of the steps involved in planning and setting up discussions are similar to those outlined above in relation to interviews. The main difference is that instead of talking to one person, you are dealing with a group of people, each of whom has a different viewpoint on the subject.

Defining the scope

What are the aims and objectives of the discussion? What do you want your students to learn from it? What do you want them to know and/or be able to do as a result of listening? What topic(s) will the discussion cover and in what order? How will you ensure that the students will be actively engaged in the discussion? Would it be useful to provide them with supplementary or support material – e.g. printed notes, preparatory reading, visual aids, follow-up activities?

Researching the topic

As the subject specialist or producer involved in arranging the discussion, you need to know enough about the subject:

- to identify and brief a suitable chairperson
- to select and brief suitably qualified participants
- to prepare a set of questions that will guide the discussion
- to make decisions about what support material (if any) would be useful
- to be able to select from the discussion the material that would be most useful to students and edit it accordingly

Selecting the chairperson and participants

The chairperson needs to know enough about the subject, the students and the course, and also have appropriate interpersonal skills:

- to lead the discussion effectively
- to ask relevant questions, to evaluate the answers
- to know when further elaboration or explanation would be useful to the students.

Two or three participants will usually be enough for most discussions. If you have more than this:

- The participants' voices become difficult to distinguish
- Individual participants don't have enough time to develop and explain their ideas and opinions to the listeners

In selecting these participants, make sure they have distinctive viewpoints or perspectives on the subject. Otherwise, the discussion will soon become repetitive and boring.

Drafting the questions

The framework of questions for the discussion should normally be discussed and agreed with the chairperson. As for the interview, the questions should be clear, sharply focused and non-directive; and organised in a logical and coherent pattern.

Three or four main questions will usually be enough. If you have more than this, there will not be enough time for each of the participants to express their views, nor will there be time for important or interesting follow-up questions. As a result, the discussion will tend to be shallow, and will not deal with the subject in sufficient depth. It is usually better to cover a few important questions in detail, than to cover a wider range of questions more superficially.

Briefing the chairperson and participants

Before you record the discussion, you need to brief the participants and the chairperson (if it is someone other than yourself) on:

- The relevant characteristics of the target audience (What are they likely to know already? What do they need to learn? What level of language will be appropriate to them? What type of examples and illustrations will fit in with their experience?)
- The aims and objectives of the discussion (What is the discussion intended to achieve? What new knowledge or skills should it offer? What attitudes is it designed to challenge or reinforce? Why should the students listen to the discussion, and what should they expect to learn from it?)
- The content and structure of the discussion (What subject matter will be covered and in what order? What are the key questions to be asked and answered? What different viewpoints need to be represented?)

It is important not to let the briefing drift into a rehearsal for the discussion. As with interviews, it is usually best not to rehearse discussions. If there has been a rehearsal, the participants try to remember what they said and how they said it, and the final

recording tends to lack spontaneity and liveliness. If the first recording does not work very well, you can always record all or part of it again.

It is also important to brief the participants on some of the practical aspects of recording a discussion for audio. For instance:

- To explain that the first question will usually require a short answer, designed to introduce the participants' voices to the listeners, and to establish their presence in the studio.
- The need to agree on who will lead on each of the main questions and who will respond and comment on what has been said.
- To explain how (usually later in the discussion) the chairperson will use hand signals to bring different speakers into the discussion or to ask them to expand on or draw to a close what they are saying.
- To explain the importance of keeping in more or less the same position in relation to the microphone during recording; and also the fact that if two or more people speak at the same time, the result (in mono at least) will be difficult to understand.

Recording the discussion

At the start of the recording, the chairperson will usually:

- Identify the institution and course for which the discussion is intended
- Introduce the subject of the discussion and the main questions to be covered
- Explain what students can expect to learn from the discussion and how it relates to the rest of their studies
- Introduce the speakers by name and explain briefly why they are taking part in the discussion

The chairperson should then ask each participant a brief question (inviting a brief answer) about their background, interest or experience of the subject under discussion. These short initial exchanges give a useful indication of the general viewpoint of each speaker. But they also serve to establish their presence in the studio and to give the students a chance to start identifying the individual voices.

In the early part of the discussion, the chairperson should also use the participants' names when putting a question to them or asking for comments. In this way, the students will soon learn to distinguish between the different voices. Later in the discussion, once students can

identify the different voices, this convention can be relaxed – which also means that the dialogue can often be allowed to flow freely, with the chairperson only intervening at key points.

During the discussion, the main role of the chairperson is to lead the participants systematically through the main questions, drawing out the different viewpoints and presenting them effectively to the students. As with the interviewer, the chairperson is there to represent the students:

- Asking questions on their behalf
- Listening carefully to the answers
- Seeking clarification or elaboration where necessary
- Emphasising and reinforcing the key points as they emerge

The chairperson also needs to keep an eye on the clock, to make sure that the time allowed for the discussion is allocated more or less as planned. He or she is also responsible for ensuring a rough balance between participants, so that a particular person or viewpoint does not dominate in the discussion.

If the discussion is being recorded in a studio, the producer will usually be listening to the output on headphones or loudspeakers, and will be able to talk to the chairperson (on headphones) via the studio 'talkback' facility. In this way, the producer can:

- Monitor the progress of the discussion
- Suggest supplementary and follow-up questions if and when they are needed
- Remind the chairperson when to move from one part of the discussion to the next
- Keep an eye on the time and the balance between speakers

The talkback facility can be very useful in this way. However, it should not be over-used. Producers need to be very brief and economic in their comments. They should limit themselves to essential comments and suggestions. And they should never use the talkback when the chairperson is speaking. Misuse or over-use of the talkback facility can be very distracting to the person who is chairing a discussion.

At the end of the discussion, the chairperson should not attempt to summarise all the points that have been covered. It's usually better:

- To draw out the main ideas and issues
- To point to the main areas of agreement and disagreement that have emerged from the discussion
- To thank the speakers for their participation
- And to suggest to the students how they can best use the material and where they should go next

After the recording, there is a good chance that you will want to do some editing of the discussion. This may be for editorial reasons – e.g. to highlight the key points, or to reduce or remove less relevant material. Or it may be for more professional and technical reasons – e.g. to improve the quality and audibility of the discussion by cutting out deviations and redundancies, or to reduce the length of the discussion. Or you may want to edit for a combination of both of these sets of reasons. If you are planning to edit the recording, you will probably find it useful to prepare a 'log' of the discussion, adapting the approach suggested earlier for interviews.

In terms of support material – e.g. preparatory reading, visual material for students to look at during the discussion, or follow-up activities – this should normally be identified **before** you record the discussion, and be included as part of the briefing for the chairperson and participants. In this way, the support material can be referred to and used during the discussion. This can not only enrich the audio material and extend its scope; it can also add to the student's interest and interaction with the material. However, if you are planning to integrate support material in this way, it is essential that all your students have guaranteed access to it.

Discussions – the quick guide

- Define the topic and purpose of the discussion clearly
- Choose the chairperson and participants carefully – usually not more than two or three
- Brief them on the audience, the aims and objectives and the main questions to be covered
- Start the discussion by explaining its purpose and introducing the speakers
- Ask each speaker an initial question – requiring a brief answer – to establish their presence, voice and general viewpoint
- Refer to the speakers by name in the early part of the discussion

- Guide the discussion with a gentle but firm hand
- Keep an eye on the time and the balance between speakers
- At the end of the discussion, draw out the main ideas and issues, thank the speakers and suggest to the students what they should do next
- Producers – monitor the discussion carefully – keep an attentive ear on the content
- If necessary, use the talkback to help guide the discussion – but use it sparingly
- Discussions can usually be improved by editing

Chapter 5

PRACTICAL SKILLS – LOCATION RECORDING AND AUDIO EDITING

Introduction

In this chapter, we look first at some of the practical aspects of location recording – at the basic technology and techniques you need to make good quality recordings. We then go on to the editing of audio material, so that you can use it effectively in the studio.

Recording on location

It was suggested earlier that there are several good reasons for recording some of your audio materials (particularly interviews) on location – i.e. out of the studio – using portable recording equipment:

- It is often more convenient for your contributors and sometimes the only way you'll get them to contribute to your audio material.
- It allows you to record in an appropriate acoustic, which adds authenticity and atmosphere to audio material (e.g. interviews), and also provides an attractive contrast to the studio acoustic normally used for presentation.
- It adds interest and variety to the sound of your audio material – varying the tone and texture of what the students hear, giving them a sense of place and a feeling of the real world, and generally making audio a more vibrant and engaging medium.

Here we look briefly at the technology and techniques of location recording – particularly for the recording of interviews. Later, we shall touch on other recording techniques, for instance in relation to drama and music.

Much of what follows will already be familiar to audio producers. However, they may find it useful as a reminder of the basic technology and techniques they will have covered in their initial production training. For others – e.g. subject specialists, planners and managers – the aim is to provide a basic non-technical account of location recording, which suggests what is possible using fairly simple

portable equipment. We look first at the technology and then at the techniques.

Basic technology

There are four essential pieces of equipment you need for recording on location:

- A portable recorder, capable of recording sound on tape or disk
- A microphone, with a lead connecting it to the recorder
- A source of power – either mains electricity or battery cells – for the recorder and sometimes for the microphone
- A supply of audio tape (or an audio disc) on which to record the sound

We shall look briefly at each of these items, concentrating on the types of equipment that are most likely to be available to you.

Portable recorders

There are four main types of portable recorders that are used for professional audio recording:

- Open-reel recorders – such as the Uher or Nagra – which make analogue recordings on quarter-inch open reel magnetic tape
- Audio cassette recorders – such as the Sony Professional or Marantz – which make analogue recordings on standard audio cassettes
- Digital audio recorders – available from a number of manufacturers – which record digitally on mini-cassettes or digital audio tape (DAT machines)
- Mini-disc recorders – e.g. Sony MZR30 or MZR40 – which record optically on to a mini (2-inch) CD (compact disc)

These are listed in the order in which they were introduced and have been used by professional broadcasters and audio producers.

- Easily portable open-reel recorders (Uhers, Nagras) were introduced in the 1960s and became the standard machines for location recording. However, compared to other portable recorders (offering comparable or better sound quality), they are now very expensive and are rarely used by professional broadcasting organisations for location recording of speech.

- Open-reel recorders were largely replaced for location recording by high quality audio cassette recorders (Sony, Marantz, etc.) in the 1970s and 1980s. These recorders give comparable sound quality at a lower price. Audio cassettes have the advantage of longer recording/playback times at lower cost. But they have the disadvantage of having to be copied on to open-reel tape for fine editing by cutting.
- Digital audio technology has been widely used for location recording since the early 1990s; and is now standard equipment for studio recording in many broadcasting organisations. Like most electronic technology, digital technology has steadily become cheaper and now offers excellent sound quality at a reasonable price. However, it has the disadvantage – for some at least – of requiring computer facilities and software (plus the necessary skills) for editing.
- Since the late 1990s, mini-disc recorders have become increasingly popular for location recording. They offer high quality sound at a reasonable price. It is possible to do rough editing (within one second) on the recorder; but for finer editing you need to copy the material onto another format (e.g. open-reel or digital tape), or use specialised computer facilities that can read the optical signals.

Microphones

Whatever type of recorder you are using, a good quality microphone is essential for good quality audio recording.

Some portable cassette recorders (e.g. the Sony TCM range) have 'built-in' condenser microphones. These should generally be avoided, since they tend to pick up the sound of the cassette motor and mechanism. They also usually operate on 'automatic level control' (ALC), which gives poor quality sound if there is a lot of background noise. It is nearly always better to use a separate microphone for location recording.

Microphones come in various shapes and sizes; are designed for different purposes; operate in different ways; and range in price from the relatively cheap to the very expensive. As a general rule, the more you pay, the better quality sound you are likely to get.

It is not possible – or necessary - to go into all the detail here. In general, since most of your recording is likely to be speech, it's best to go for a 'reporter' type of microphone, with a robust body and good (low noise) hand-holding qualities. Also, unless there are special reasons for recording in 'stereo', you should probably go for a 'mono' microphone. [The differences between stereophonic sound (stereo) and monaural sound (mono) will be explained later.] Within

this range of microphones, there are two main types you need to know about:

- '**Directional' microphones** – especially 'cardioid' – which are sensitive to sound coming from a particular direction, but are less sensitive to general ambient sound and therefore tend to screen out unwanted background noise ['Cardioid' means 'heart-shaped', which describes the area from which sound is accepted, which is shaped like an inverted heart.]
- **'Omni-directional' microphones** – which (as the name implies) are sensitive to sounds from all directions ('omni-' is derived from the Latin word for 'all'), and which therefore pick up more of the background sounds than a cardioid microphone

Both types of microphone are widely used for location recording; and both can give good results, provided you know how to use them properly:

- Cardioid microphones are good for recording interviews in noisy places, since they tend to cut down the background sound. However, you need to be careful about how you position the microphone, and make sure that both interviewer and interviewee are within the 'field of receptivity' of the microphone.
- Omni-directional microphones are probably easier to use, since they accept sound from all directions. As a result, it does not matter too much where you position the microphone, provided the interviewer and interviewee are roughly the same distance from it and not too far away.

However, in most situations, and especially if there is a high level of background noise, speakers need to be closer to an omni-directional microphone than they would need to be to a cardioid microphone. (More on this below.)

Sources of power

Most portable recorders can be operated either on mains electricity or using battery cells. If you are using mains electricity, you will need the appropriate 'mains unit'/transformer, which connects the recorder to the mains socket.

If you can use mains electricity – and the supply is reliable – it makes sense to do so. However, on many locations, you will not have access to mains electricity. Or you may want to move around, making continuous access to the mains power supply difficult. In these situations you will need to use battery cells.

There are two types of batteries which are commonly used in portable recorders:

- Rechargeable batteries – which need to be regularly recharged from the mains electricity supply – often using the mains unit referred to above
- Normal battery cells – usually long-life alkaline batteries – of an appropriate size for the particular recorder you are using

Rechargeable batteries may seem initially expensive; but they are probably more economic in the long run. However, it's important that they are recharged regularly and according to the instructions provided with them. The amount of recording time you get from one recharge will vary, depending on the type of recording equipment you're using and on the battery itself. If the battery is fairly new and fully recharged, you can usually expect at least a couple of hours. But it's important to check this for yourself.

If you are using normal battery cells, it makes sense to buy long-life alkaline batteries. They are initially more expensive, but they give you substantially more recording time. It's usually best to buy a well-known brand – e.g. Duracell, Sony, Panasonic etc. – and make sure they are in a sealed packet. Loose batteries – kept for instance in a plastic bag – can easily discharge themselves before you've had a chance to use them.

Recording tape

Quarter-inch open-reel tape is now very expensive. And at the normal professional recording speed [7.5 inches per second (ips)/19 centimetres per second (cps)] a 5-inch spool (the usual spool size for portable open-reel recorders) will only give you 16 minutes of recording time. Audio cassettes are much cheaper and also give a much longer recording time.

Audio cassettes are either Type I (Normal/Ferric) or Type II (Chrome or Metal). Type II is the better quality tape (less tape hiss) and usually costs a bit more than Type I. However, either type will give satisfactory results for speech recording.

Cassettes also vary in the reliability of their mechanism. And for this reason, it is usually worth paying a bit extra to buy cassettes from well-known manufacturer (e.g. Sony, TDK, BASF etc.).

For professional use, it is probably wise to stick to cassettes giving 60 or 90 minutes of recording time – C60s or C90s. Although C120s give you more recording time, they should probably be avoided. This is

because the tape is thinner and more likely to twist, stretch or snap in use.

If you are recording digitally or on CD, you should probably enquire locally to find out what digital audio tape or blank mini-CDs are available, However, as with tape, it's usually better to buy well-known brands. And if your organisation can buy in bulk, you'll normally get a better price.

Basic techniques

In Chapter 4, we went step-by-step through the process of planning and conducting interviews. Here we turn to some of the more practical aspects of the process. Some people who are not professionally involved in audio may feel that they do not need to concern themselves with this, since it is essentially the task of producers and technicians. In the studio this is generally true. However, for location recording, there are at least two good reasons why subject specialists and others (as well as producers and technicians) should be aware of the basic technical issues involved:

- First, it will help them to understand what is possible in terms of location recording and to work more effectively with their audio colleagues to produce good quality materials.
- Secondly, for simpler location recordings (such as interviews), there is no reason why subject specialists, tutors and others should not undertake them on their own, without technical support. This would not only expand their professional skills, but could also make possible a more efficient and effective use of audio personnel.

What follows, therefore, is intended as a basic introduction for subject specialists, tutors and others, as well as a reminder of some of the essential skills and techniques of location recording for more experienced audio producers and technical staff.

Checking the equipment

Before leaving to record audio material on location, you need to check that you have all the equipment you need and that it is in good working order. For a straightforward interview, you will usually need the following.

Equipment checklist

- **Portable recorder** – What recorder are you using? Is it in good working order? Are you confident in how to operate it?
- **Mains unit/batteries** – Does the recorder operate on mains electricity and/or batteries? Which will you use? If batteries, are they at full strength? (Always take a spare set of batteries with you!)
- **Microphone and lead** – What microphone will you use? Is it cardioid or omni-directional? Do you have the correct lead? Will it fit both the microphone and the recorder? Does the microphone need a battery? Will you need a microphone stand? If so, what type? Or will it be hand-held?
- **Recording tape** – How long will you be recording for? What type of tapes/cassettes will you be using? How many will you need? (Always take extra tape/cassettes.)
- **Headphones** – Some portable recorders have built-in monitoring loudspeakers, others don't. If your recorder doesn't have a built-in speaker, you'll need a pair of headphones to monitor the recording. Make sure the connection fits.
- **Papers** – What papers will you need – course outline, printed texts, support materials, draft questions, draft contract, notebook (and something to write with)?
- **Anything else?**

Equipment check

1. Set up the equipment ready for recording

We can't deal in detail with all the different types of equipment you might be using. However, the following general instructions will work for most portable recorders:

- Connect the microphone to the recorder.
- Insert the tape, cassette or disc.
- Set any controls that need setting – for instance:
  - type of cassette (Type I or II)
  - Dolby Noise Reduction (NR) – On for speech, Off for music
  - tape speed – (for an open-reel machine) 7.5 ips/19 cms

- automatic level control (ALC) – (usually off, except when the level of the sound is expected to vary greatly)
- attenuation – set to zero (off), unless there is very loud background noise
- monitoring loudspeaker – set volume control to zero (off)

2. Set the recording level and make a test recording

- Switch on the power.
- Set the recording level to the middle position.
- Switch on PAUSE control; press PLAY/START and RECORD, usually at the same time.
- If the microphone has an on/off switch, switch it on.
- Hold the microphone about 12 inches/30 cms from your mouth and start speaking.
- Avoid 'Testing...testing...one, two, three, four...' Speak in a normal conversational tone.
- Adjust the recording level control until the meter shows a strong signal (usually when the needle or indicator reaches '0' on the scale).
- When you are satisfied with the recording level, release the PAUSE control, and continue speaking for about 30 seconds.
- Press STOP; press REVIEW (<<) to rewind the tape/cassette to the start.

3. Play back your test recording

- If necessary, plug in headphones.
- Set the playback volume control to its middle position.
- Press the PLAY/START control to play back your test recording. Adjust the volume as required.
- Listen carefully to the quality of the sound. Is it clear and undistorted?

If you are satisfied with the sound, you are now ready to go and do your location recording. If not, check that you have set up the equipment properly, then try another test recording and playback. If you're still not happy with the results, consult the manual for the equipment (if available) or seek specialist technical advice.

Note: Time spent checking and testing equipment is never time wasted. It is much more wasteful – and irritating to all concerned – if you get to a location recording place and suddenly find that your equipment is either incomplete or not working properly!

Choosing a good acoustic

One of the advantages of recording on location is that it adds interest, variety and authenticity to your audio materials. However, this will only work if the recordings are also clear and easily audible to the listeners. This will depend in part on how well you use the recording equipment. But it also depends on the 'acoustic' – the sound environment – in which you make the recording.

Audio producers usually describe acoustics in terms of a range – from 'live' (or 'bright') acoustics to 'dead' (or 'dry') acoustics:

- A bright or live acoustic is one with a long 'reverberation' time – i.e. an acoustic in which sounds are reflected by hard regular surfaces, and therefore take a long time to die away. Typical examples are large places of worship (mosques, churches), empty lecture halls or classrooms, bare and sparsely furnished offices.
- Dead or dry acoustics have a much shorter reverberation time – i.e. sounds die away very quickly – they are not reflected, but rather absorbed within the environment. Typical examples are rooms of irregular shape, or with a number of sound-absorbing surfaces – e.g. soft furnishings like curtains, carpets, upholstered chairs and sofas. One of the deadest or driest (least reverberant) acoustics is achieved by recording in the open air.

In general, the human ear finds it easier to listen to sounds that have been recorded in fairly dead or dry acoustic – i.e. with a short reverberation time. Therefore, if you have to record indoors:

- Try to avoid large regularly shaped spaces with bare sound-reflecting surfaces – i.e. avoid sparsely furnished offices, empty classrooms and large lecture halls.
- Instead, try to record in smaller, irregularly shaped and more cluttered spaces – e.g. living rooms with furniture to break up the space and soft furnishings to absorb the sound, or in offices with desks, chairs, shelves and books, all of which will help to reduce the reverberation time.

Alternatively, you can record in the open air – for instance, in gardens or on verandas outside offices and homes. This will give you a very good acoustic and a pleasant sound. However, if you are recording outside in the open air, you need to be careful of unwanted background noise – e.g. from traffic and people – which can distract the audience from the content of the material. And sometimes you may also have to cope with the unwelcome consequences of the natural elements – wind, rain and heat.

However, on some occasions, you will positively wish to seek out particular background sounds – to add atmosphere and authenticity to your recorded material. For instance, you may want to record a scientist in his or her laboratory, an economist talking to local market traders, a farmer working in the fields, a teacher in the classroom or a health worker in the clinic. Such interviews take the student out of the more formal atmosphere of the studio and into the real world. They also enable the interviewee to describe and refer to objects and events in their own environment, which can add a vivid sense of realism to the recorded material.

In this situation, the key question is not so much seeking a particularly dead acoustic, but rather achieving an appropriate balance between the voices in the foreground – i.e. the interviewer and the person being interviewed – and the background sounds that give the recording its distinctive atmospheric quality. Judging the balance between sounds is one of the skills considered below.

Using the equipment

Once you have decided where to record, the next task is to set up the recording equipment and use it in a way that will give you a good quality, well balanced recording. This is not difficult. If you follow a few simple rules, you should obtain a good recording every time.

[It is assumed here – for simplicity's sake – that you will be recording in 'mono' ('Monaural' = sound from a single source). Recording in 'stereo' ('stereophonic' = sound distributed across a 'sound stage' between two speakers) is a bit more complicated. For good quality stereo recording, it would be sensible to seek the advice and assistance of a sound technician.]

So, assume you are recording an interview – in a fairly good acoustic, without too much unwanted background noise, in mono, and using a cardioid microphone. The basic question is how you should arrange the interviewer and the interviewee in relation to the microphone and the recorder. Start from a simple rule of thumb.

The basic position

To obtain a good quality well balanced recording, each speaker should be about 12-15 inches (30-40 cms) away from the microphone, with the microphone (held in an upright position) about 8-9 inches (20-25 cms) below an imaginary line between the mouths of the two speakers. Think of this as your starting point for recording good quality sound.

Now think in terms of three simple and commonsense variations on this basic position.

Three variations

- If one voice is much stronger (louder) than the other, move the microphone a little way in the direction of the less strong (quieter) voice.
- The louder the background noise, the closer each of the speakers needs to be to the microphone.
- If, instead of a cardioid microphone, you are using an omni-directional microphone, both of the speakers need to be a bit closer to the microphone.

You will find that these simple rules – the basic position and the three variations – will cover most situations you are likely to encounter when recording interviews on location. And if you apply them sensibly, they should give you a good recording every time.

The next question is how can you arrange the interviewer and interviewee, so that they will be properly placed in relation to the microphone, and at the same time be comfortable and relaxed, so that they can relate easily and naturally to each other. If the speakers do not feel comfortable and relaxed, with a good social distance and easy eye contact between them, you are likely to get a less good performance.

Probably the best position is to have the interviewer and interviewee sitting at right angles (90°) to each other; or side-by-side but turned towards each other. For a fairly short interview, or if the speakers need to move around during the interview, similar right-angled positions can be adopted while standing.

Three things to avoid

When recording on location, you should try to:

- Avoid placing the interviewer and interviewee directly opposite to each other. (If the speakers need to move in fairly close to the microphone, this is a socially uncomfortable and potentially embarrassing position. It's unlikely to produce a relaxed atmosphere and good communication.)

- Avoid having the interviewer and interviewee on either side of a desk or table. (Usually, this places one or both of the participants too far from the microphone and results in a poorly balanced interview.)
- Avoid conducting the interview in the presence of other people. (The presence of spectators often makes the interviewer and/or the interviewee self-conscious and nervous – which doesn't help the interview. Also, it sometimes encourages the speakers to perform for the local audience rather than the student listeners. If your recording attracts a curious crowd, explain what you are doing and politely ask them to go away. Alternatively, try to find another place to record which is free of distractions.)

For location interviews, it is usually best for the interviewer to hand-hold the microphone, rather than use a microphone stand. This gives more control over the position of the microphone. It also means that the interviewer can respond if the interviewee moves significantly during the interview.

However, microphone movement should be kept to a minimum, since it tends to produce unpleasant noises on the tape. These usually come from the connection between the lead and the microphone. One way of overcoming this problem – or at least reducing it – is to wrap the microphone lead once or twice around your hand. This stops the connection moving and usually reduces the unwanted interference.

If it is possible to have the services of an audio technician, so much the better. This means that the technician can concentrate on the recording, monitoring the output of the sound on headphones, and leaving the interviewer free to concentrate on the content of the interview, asking the questions and listening to the answers. In this situation, provided the microphone lead is long enough, you can move the recorder away from and behind the speakers, so that they are less conscious of the recording process.

However, in most institutions and projects, an audio technician will not always be available for location recording. In these circumstances, you will be expected to take responsibility, not only for the content of the interview, but also for recording it. If that's the case, what follows are some practical suggestions that you might find useful.

Setting up the equipment – some practical hints

- If you are right-handed, place the interviewee on your left-hand side, and hold the microphone in your left hand, so that you can use your right hand to operate the recorder.
- If you are left-handed, the interviewee should be on your right-hand side, with the microphone in your right hand, so that your left hand is free to operate the equipment.
- In setting up the recording situation like this, don't be afraid of organising your contributors – however distinguished they are! - so that you are confident that they are in a position that will give you a good recording.
- Whenever you appear with a portable recorder – however inexperienced you are – your contributors will look to you for professional expertise. They will expect you to organise and manage the recording situation. If you are confident, or at least convey a feeling of confidence, you will inspire confidence in your contributors and probably produce better audio materials.

Once you have decided where to conduct the interview and how to record it, there are then a set of standard steps to follow. Essentially, you follow the same procedure you used for the test recording (see above). But this time, instead of a test recording, you record the actual interview.

Checklist for recording

- Set up the equipment
- Check power – if necessary (or if in doubt), replace batteries
- Set recording level and other controls
- Make a short test recording, including both voices
- Playback – check sound quality, level and balance (between voices and between voices and background)

- If necessary, adjust recording level and microphone position
- Do a further test recording and playback
- When satisfied, start the actual recording
- Monitor content and sound quality on headphones
- Occasionally check recording level and adjust if necessary
- At the end of the recording, play back to check sound quality
- Label tape/cassette/disc and box as suggested in Chapter 3

When you have completed a recording, it's useful to play it back and review it critically, if possible with friends or colleagues. Ask yourselves the following questions.

Questions for review

- Is the quality of sound good?
- Is the recording clear and easy to listen to?
- Is it recorded at the right level?
- Is there a good balance between voices?
- Are you aware of background sounds? Do they add to or detract from the recording?
- Could the recording be improved? If so, what would you do differently?

Editing audio material for studio use

Once you have recorded audio material on location, it usually needs to be edited before you use it in a radio programme or on a cassette. As suggested in Chapter 3, there are three main reasons for editing:

- **Content –** to make sure the content is exactly what you want for your students
- **Audibility –** to improve the clarity of what your students will listen to

- **Duration –** to ensure the material fits into the time available on radio or cassette

There are also three main ways you can do the editing:

- **Dubbing –** making a recorded copy of the material which includes the content you want and excludes content you don't want
- **Cutting –** physically cutting out unwanted material (usually with a special razor blade) and joining the tape together again
- **Electronic editing –** using a computer with audio editing software to select and re-assemble electronically stored sounds

In the sections which follow we look briefly at each of these methods.

Editing by dubbing

This method can be used with all types of recorded sound – open-reel tape, cassettes etc. It is very simple. All you need is two recorders, linked by a suitable lead which allows you to play your original recording on one machine and re-record it (selectively) on the other. In this way, you can select the material you want to use and re-record it, leaving out any of the content you don't want.

Dubbing is especially useful for 'rough' editing – i.e. selecting or rejecting substantial parts of a recording – for instance, whole questions and answers from an interview, or a particular section of a discussion. However, if you're working with open-reel or cassette tapes, it is much less useful for 'fine' editing – i.e. editing which involves more precise selection of sounds – for instance, editing out particular words or phrases, removing unnecessary repetitions or unwanted background noise, while at the same time maintaining the natural rhythms of the speech.

The main reason for this is that in dubbing you are using the stop, start and record controls on the tape recorders. And this makes it difficult (particularly on cassette recorders) to be very precise in controlling exactly what you want to include and exclude on your new recording. This usually doesn't matter too much for 'rough' editing, when you are including or excluding large blocks of material. But it is clearly very important for 'fine' editing, where you are usually dealing with smaller bits of sound, which you want to include or exclude for reasons of content or clarity.

Editing by cutting

This method requires a higher level of practical skill than dubbing. But it also gives you a much higher level of precise control over the editing process. Editing by cutting can only be done on open-reel tape. So if you are using cassettes, you will need to copy them first onto open-reel tape. To do this type of editing, you will need:

- A professional or semi-professional open-reel tape recorder, with a loudspeaker or headphones, and an edit control, which allows you to move the tape manually across the playback head and listen to the tape at slowed-down speed.
- An 'editing block' – a metal block (usually about 6-8 inches [15-20 cms] long, one inch [2.5 cms] wide and 1/4 inch thick), with a 1/4-inch groove running the length of it (into which the tape fits), and up to three narrow slits cutting across the groove, usually at 45°, 60° and 90°.
- A chinagraph pencil (a special wax pencil that will write on plastic); a number of single-edge razor blades; and a supply of 'jointing-tape' – i.e. special adhesive tape which you use to join the tape together again after you have cut it.

It would also be useful to have a supply of 'leader tape'. This is quarter-inch plastic tape, like open-reel recording tape, but without the metallic recording surface. It is used to protect the ends of recording tape, and also as spacing tape, to mark and separate different taped 'inserts' (pre-recorded audio material) to be played into a radio or audio cassette recording during a studio session. Leader tape is available in several colours. Conventionally, red leader tape is used to mark the end of an insert or recorded programme tape. Other colours (especially yellow) are used to mark and protect the beginning of a recorded tape, or to mark and separate different 'bands' of an insert tape.

The process of editing by cutting is fairly straightforward; though it takes time and practice to develop the skill and to pick up speed in its application.

Editing tape by cutting – a step-by-step guide

- First, play the tape at normal speed. Listen carefully and decide exactly where you want to make your cuts. Identify the start and finish points of the edit. Make a judgement about whether it's possible to cut the tape in this way and still maintain the natural sound (flow, rhythm) of the audio material.

- Next, listen to the same piece of tape again, this time at slower speed, by moving the tape manually over the playback head with the recorder in the 'edit' mode.
- Locate the exact start and finish points of the edit and mark them with a short line (left to right, not up and down) with the chinagraph pencil.

  [**Note:** You'll probably find that it's a bit difficult at first to hear the sounds clearly as you move the tape across the playback head. But with practice it soon becomes easier. And before too long you'll be able to recognise all the sounds clearly, even though they are slowed down. Then you'll find it easy to mark the start and finish points for the edit quickly, accurately and with great precision. However, in the early stages, you'll probably find it useful to work with someone who is skilled and experienced in tape editing.]
- Now press the stop control on the recorder. Gently pull the tape away from the playback head and place it in the groove of the editing block, with the first chinagraph mark (the start of the edit) directly over the 60° slot.
- Make sure the tape is firmly in the groove. Then take the razor blade and run it gently but firmly, in one smooth movement, through the 60° slot, cutting the tape at your first chinagraph mark.
- Then locate your second chinagraph mark (the end point of your edit) and cut it in the same way, and remove the unwanted tape.

  [**Note:** Don't throw the unwanted tape away. Keep it safely until you have checked the edit and are satisfied that it sounds alright. If it doesn't, then at least you can replace the tape and try again, or abandon the edit.]
- Now place the two cut ends of the tape together in the groove on the editing block. Make sure that the two ends are right against each other and that there is no space between them. Also, be careful that the ends do not overlap.

- Next, cut off about one to one-and-a-half inches (about 3 cms) of jointing-tape. Press it firmly over the point where the two tape ends meet.
- Make sure (a) that the jointing tape is in the centre of the recording tape, (b) that none of the jointing tape is sticking out over the edge of the recording tape, and (c) that there is no gap between the two ends of the tape.
- Check that the edit is satisfactory by turning it over and making sure (a) that no overlapping jointing tape is visible, and (b) that there is no gap between the two ends of the tape. If any jointing tape is visible, either on the edges of the tape, or between the two ends, re-make the edit.
- When you are satisfied that the edit has been properly made, place the tape back in the playing position. Re-wind the tape for a few seconds. Then press Play/Start and listen to the results of your edit.
- Make sure that the edit **sounds** OK – i.e. that the sound flows smoothly, that the pace and rhythm (e.g. of speech) sounds natural, that the edit can't be detected.
- If you are happy with the result, go on to the next edit. If not, either (a) replace the piece of tape you have taken out and try again, or (b) replace the tape and abandon the edit.
- Once you've had some practice, you'll find that you can edit quickly and confidently. You'll find you can judge whether an edit is possible, hear the slowed-down sounds clearly when you move the tape by hand, locate your edits easily and mark them accurately. You will then have acquired a skill that will give you a high degree of control over your audio materials and allow you to improve their quality substantially.

Electronic editing

Electronic editing is used for editing digital audio tape (DAT). To record sound digitally – as opposed to the analogue systems used by open-reel and normal cassette recorders – you need a DAT recorder and digital audio tape. The editing of DAT recordings is done on a computer equipped with sound facilities and audio editing software. Using this system, it is possible to do sophisticated 'fine' editing of

audio material, and also to mix and modify sounds from a number of different sources.

[The specific techniques of editing digital audio tape will depend on the particular computer software you are using. If you are planning to use this technology, we suggest you seek initial advice and training on the types of software available and how to use it from someone who has expertise and experience in this area – e.g. an audio technician or engineer in your institution or a local radio station.]

Combining methods

Probably the most common pattern – particularly in developing countries – is for institutions and projects to do their location recordings on audio cassette recorders, and then to transfer the results to open-reel tape for fine editing and use in the studio.

This makes possible a two-stage process of tape editing:

- First, the material on audio cassette can be rough edited as it is being copied on to open-reel tape – i.e. you only copy material that is likely to be used in the final radio or audio cassette presentation.
- Secondly, any fine editing that is required is done on the open-reel tape, so that the material recorded on location is ready for use in the final studio recording.

This method is both economic and efficient. It relies mainly on relatively inexpensive and reusable audio cassette tape for location recording. It uses the dubbing/copying method for rough editing; and is economic in its use of the more expensive open-reel tape which is necessary for fine editing.

In the longer term, it is likely that most of our recording and editing will be done digitally. However, in the meantime, especially in poorer countries, it is likely that the older audio technologies will continue to be used – and will continue to produce acceptable results if used imaginatively and well.

Outcomes

The main outcome of the editing process is:

- A series of fine-edited location recordings
- Arranged in order – preferably on a single tape spool – for use in the studio recording of a radio programme or audio cassette presentation

- With a long (6-9 feet/2-3 metres) piece of yellow leader tape (or another colour, but **not** red) at the beginning, to protect the start of the tape
- With a similar length of red leader tape at the end, to indicate the end of the last taped item ('insert')
- And with each of the individual items/inserts ('bands') separated from the next by a short (12-18 inches/30-45 cms) length of yellow (or other non-red) leader tape.

Once this edited and banded 'insert tape' has been produced, it's useful to prepare a list of the items or inserts on the tape, with the following essential identifying information:

- NUMBER: the position of an insert in the sequence – 1, 2, 3 … etc.
- TITLE: a brief description of the insert – e.g. Interview with A
- CUE IN: the opening words or sounds of the particular insert
- CUE OUT: the closing words or sounds of the insert
- DUR: the duration or length of the insert in minutes (') and seconds (")

This information is usually laid out as follows:

INSERT 4: Interview with Dr A DUR: 3' 24"

CUE IN: "In my view, distance education is a system that....

CUE OUT: .... and the evidence from research confirms this"

As you will see later, this information is useful when you are preparing your studio presentation script. In the meantime, make sure you label the insert tape (and its box) clearly and keep a copy of the detailed list of inserts – e.g. inside the box with the tape.

Checklist on editing

- Could your audio material be improved by editing – in terms of duration, content or clarity?
- Does the material need 'rough' editing, 'fine' editing – or both?
- How will you do the editing – by dubbing, by cutting, electronically, or using a combination of methods?
- Do you have access to the equipment you need for editing? If not, can you obtain such access?
- Do you have the skills to undertake the editing on your own? Or will you need professional assistance? Where is this available?
- How are you planning to use the material once it's been edited? Does it need to be prepared in a particular form – e.g. as part of a banded insert tape?

Chapter 6

PRACTICAL SKILLS – DOCUMENTARIES, FEATURES AND MAGAZINES

Introduction

This is the third of four chapters on the basic skills needed to develop and produce effective audio materials for distance and open learning. It builds on and extends the skills discussed in the two previous chapters. The chapter deals with two main topics:

- Compiling documentaries and features
- Producing magazine programmes

In Chapters 4 and 5, we concentrated on the basic skills needed to develop and produce scripted talks, unscripted interviews and audio discussions. We also looked at the technology and techniques of location recording; and the methods available for editing audio material for use in the studio. Here we go on to explore how you can combine and use these basic skills in the production of documentaries, features and magazine programmes.

Compiling documentaries and features

The terms 'documentary' and 'feature' are often used interchangeably in audio. However, there is some advantage in distinguishing between them. In Chapter 2, we offered the following broad definitions:

- **Documentaries:** Factual reports on past or present questions, issues, situations or events, incorporating narrative, description and analysis, and usually combining several of the following elements – scripted talk, interviews, discussion, actuality and/or archive material.
- **Features:** Audio material dealing with similar factual themes to documentaries, but approaching them in a more imaginative, creative and artistic way, often using music and dramatisation.

As the definitions suggest, these two formats have a good deal in common; and there is therefore a good case for looking at them together. In particular, they are more complex formats than the simple forms we have discussed so far. And for this reason, their development and production make more demands on the professional skills of both subject specialists and audio producers.

However, responding to these demands is worthwhile, since documentaries and features can offer students unique learning opportunities and experiences to which otherwise they would have little chance of gaining access.

What documentaries and features have to offer

- Field trips and visits to places and situations of interest and relevance to their studies – using actuality, descriptive commentary and analysis
- Opportunities to observe, analyse and evaluate the application of knowledge, the practice of skills and the effects of values and attitudes in the real world
- Factual reports on significant events and issues in the past – using archive material, eye-witness evidence, dramatisation, expert comment and analysis
- Analytic accounts of current issues and events of importance to particular courses – using the voices of people with first-hand experience and expertise

In developing and producing documentary and feature programmes, you need to go through each of the ten key stages of the process discussed in Chapter 3. Here we concentrate on the first seven stages of the process.

1. Preparing a detailed outline

As for any audio material, you start with a detailed programme outline. This will:

- Identify the target audience
- Spell out your aims and objectives
- Outline the main content and basic structure
- Indicate the audio forms you are planning to use
- Suggest support material and student activities

In addition, you need to identify the resources required (and likely to be available) for the programme. You also need to work out a realistic schedule for its development and production. Remember, the programme outline is a flexible working document, that will be modified and refined as work on the documentary or feature proceeds.

2. Researching content and contributors

Here are some of the questions you need to ask:

- What do you know about the subject already?
- What do you need to find out?
- What printed sources are available to you?
- Are there people who can provide information and advice?
- Who should take part in the programme?
- What form should their contributions take – scripted talks, interviews, participation in discussion?
- What other audio material would be useful – actuality, archive material, drama, music?
- Is such material available, accessible and affordable?
- Who will present the programme and act as audio tutor?

The researcher's notebook

As you proceed through this stage of programme development, keep a detailed notebook.

- Write down the names of your sources and contacts.
- Keep a record of the information you obtain.
- Make a note of possible contributors to the programme, and other audio material you might be able to use.
- Jot down your ideas on the main sub-topics you will cover, and the order you will present them in.

Gradually, as you complete your research, a fuller picture of the programme will begin to emerge; and (with luck) you will begin to 'hear' it in your imagination. However, be careful not to spend **too** much time on research. Set yourself a deadline to complete this phase of programme development. Do not use the research as an excuse for not getting on with the process of programme making.

3. Commissioning and collecting materials

By the end of the research phase, you should have developed clear ideas about:

- The content and structure of the programme – the main topics you need to cover, the order in which you will deal with them and the rough allocation of time to each
- The audio materials you need to commission and/or collect – what needs to be scripted, who you need to interview or involve in a discussion, what questions need to be asked and answered, and what other audio materials you need to collect (The wider the variety of forms, the more interesting your programme is likely to sound.)

Once you are clear on these matters, you can go ahead with approaching, briefing and contracting potential contributors (see Chapter 3) and recording the material you need.

The exact division of labour in these tasks is a matter for discussion and agreement between subject specialists and audio producers. No formal rules apply here: how the work is divided up will depend on the skills, interests and availability of the people involved. What is important, however, is that there is close consultation and collaboration between subject specialists and audio producers, ideally growing out of a shared set of perspectives, developed over time, within the framework of course team activities.

Many of these shared perspectives will have been incorporated into the detailed outline for the programme. This document now becomes especially important. The more clearly subject specialists and producers have thought through the purposes of the programme, and the way they plan to approach it, the more efficient and effective will be their collection of material.

Before conducting an interview or recording a discussion, subject specialists and producers should have agreed exactly what they want, where they plan to use it in the programme, and roughly how long the final version will need to be. Similarly, if you are commissioning drama, selecting archive material, or recording actuality or music, you should know where you are planning to use the material and for how long. There are three practical reasons for this:

- First, if you know exactly what you want, you are more likely to get it.
- Second, clear thinking at an early stage will save you a lot of time in editing later.

- Third, contributors will be justifiably irritated if you record 30 minutes of material, but only have time to use, say, two minutes of what you recorded.

At the same time, when collecting material, keep an open mind (and an open ear) for new and unexpected material that can improve and strengthen your programme. Don't let your detailed outline become so fixed and unchangeable that it blinds (or deafens) you to ways of making the programme more interesting, relevant or challenging to your students.

Also, remember that most documentary and feature programmes will be presented by an audio tutor. So you will need to allow time for this. But the presentation script also allows you the opportunity of commenting on the audio material and introducing visual support and activities, that can increase your students' involvement, interaction and learning from the programme. So, when you are collecting material, keep notes on how it can best be introduced and supported by the audio tutor:

- What should the students listen out for in particular?
- What would it be useful for them to look at while listening?
- What activities would help to facilitate and reinforce their learning?

4. Selecting, editing and ordering material

This is a key stage in documentary and feature production, which is best carried out jointly by subject specialists and audio producers. First, listen carefully to the audio material you have collected, and make brief notes:

- Identify the parts you are likely to use (Note down the 'Cue In', 'Cue Out' and 'Duration' – see Chapter 5).
- Decide on the order in which you plan to use them.
- Make notes on the tutorial links (plus any support material and activities) that will help the students get the most out of the material.

Secondly, using these notes as a guide, rough edit the materials – as indicated in Chapter 5. If the original material was recorded on cassette, this is also a good time to copy it onto open-reel tape, ready for fine editing and use in the studio. It's also useful at this stage, if you are working with open-reel tape, to arrange the inserts in order of presentation. When the insert materials have been rough edited, check the duration of the bands and decide whether further rough editing is needed, in terms of either content or the length of the audio slot available to you.

Ideally, in a 15-20′ (15-20 minute) documentary or feature, individual inserts should probably not be shorter than 20-30″ (20-30 seconds) (long enough to establish a voice or sound), and not longer than 1′30″-2′00″ (any longer and the student may lose the overall argument of the programme). Using inserts of about this length (0′20″-2′00″, with an average of say 1′00″-1′15″ per insert), the interaction between the audio tutor and the insert material will give the programme a lively rhythm and pace. And provided that the quality of the material is good, this will help to hold the students' attention and interest. For longer programmes (say 30-40′), the inserts can be longer (say up to 2′30″-3′00″), giving the programme a slower, more reflective pace and rhythm.

Third, draft/design any printed/visual support material and student activities you are planning to use. [**Note:** Support material should be drafted/designed in exactly the form in which it will be presented to the student; so that the audio tutor will be looking at exactly the same material that the students will be using when they are listening to the audio.]

Now that you have rough-edited inserts and draft support material, the next stage is to draft the audio tutor's presentation script.

5. Drafting the presentation script

The role of the audio tutor as presenter was discussed in Chapter 3. This role is particularly important in documentary and feature programmes. This is because their relationship to other study materials (e.g. printed texts) is not always self-evident to the students.

The audio tutor's role – a reminder

The audio tutor has a key role in documentary and feature:

- Introducing the material
- Explaining its purpose
- Relating the material to the rest of the students' learning activities
- Linking the various parts of the audio material and presenting them as a coherent argument
- Recapitulating and reinforcing the main points
- Guiding the student through the support material and study activities

There is usually a strong case for the audio tutor's role to be undertaken by one of the subject specialists responsible for the course. An expert voice, with knowledge and understanding of the subject matter, backed up by training in script-writing and audio presentation, will give authority and authenticity to the programme. It will also give distance and open learning students a greater sense of involvement in a real educational enterprise.

However, the role of audio producers is also important, particularly with presenters who have little experience of working in audio. Producers have a key role in:

- Explaining the functions of the audio tutor
- Providing training in effective script-writing and studio presentation
- Working closely with script writers as they develop their presentation scripts
- Supporting them in the studio and helping them give a good performance

Ideally, the drafting of the presentation script should be a joint activity – with subject specialists providing expert knowledge and pedagogy, and producers providing professional assistance and support in effective audio communication.

The layout of the audio tutor's script is also important. The basic conventions of script layout were introduced (with reference to scripted talks) in Chapter 4. The conventions for documentaries and features are essentially the same.

Basic script layout – a reminder

- Clearly written, typed or word-processed on good quality paper
- Double- or triple-spaced, on one side of the paper only
- With wide margins and numbered pages
- With sentences (or ideally paragraphs) not running over from one page to the next

However, for programmes using pre-recorded insert material, we need to extend these conventions. There are two main reasons for this:

- First, the programmes are more complex. They include not just a single voice but a combination of studio speech and pre-recorded materials.
- Secondly, because of this complexity, it is important for the audio tutor, producer and technician(s) to be able to see at a glance where they are in a script, and to see what is coming next, so that they can be prepared for it.

Script layout – additional conventions

- In the left-hand margin (if you write from left to right) – or in the right-hand margin (if you write from right to left) – indicate the source from which each part of the programme is derived.
- The sources are usually indicated using CAPITALS – e.g. ANNOUNCER, AUDIO TUTOR, [TAPE] INSERT 1, 2, 3 ....etc., SIG (-nature) TUNE, MUSIC/CD and so on.
- Pre-recorded sources are identified briefly – e.g. SHORT TITLE, CUE IN, CUE OUT and DURATION.
- These re-recorded sources are also separated from speech that is to be recorded in the studio by having a line drawn above and below them in the script.

These conventions are illustrated by the following sample script from the Bangladesh Open University.

SAMPLE SCRIPT		PAGE 1
SIG TUNE	FADE UP – HOLD FOR 15' – FADE UNDER AND OUT	
ANNOUNCER	This is the Bangladesh Open University. You are listening to a programme for students of the Open School. This programme is for the SSC course on 'The Geography of Bangladesh'. And as usual you'll need your copy of the Audio Notes for the course. Here to introduce the programme is your Audio Tutor, Dr Md. Anwar Haque.	
AUDIO TUTOR	Welcome to the fourth programme in our series on the geography of Bangladesh. Before I tell you about the subject of the programme, I want you to listen to the following sounds. Where do you think they were recorded? And what do you think was happening? Listen carefully.	
INSERT 1	SOUNDS OF FISHERMEN	DUR 0' 20"
CUE IN	Sounds of the sea.....	
CUE OUT	....voices of fishermen (NATURAL FADE ON TAPE)	

SAMPLE SCRIPT		PAGE 2
AUDIO TUTOR	So, what were you listening to? (PAUSE) If you said it was the sound of fishermen, you're right. In fact, it was the sound of fishermen fishing off the coast of Bangladesh. And that's the main subject of this programme – the resources that are available to us from the water off our coast. Now listen again – this time to what one of the fishermen has to say about his work. What are the main problems he faces?	
INSERT 2	FISHERMAN ONE	DUR 0' 45"
CUE IN	"I have been a fisherman for the past twenty-five years.....	
CUE OUT	....and those are the main problems we fishermen face."	
AUDIO TUTOR	Now I want you to look at Frame One in your Audio Notes. (PAUSE) That's Frame One in the Audio Notes. (PAUSE) As you can see, here's a map of the coastline of Bangladesh. Now I'd like you to look at the bottom right-hand corner of Frame One....	
[SCRIPT CONTINUES]		

This type of script layout:

- Is easy for the audio tutor to read, mark-up and correct
- Gives the producer space to write production notes on the script
- Gives the technician(s) space to write technical notes on the script
- Makes a clear distinction between speech to be recorded from the studio and pre-recorded material that will be played into the programme from the control room
- Allows the audio tutor, producer and technician(s) to look ahead easily, so they can see what is coming next and be ready for the changes

Once the studio script has been prepared, enough copies should be made for the producer, technician, audio tutor and any other people involved in or affected by the programme. Ideally, the script ought to be distributed as far as possible in advance of the studio recording session:

- To allow the audio tutor (and any other contributors) time to read through and familiarise themselves with the final version of the script
- To allow the technician(s) time to familiarise themselves with the script; to check the technical facilities needed and to obtain any music or sound effects (FX) the programme needs

6. Rehearsal and recording

The basic routines of rehearsal and recording in the studio were discussed in Chapter 3. There was also a discussion of the presentation and production of scripted speech in Chapter 4. Most of the principles discussed there apply equally to the studio production of documentaries and features.

Three main people are involved in the studio production of documentaries and features:

- The producer – who is in general charge of activities in the studio and takes overall responsibility for programme production
- The technician – sometimes called 'studio manager' – who is responsible for using the technology in the studio to deliver good quality sound
- The audio tutor/presenter – plus any other 'live' (i.e. not recorded) contributors to the programme – who delivers the script at the microphone

In some cases, particularly when an external presenter is being used, it may also be thought advisable to have a subject adviser attend the studio session, to ensure that the content of the programme is appropriate and acceptable – though of course this should have been sorted out at the scripting stage.

Essentially, the procedure is as follows:

- Everyone should arrive at the studio on time – or preferably a bit earlier. (Studio time is a scarce and valuable commodity – don't waste it!)
- Usually, the technician will have set up the studio and control room in advance and made sure that the equipment needed is available and in good working order.
- The producer should first check that everything required for the recording is there – script(s), insert material, music etc. If possible, the producer and/or technician should also have a stop watch; and everyone will need something to write with.
- Before the rehearsal starts, it's useful (particularly with inexperienced presenters) for the producer to run through the script with the audio tutor. While this is happening, the technician can run through the insert material, checking the 'cue in' and 'cue out' for each band against the script, and deciding whether any 'equalisation' (sound modification/improvement) is necessary.
- When the 'read through' has been completed, the producer should make sure that any changes to the script are passed on to the technician.
- The technician can then 'take level' on the audio tutor; and make any adjustments to the microphone position. When the technician and producer are satisfied with the sound quality of the audio tutor's voice, the rehearsal can start.
- In rehearsing a documentary or feature programme, there is usually no need to play through the whole of each insert. You can save time by playing just the opening and closing words (or sounds) of each insert. This will be enough to check the level and the balance between the audio tutor's voice and the insert, and to give the audio tutor an opportunity to practise introducing and responding to each of the inserts.
- During the rehearsal, the producer should avoid interrupting the presenter too often. Usually, it is worth stopping the rehearsal after the first few minutes, to offer encouragement to the presenter and to advise (where necessary) on how the presentation could be improved. This usually involves slowing the presenter down, so that the voice can be used more expressively. After that, unless there is a major problem, it is good to let the rehearsal continue, giving the audio tutor an opportunity to relax and settle down into the script.

- As a general rule, in working with presenters in the studio, producers should concentrate on providing positive and constructive advice and suggestions. Presenters are much more likely to respond to constructive criticism, if it is preceded by positive feedback and support. Always find something good to say about a presenter's performance, before going on to offer constructive advice and suggestions about how the performance could be improved.
- It is also important during rehearsal for the producer to listen carefully to the playing in of the inserts, and the audio tutor's pick-up of the script after each insert. Establishing a good rhythm and pace for the programme during rehearsal usually makes the final recording much smoother; and also tends to save valuable time in post-production fine editing.
- Once the rehearsal has been completed, it is worth taking a short refreshment break, before going on to the recording. But be careful not to break for too long and lose the momentum of the recording session.
- If the rehearsal has gone well, the final recording should not be a problem. Now the producer's main task is to listen and make sure the programme is recorded to the highest professional standards. To do so, the producer needs to be in a good position to monitor the studio output – the final sound of the recorded programme – either on headphones or a loudspeaker.
- If errors are made, or if the performance of the technician or audio tutor is inadequate, it is easy to stop recording and re-record the part that needs correction or improvement. Don't settle for poor quality!
- At the end of the studio session, the producer should listen to a short section of the final recording, to make sure that the sound quality is satisfactory. Also, make sure that the recording is properly labeled. Thank the technician and audio tutor for their efforts – and go home for a good rest!
- If you have time at the end of the session, play through the whole recording to check the duration, and also to decide whether post-production editing is necessary. If only a little editing is required, this is often done at the end of the recording session. Otherwise, an extra editing session will need to be booked.

7. Post-production editing

The general purposes of editing were discussed in Chapter 3. If an audio programme is carefully planned and well produced in the studio, post-production editing should not be necessary. However, despite the best efforts of producers, presenters and technicians, some post-production editing may be necessary; and it can make a positive

contribution to the professional and technical quality of the programme.

As we suggested earlier, there are three main reasons for editing after the final studio recording. The most common of these is to reduce the duration of the programme to fit the time-slot available. If you are having to reduce the length of your programme:

- First, time the programme accurately, and work out exactly how much time you need to lose.
- Second, listen carefully through the programme (several times if necessary) and identify and time insert material (either whole inserts or parts of them) that can be removed without doing too much damage to the content and structure of the programme. [**Note:** It is usually much easier to maintain the structure of a programme by editing out parts of the insert material, rather than cutting the audio tutor's presentation.]
- Third, if cuts in the insert material do not provide sufficient savings, look at the possibility of cutting out a whole section of the programme (inserts and presentation script), though obviously one that will not damage the overall argument of the programme too much.
- Fourth, when you have decided on your cuts, look through the programme script and support material, to check whether your proposed cuts have implications for the rest of the programme and the support material.
- Fifth, only when you have gone through these steps should you actually start cutting the material. Also, as a safety measure, it is sensible to make a copy of the final studio recording before you start editing. In this way, if anything goes wrong in the editing, or if you change your mind, you still have an intact version of the programme.
- Sixth, when you have completed editing, play through the programme again to re-time it and also to check that the audio and any support material are still consistent following the editing process.

In addition to cutting for time, it may also be possible to improve the professional and technical quality of the programme by careful fine editing. The most common way of doing this is by reducing or extending the pauses between studio presentation and the insert material.

Ideally, you should have got this right in the studio. But occasionally, over-enthusiastic presenters or technicians mean that pauses need extending. Or slow reactions mean that the programme would sound better if the pauses were shortened. It may also be that quality can be

improved by further fine editing on the insert material or on the audio tutor's presentation.

Finally, post-production editing can be used (within limits) to correct any content errors that may have been missed at the script-writing, script-editing or recording stages. Hopefully, this will be a rare event. But if it is necessary, remember that you can only cut out material during editing. You can't introduce new material – unless of course you re-record. If re-recording does prove necessary, remember:

- The material has to be re-recorded in the same acoustic as the original
- It is virtually impossible to successfully replace single phrases or sentences
- You will normally have to re-record a whole link or piece of insert material

Producing magazine programmes

Magazine programmes were described in Chapter 2 as follows:

> **Magazines**: A popular and widely used format; usually broadcast on a regular basis (daily, weekly, monthly); dealing with a number of different topics, linked by a common theme; using a range of different audio forms; and usually presented (in distance education) by an audio teacher or tutor.

Magazine programmes are an excellent way of keeping distance and open learning students informed and up-to-date about what is happening in the institutions they are part of and the courses which they are following. Not only can they be used to provide practical information and advice; but they can also create a sense of identification and involvement with the institution. And in this way, they can combat the problems of isolation and the dangers of drop-out.

Production procedures

The production techniques used for magazine programmes are very much like those discussed above for documentaries and features.

- **Preparing a detailed programme outline:** Having identified the audience, aims and objectives of the programme, you need to define its main theme and decide on the number of topics ('items') you are going to cover, and the subject matter they will deal with. You also need to decide whether support material or a back-up information service would be of value. What resources will you

need for the programme? How long will it take to produce? When should you start?

- **Researching the programme:** Having selected the topics, you need to research each of them – What do you need to find out? Who should your contributors be? What audio form should the contributions take? When, where and how will you record the material? Who will present the programme? You can present this information in the form of a provisional 'running order' – a list of 'items', arranged in probable order of presentation, with notes on audio treatment and intended duration.
- **Commissioning and collecting material:** Once you are clear about what you want to include in the programme and how you are going to do it, you can then go on to commissioning and collecting the material. It is common in magazine programmes to commission at least one more item than you are likely to use – on the grounds that at least one item may not work well in audio terms. (If all the items are good, no problem: you can keep one of them for later use.) In commissioning and collecting material, keep in mind the duration of the programme and the fact that you need to allow time for the presenter. (More on this later.) Also, the more variety of audio forms you can introduce, the more interesting your programme will sound.
- **Selecting, editing and ordering material:** It is at this point that you begin to finalise your 'running order' – i.e. make final decisions on what you will include in the programme, and how long each item will be. The time needed for this phase of programme development should not be underestimated. By the end of this phase, you should have a banded insert tape, with all the insert materials fine edited, ready for the programme presenter to draft the presentation (or 'linking') script.
- **Drafting the linking script:** If you are clear about what you're including in the programme (and why) and you have fine-edited the insert material, writing the presentation script should not be difficult. The programme will usually start with an opening signature tune, followed by a 'menu' – i.e. an indication of what's in the programme. The presenter then introduces each item and links it to the next. The programme usually ends with information on what's likely to be in the next edition and when it can be heard, followed by the closing signature tune. The key questions to be considered are (a) whether to use one or two presenters, and (b) what sort of balance to aim for between the presenter(s) and the insert material.
- **Rehearsal and recording:** The procedures for rehearsing and recording magazine programmes are essentially the same as those discussed earlier for documentaries and features. The main difference is that magazine programmes (particularly those focusing on news and up-to-date information) are likely to be

recorded much closer to transmission or (less frequently) distribution on cassette. It is also possible, at least in radio, to broadcast the programmes 'live'. In thus case, the precise timing of the insert material and presentation links becomes vital, as does the need for an experienced presenter and thorough rehearsal.

- **Post-production editing:** Again, as with documentaries and features, the post-production editing of a magazine programme should not be necessary if the programme has been carefully planned, well rehearsed and well recorded. However, the possibility of editing does provide the producer with an opportunity to polish and sometimes significantly improve the quality of the final version of the programme.

Some production hints

What follows are some practical suggestions for the production and presentation of magazine programmes for formal and non-formal distance and open learning.

Regular transmission slots

Magazine programmes are likely to be most effective if they are transmitted:

- on a regular basis – daily, weekly, monthly
- on regular days and at regular times

Students will then know when the programme is due. If they find it useful and interesting, they will develop the habit of listening on a regular basis. In this way, magazine programmes can be used as an efficient, effective and reliable way of communicating essential information to students.

Signature tunes

It is useful for magazine programmes to have a signature tune ('sig tune') – i.e. a piece of music which regularly opens and usually closes the programme, and may also be used as a 'spacer' between items. This is not only an attractive way of opening and closing the programme. It also:

- Gives the programme a clear identity, which makes it readily identifiable to the audience
- Attracts their attention and gives them a chance to settle down before the programme starts

The exact type of music you choose is a matter of culture and taste. But in general it should probably be lively, engaging and easily

memorable – the sort of music that arouses your interest, rather than putting you to sleep. Instrumental music has the advantage that it can be faded and held under the voice of the announcer or presenter without distracting from what is being said. However, vocal music can also be used. And songs have the advantage – often used in non-formal education – that they can incorporate the main educational messages of a programme in a way that the audience will remember and internalise.

It is generally enough to play the signature tune for 15-20" before the voice of the announcer or presenter comes in. However, vocal music usually needs to be played for longer than this, e.g. for one verse of the song. After 15-20", instrumental music can then be faded under the voice of the announcer or presenter and lost. Alternatively, the signature tine can be faded and held under the opening announcement, brought up again briefly (probably no more than 10") after the announcement, and then faded and lost under the voice of the presenter.

At the end of the programme, you need at least 15-20" of signature tune, though if you have time, it can be longer. Ideally, the closing signature tune should end on a natural fade in the music, indicating the end of the programme. One neat way of achieving this (particularly useful in live broadcasting) is to have a pre-timed closing sig tune (say 2'00" of music).

- Start the music exactly 2'00" before you want the programme to end; but with the 'fader' on the mixing desk closed, so that the music is not heard in the programme
- Slowly fade up the music as the last words of the script are being spoken
- When the words are finished, fade up the music completely and run it to its natural end.

In this way, your programme will end exactly on time, with the music coming to a natural conclusion.

One presenter versus two?

Most magazine programmes tend to have a single regular presenter. This gives the programme a clear identity. Listeners become familiar with the presenter's voice and personality; it is associated with the programme; and over time a relationship of familiarity and trust can be established. However, a case can also be made for having two presenters. There are two main arguments in favour of this:

- First, it adds variety and dynamism to the presentation of the programme

- Secondly, it offers an opportunity to have both a man and a woman presenting the programme

Set against these arguments are the opposing views that:

- Having two presenters, particularly if they are in dialogue with each other, tends to consume too much programme time, reducing the time available for the substantive items in the programme
- There is a danger that having two presenters leads to programmes becoming too inward-looking: the presenters tend to talk to each other, rather than communicating directly with the listeners

However you resolve these arguments, it is important that the presentation is well informed, friendly and student-centred. The presenters are there to represent the interests and concerns of the student, and to present materials that respond to their particular concerns and needs.

Duration, number of items and item length

The usual duration of broadcast magazine programmes tends to be 15-30', with an average of 3-6 items in each programme. If you allow

- 1'30"-2'00" for the opening of the programme – sig tune, menu, introduction to the first item
- About the same amount of time for the closing section – follow-up information, details of the next programme, closing sig tune
- And if you allow say 0'30"-1'00" for each of the presenter's links between items

– that gives an average item length of about 3'30".

Using items of about this average length (say 3'00"-4'00"), provided they are interesting and relevant, will give you a lively and fast-moving programme, which should hold the interest and attention of your students. Although 3'00"-4'00" may seem a relatively short time to non-producers, it is in fact long enough to deal very effectively with most magazine topics. And, since rules are made to be broken (at least for good reasons!), if you have a topic that needs more time, you can always vary the format – e.g. having one longer item and a number of short ones. However, as a rule of thumb, you should always allow nearly one-third of your magazine programme time for presentation.

Menus and trails

It is useful for the presenter to begin a magazine programme with a brief 'menu' – i.e. an indication of the main items to be covered in the programme. In this way, although individual listeners may not be

interested in all the items, if they are told it is likely that they will find at least one or two which do interest them, and will therefore continue listening to the programme.

Similarly, at the end of the programme, it is useful for presenters to 'trail' (i.e. give advance information about) topics coming up in the next or later programme, which (if they are interesting and relevant) will carry the audience forward.

Programme structure
Implicit in the discussion above is a basic structure for magazine programmes, with the following main characteristics:

Introduction	Opening sig tune (15-20″) – Programme announcement – Presenter's introduction – greeting, menu & introduction to item 1
Main body	A series of say 3-6 items, linked to the main theme of the programme, arranged in a coherent order – with each item introduced, concluded and linked to the next item by the presenter(s)
Conclusion	Presenter's conclusion – reminder of important points and information in the programme, trails for next and future programmes, good-bye to the listeners – Closing sig tune (0'15″+)

Audience participation
Although radio is essentially a one-way medium, you can make magazine programmes more involving and interactive by inviting students to respond to and participate in the programmes. This participation can take a number of forms:

- Students can be invited to take part in the programmes – asking questions about their courses, providing comment and feedback on materials and student support, sharing their experiences as distance and open learners.
- Programmes can invite letters, phone calls and e-mail from students. These can then be broadcast and responded to on air by appropriate people.

- Listeners can be asked for their ideas and suggestions about the sort of topics they would like included in the programmes. Competitions could be run – with modest prizes (such as appearing in the programme) for the most original and imaginative contributions.

In all of these ways – and no doubt others you can think of – students can be encouraged to share in the ownership of the programmes – to see them as a way in which their voices can be heard and in which they can be actively involved and participate in shaping their own educational opportunities and experience.

Wider applications

So far, we have been thinking of magazine programmes mainly as a broadcast format. However, these techniques can also be used on audio cassette, for a number of different purposes. For instance:

- Cassette-based magazine programmes can be used to introduce new students to an institution or project and how it operates.
- They can also be used for the induction of students into particular courses and programmes of study.
- In addition, magazine programmes can serve a number of special purposes – e.g. help with study skills; advice on choosing courses, support for students with disabilities.

Whenever there is an identifiable group, with a particular need, magazine programmes on audio cassettes – ideally with printed support – can be considered as an attractive, accessible, economic and effective way of responding to it.

Some questions to ask if you are thinking of starting a magazine programme

- Who would the programme be aimed at?
- What would be its main aims and objectives?
- What sort of subject matter would the programme deal with?
- Would it be broadcast or distributed on audio cassettes?
- If broadcast, who would transmit the programme, how often and when?
- Who will produce and present the programme?
- What resources will they need? Are they available?
- What support materials and/or services would be useful? Who will provide them?
- How will the students benefit from the programme? Is it worth the investment?

Chapter 7

PRACTICAL SKILLS – AUDIO DRAMA AND MUSIC

Introduction

This is the last of the four chapters on practical skills in the development and production of audio for distance and open learning. It looks at two main topics:

- Audio drama and simulation
- Recording and using music for educational audio

Audio drama and simulation

Throughout this handbook, it has been argued that radio, audio cassettes and audio-vision can be used to provide distance and open learning students (both formal and non-formal) with a range of learning materials and experiences that are difficult or impossible to communicate using other media, and to which – without the use of audio – students would have very little chance of gaining access.

So far, in discussing such materials, we have concentrated mainly on the development and production of scripted talks, interviews and discussions, and on the combination of these and other techniques in documentary, feature and magazine formats. However, not all subjects will lend themselves to these types of audio treatment. And even when the techniques are appropriate in principle, it may not always be practically possible to use them. For instance:

- For social and cultural reasons, there may be some sensitive subjects (e.g. relating to religion, politics, family life or health) that people will be reluctant or unwilling to be interviewed about or to discuss openly and frankly in public.
- Some subjects, by their very nature, may not be directly accessible to the distance teacher or producer with a microphone – e.g. people or events in the past, or situations in an imagined or projected future.
- In some situations, it may be very difficult to capture in audio certain types of event or behaviour – e.g. particular kinds of

classroom interaction or inter-personal relationships, needed to illustrate a general principle or as raw material for student analysis.

- Often, for purely practical reasons (e.g. lack of resources or time), some subject matter may not be immediately accessible to the microphone and recorder – e.g. subjects involving people and situations in places which are distant and practically inaccessible.

In all these circumstances, the techniques of audio drama and simulation offer an alternative approach, which can be used to reconstruct otherwise inaccessible past and present realities. In this way, audio drama can be used effectively for the teaching of knowledge and skills in a wide range of subjects. In addition, dramatisation can also be used to create fictional accounts, set in realistic contexts, which can serve as a stimulus to discussion and debate, and a vehicle for the exploration of attitudes and value systems.

Perhaps most important, students generally enjoy listening to good audio drama. It is a highly interactive medium. It attracts their interest, holds their attention and engages their imagination. Audio drama and simulation are therefore extremely useful tools for distance and open learning. However, like any other format, audio drama will only work well if it is carefully crafted and professionally produced.

Some essential characteristics

To be effective in distance and open learning, audio drama needs to have the following main ingredients:

- A strong theme: It needs to deal with questions and issues that are clearly relevant and important to the subject the students are studying
- A credible situation: Audio drama needs to be set in realistic and believable contexts, with which the students are familiar and can identify
- Compelling characters: The characters in the drama need to be clearly and convincingly drawn, with well defined and credible personalities
- A good story-line (narrative, plot): The characters need to be involved in a series of actions and events, which are relevant to your main theme and will hold the interest and attention of your audience

Audio drama tends to work best:

- If it is clearly structured – e.g. in a series of linked 'scenes', each located in a particular setting and each carrying the story-line forward
- If it involves some sort of conflict (e.g. of people or ideas), which is first developed, creating a sense of tension and suspense, and then resolved
- If the resolution is not immediately obvious and predictable, but contains an element of surprise, highlighting and reinforcing the main theme of the drama

Developing and producing audio drama

As a starting point, you need to be clear about why you are using audio drama.

- What are your aims and objectives?
- What sort of learning experience do you want to offer to the students?
- What do you want them to do with the dramatic material?
- What do you expect them to learn from the drama?

Once you are clear about why you are using audio drama, then (as with other audio forms) there is an identifiable series of stages that you need to go through in developing it.

Establishing the theme

The first thing to do is to establish the basic theme of your drama. What is it essentially about? What is the central question or issue it's dealing with? It's important that you're clear about your basic theme and that you keep it firmly in mind as you develop the drama.

Providing the setting

Depending on the theme, you need to locate your drama in a particular situation or context.

Where will the action take place? Is it rural or urban? What sort of place is it? Can you imagine it? Can you see it in your mind's eye? Within this general environment, what specific locations will you need to use – home, school, government office, clinic, factory, market place? Can you imagine and describe these places?

You may find it useful to make notes on the locations you will use. The clearer the picture you have in your mind, the more realistic the setting for your drama will be. Later, when you come to brief a dramatist or write the dialogue yourself, all of these details will become important. They will determine where people meet, what they do, how they talk to each other, what their major concerns are. They will provide a realistic and convincing setting within which the action takes place.

Identifying the main characters

Once you have established the setting, you need to identify or create the main characters who will bring it to life. For most drama, you will not need more than four or five major characters. But it is important that they are clearly and convincingly drawn. For your drama to work well, your audience needs to believe in the characters, to be able to imagine them as real people.

If you are using drama or simulation to reconstruct real events or situations, then your main characters will be fairly obvious and self-selecting. However, if your purpose is to create a fictional drama – e.g. to explore a sensitive social issue or examine a major socio-economic theme – you will need to be more imaginative in identifying your characters. Here, the key question will be – What range of characters do I need to explore this theme?

An illustration from Ghana

The type of thinking needed for developing characters is illustrated by a discussion of possible characters for an audio drama series for a village-based non-formal education project in Ghana. (The extract is taken from a draft audio manual for the Ghana Functional Literacy Project in the early 1990s.)

> In drama for education and development, it is often useful to have some characters who represent forward-looking and progressive ideas, while others reflect a more conservative and traditional outlook. In this way, the characters themselves present the potential for conflict of ideas, attitudes and values, which lies at the heart of good drama.
>
> For instance, you might have a young couple with small children who favour modernising ideas and are keen to bring about change in the village; and their

parents, parents-in-law or neighbours who argue that traditional ways are best, and are resistant to social and economic change. The interaction between these two groups can offer an interesting way of exploring a wide range of development issues.

You may also find it useful to introduce a 'comic' character – perhaps an old man or woman, who has a good sense of humour, wide experience of the world and is generally regarded with affection and respect. In this way you can bring wit and wisdom into your drama, which the audience will appreciate and enjoy. You can also use this character in the resolution of the conflict. He or she can be acceptable to both sides, explaining each to the other, and coming up with constructive solutions.

In addition, you will probably need a number of minor characters, perhaps from outside the village, who can introduce new ideas and innovations – for example, a nurse, a teacher, a government official or extension worker. They can start the action of the drama, provide specialist information and advice, and suggest a way forward once the conflicts have been resolved.

This example is not intended as a model for you to follow; but rather as an indication of the type of thought-process you need to go through to establish the central characters through which you can explore a particular theme. Different themes will require different settings and different sets of characters. The important thing is to be clear about what you want to say; and to create settings and characters to enable you to say it effectively.

Developing the story-line

Now you can start thinking about the 'action' of the drama.

- What is going to happen to the characters you have identified or created?
- What are they going to say and do?
- How are they going to interact with each other and with the plot?
- What is the source of conflict, through which you will explore the main theme?
- How will this give rise to the tension that will hold the interest of your students?

- How will the conflict be developed and resolved?
- How will the situation have changed by the end of the drama?

If you are reconstructing real events in the past or present, your story-line will largely be given. Your main task will be to research the event(s) and translate them into a narrative form that will fit the timeframe available. This will often involve difficult choices and decisions about what to include and what to exclude. These questions have to be resolved so that you convey the essential elements of the story in the time available to you.

Developing fictional drama is more difficult and demanding. Thinking up a good story-line – often called the 'narrative' or 'plot' – is a creative act, for which there is no simple formula.

If you can, it's often a good idea to work with an experienced audio dramatist. You should be able to contact such a person through your local or national radio station. Explain the audience you are aiming at, the main theme you want to explore, and suggest the sort of setting and characters that you think might be appropriate. A good dramatist should be able to respond with a suitable story-line, which will interest and involve your audience.

However, if you do not have access to an experienced drama writer – or if you cannot afford to hire one – the following general suggestions may be useful:

- First, you need to establish the setting and introduce the main characters in their normal situation.
- Next, introduce the problem, issue or event that gives rise to the conflict (of people or ideas) through which you are going to explore your main theme.
- Then develop this conflict – and the tensions to which it gives rise – so that you can explore the main aspects of your theme. Here you can also introduce an element of suspense; so that your audience will begin to wonder what will happen next and start thinking about possible outcomes of the situation.
- Finally, you move towards the resolution of the conflict. Sometimes, however, you may decide to leave the conflict unresolved, so that the students have to work out a resolution for themselves. In this way, you can encourage students to think about the issues involved, and to come to their own independent conclusions.

This is of course a rather theoretical way of thinking about audio drama. In practice, what you are doing is developing a good story-line, which your students will (hopefully) find interesting, involving and

instructive, which will make them better informed and also help them think more deeply and critically about the main theme.

At this stage, some people find it useful to write out the story-line as though it were a short story, before going on to develop the structure of the narrative in more audio-dramatic terms. Whether or not you find this useful, you will only discover through experiment and experience.

Structuring the narrative

Once you have developed the story-line, the next stage is to structure it in terms of a number of 'scenes'. Each scene should be set in a particular location, at a particular time, and should represent a specific step forward in the development of the narrative. These scenes can either flow directly from one to the next; or they can be linked by a 'narrator'. The narrator can tell the listener what has happened between scenes, and can also provide descriptive scene-setting and commentary on the action of the drama.

It is also possible to combine the role of narrator with that of the audio tutor. In this way, in addition to introducing and linking the various scenes, the narrator/audio tutor can also:

- Indicate the main purposes of listening to the drama
- Draw out and highlight the key questions it raises
- Recapitulate and reinforce the main theme and teaching points of the drama
- Remind students of follow-up activities linked to the dramatised material

If you decide **not** to have a linking narrator or narrator/audio tutor – i.e. to let the scenes flow from one to the next – then the dialogue at the beginning of each scene, supported by appropriate sound effects (FX), needs to establish the time and place of the scene. Also, at the end of each scene, you can signal the time and place of the next scene.

For instance, at the end of a scene, a character might say:

> "Good. It's agreed then. We'll meet on Thursday morning at the market. I'll see you there. And be careful not to be late."

A second character replies:

> "OK. I'll see you on Thursday. And don't worry, I'll be there on time."

The scene fades. The next scene fades up on the sound effects of a market. The same two characters greet each other. The audience knows that time has passed. It is now Thursday morning, and the scene has changed to the local market.

Alternatively, you might decide to use a narrator. At the end of the first scene, the narrator might say:

> "At the end of the meeting, the two men agreed that they would meet again two days later, on Thursday morning, at the local market. They both arrive at the market in good time."

Fade up the market sound effects; the two men greet each other; and the audience knows that time and place have changed.

The narrator is particularly useful in linking scenes when the story-line is fairly complex and you want the drama to be fairly short. The narrator can usually summarise a complicated series of events more quickly and economically than can be done through dialogue – which allows you to focus your dramatic scenes on the key episodes of the story.

However, your decision on whether or not to use a narrator may also depend on the tradition of drama and story-telling in the culture of your audience. Also, for audiences which are unfamiliar with the conventions of audio drama, the use of the narrator may make the story-line easier to follow. And as suggested earlier, the narrator can also be used to bring out the main theme and messages of the drama and make explicit the questions it is posing to the audience.

Scripted versus improvised drama

The main advantage of scripted drama is that it gives you a high level of control over the detailed content and duration of the audio drama. It also allows you to plan ahead more effectively – e.g. in terms of rehearsals, technical facilities, sound effects, etc.

However, for scripted drama to work well, it requires not only skilled audio-dramatic writing, but also the services of talented and experienced actors, preferably with experience of working in radio or audio. Unfortunately, these skills are not always readily available or affordable to distance education course teams and producers.

Unscripted or improvised audio drama and simulations have the advantage of relying less on professional writing and acting skills, and more on the improvising talents of actors, and the skills of audio producers in managing and directing them. The producer loses some degree of control over the detailed content of the drama; but often

gains in terms of the liveliness, spontaneity and authenticity of the dramatic performance.

If you are working with literate actors, the compromise of semi-scripted drama often works well. This involves the preparation of a basic script outline; but gives the actors a good deal of freedom to improvise around it. In this way, you can retain a good deal of control over the content and structure of the drama, but at the same time take advantage of the freshness and credibility of skilled improvisation.

Usually, your decision will depend on the resources and skills to which you have access. If you have good radio drama writers and actors – and you can afford to pay them – then you will probably go for scripted drama. If you don't have access to professional dramatists, and if most of your local acting talent is semi- or non-literate, then it would probably be best to go for unscripted or semi-scripted improvised drama. Again, your decision may also depend on local cultural traditions, and on the approach to audio drama adopted by your local radio station.

Scripted audio drama

It is difficult in a brief set of notes to outline the skills needed by a good audio dramatist. Certainly, a lively imagination, a good story-telling sense and an appreciation of the medium are important. But perhaps most important are a keen ear for language and dialogue and an ability to use it effectively.

Radio/audio has been called a 'blind medium' and the 'medium of the imagination'. Radio drama has been called the 'theatre of the mind'. Audio drama relies for its effect on the use of words and on the economic use of sounds; and also on the use of silence, which gives context and meaning to words and sounds. Words, sounds and silence together have to create pictures in the mind and imagination of the listener.

All of this has to be achieved through the words which the writer puts into the mouths of his or her characters. The words – with some support from sound effects – must establish locations, convey personality, bring to life relationships, carry forward dramatic action, and do so with authenticity and economy. They must provide the actors with the means to attract and hold an audience; to engage and involve them in the action of the drama; and to evoke a thoughtful and reflective response to the theme the drama is exploring.

In short, writing good audio drama is not an easy task. It requires a creative talent, a high level of skill and a good deal of practice. However, when it is done well, and when it is backed up by skilled acting and technical support, it can create compelling listening

experiences and unique learning opportunities for formal and non-formal distance and open learning students.

Improvised audio drama

Successful improvisation in audio drama depends on two main factors:

- Careful and detailed planning by the producer
- The creation of a good working relationship between the producer and the actors, and between the actors themselves

The settings, characters and narrative structure for improvisation need to be planned just as carefully as for scripted drama. But the producer also needs to be able to communicate these plans effectively to the actors. The actors need to develop a clear sense of the settings in which the drama takes place. They need to have a real understanding of the characters they are playing and the relationships between them. They also need to be aware of the structure of the drama and the unfolding of the action. Perhaps most important, the producer has to convey to the actors an understanding and appreciation of the underlying theme of the drama.

All of this requires close working relationships, characterised by mutual respect and trust, between the producer and the actors, and between the actors themselves. For this reason, many producers working on improvised drama like to build up around themselves a regular group of talented and experienced actors. The more they work together, the closer the working relationship becomes. In this way, the producer and the actors develop a sensitive and intuitive grasp for each other's work, which enables them to produce a high standard of professional performance.

Preparing the script

The drama script follows most of the conventions of normal script layout (see Chapters 4 and 6) – double-spacing, wide margins, using one side of good quality paper, numbering pages, etc. For drama, you will probably find the following additional conventions useful:

- Add a 'cover page' to the script, containing the following information:
  - the institution or project and course for which the script is being recorded
  - The title of the drama, and the names of the author, producer and technician(s)
  - A list of characters and (if known) the names of the actors playing them

  - A list of scenes, and the sound effects (FX) that will be needed for each
  - Details of any music that will be required for the production
  - Day, date, time and location/studio for rehearsal and recording
- Scenes should be numbered, given a specific location and start on a new page
- The names of characters should be typed or written in full in the margin using CAPITALS
- The words that actors **say** should be typed or written in normal upper- and lower-case letters
- All other information – e.g. directions to the actors or technician(s), details of sound effects (FX), music etc. – should be in CAPITALS, UNDERLINED, AND (IN BRACKETS). This makes it easy for actors to distinguish their lines from technical directions.
- For ease of reference, in addition to numbering the pages of the script, actors' speeches should be numbered on each page – with the numbers starting again from '1' on each page. This makes it possible for producers and actors to identify individual speeches clearly and economically – e.g. 'Let's start again from page 16, speech 4'.

Read-through, rehearsal and recording

Once the script is ready, the next stage is to have what is usually called a 'read-through' – where the producer sits with the actors while they read through their parts. This gives the actors a chance to familiarise themselves with the characters and the plot. It also gives the producer an opportunity to explain the main theme and ideas underlying the drama, to shape the characterisation as it is emerging, and also to deal with any questions of interpretation that may arise. This stage usually takes place **outside** the studio, in order to save studio time.

There are then two main ways in which you can handle rehearsal and recording:

- If the drama is fairly short and not too complicated, you can rehearse the whole piece from beginning to end, and then go on to record it.
- If the drama is longer and/or more complex, it usually makes sense to rehearse and record scene-by-scene. This is usually called the 'rehearse-record' method. First, rehearse a scene, then record it; then go on to the next scene, rehearse and record; and so on to the end of the drama.

For improvised or semi-improvised drama, you can follow the same general pattern. But instead of the 'read-through', you will normally have a briefing session, in which the producer goes through the drama with the actors, outlining the characters and the plot, and agreeing on how the improvisation will be handled.

Depending on the length and complexity of the drama, you can decide whether to rehearse and record the piece as a whole or scene-by-scene. Rehearsals are very important in improvisation – especially to get the duration of the drama right. But as a general rule, it is a good idea to **record** the initial rehearsal, since the first run-through often has a lively and fresh quality which the actors may not be able to recapture when they go through it a second time.

Working with actors and technicians

It was suggested earlier that producers need to develop a close working relationship with actors and technicians. The point was made specifically in relation to improvised drama; but it applies equally to scripted drama. In both cases, the producer's task is to manage the available resources (script, actors, technical facilities) in such a way that the drama achieves its educational objectives – i.e. provides the students with the intended learning experience. To do so, it's important for the producer:

- To have a clear idea of what he or she is trying to achieve through the drama
- To communicate this effectively to actors and technicians, and to create a shared understanding of how it will be achieved
- To develop this consensus during the read-through, and to sustain it through the rehearsal and recording, by providing leadership, direction, professional support and supervision

What this means in practical terms is that:

- Scripts should be circulated to actors and technicians well in advance of the recording session, so that they have an adequate opportunity to prepare themselves.
- Producers also need to prepare themselves – by studying the text, paying careful attention to casting, and clarifying their ideas about what they want to achieve through the drama and how they aim to achieve it.
- In the course of the read-through and rehearsal, producers need to be open to ideas and suggestions from the cast and technicians. They should encourage discussion and debate. But at the same time, once the various views have been discussed, they must be willing and able to take decisions.

- As a general rule, producers should tell technicians what type of sound they want, rather than how (in technical terms) to achieve it.
- Similarly, actors should be helped to understand the characters they are portraying, rather than be asked to copy and mimic a voice or interpretation offered by the producer.
- In providing advice and guidance to actors and technicians, critical comments are more likely to be accepted and responded to, if they are presented constructively and preceded by positive feedback and encouragement. Appreciation first; then constructive critical comment.
- In drama, as in other areas of production, it is important to establish and maintain an atmosphere of mutual professional respect and collaboration. But at the same time, the producer must also be willing and able to take on the responsibility of directing and managing the enterprise – a task which often requires a high level of tact, sensitivity and inter-personal management skills.

Using sound effects

This is an area in which many new producers seem to have problems. They tend to over-use sound effects. They use them in too literal a way, trying to create a 'realistic' sound context for dramatic action. The result is often over-intrusive, distracting the listener's attention from the words and dialogue which carry the drama forward.

In fact, sound effects need to be used very sparingly. They are essentially sound-symbols, which are intended to suggest a particular sound context, rather than attempt to reconstruct it literally. Thus, bird-song or animal sounds suggest the countryside; traffic noise implies a town or city; a typewriter, computer keyboard or the ringing of a telephone suggest an office – and so on.

Sound effects are rarely unambiguous. Usually they need to be interpreted and reinforced by dialogue or narration. Thus, the sound of running water might mean a mountain stream or a kitchen tap; the sound of chattering voices might mean a market or a public meeting. The exact meaning of the sound-symbol becomes apparent from the dialogue or narration.

Once the words and sounds have been tied together, the meaning becomes clear. And at that point, the listener's imagination takes over and completes the sound-picture. The symbolic sound, interpreted by the words, allows the listeners to imagine the scene – to create their own image of the context within which the dramatic events are taking place.

Therefore, in practical terms:

- Use sound effects sparingly. Don't try to create literal sound-scapes; but rather suggest the context symbolically.
- Always interpret and reinforce sound effects in the text of the drama – either through a reference in the dialogue or in the narration.
- Once the context has been established, the sound effects can usually be faded down to a lower level without loss of atmosphere, allowing the listeners to concentrate on the dialogue and action of the drama.
- Don't rely exclusively on readily available sound effects if they are not suitable. Record your own sound effects, or use 'spot effects' – i.e. sounds created in the studio or on location during recording;
- Be creative and imaginative in your use of sound effects, but don't be self-indulgent. And above all, be sparing – use the minimum amount of sound you need to stimulate the listeners' imagination.

Studio versus location recording

There are a number of advantages in using a studio for drama recording:

- The studio acoustic is usually free from unwanted background noise.
- You have the services of one or more experienced audio technician(s).
- You can easily introduce pre-recorded sound effects (FX) and music into the drama.
- You can monitor the quality of the final recording in good listening conditions.
- You can record in any weather conditions – hot and humid, wet and windy.

The main disadvantage is that in some studios, particularly if they are not specifically designed for audio drama, it is difficult to create a convincing range of indoor and outdoor acoustics.

For this reason, some producers prefer to record their drama on location, using portable recording equipment. Provided there is not too much **unwanted** background noise – e.g. heavy traffic or frequent jet planes in a rural scene – you can use the natural sounds of the environment to enhance the sense of reality in your audio drama and to add to its authenticity.

However, recording good quality drama on location requires a high level of technical skill and confidence in the use of the portable equipment. For this reason, make sure that your technical staff are happy to undertake drama recording on location. And also check out the locations in advance (with your technicians) to make certain that they are suitable for your recordings – e.g. in terms of appropriate acoustics, level of background noise, agreement from local people/authorities, etc.

And finally, a word of warning: weather conditions can create major problems for location recording. It is very difficult to record good audio drama in outdoor locations when the weather is wet and windy. And actors do not give of their best when the sun is hot and there is too little shade!

Nevertheless, if the conditions are right, and the technicians are competent, location recording of audio drama can be very effective. In addition, it is always possible to combine location and studio recording. For instance, you can record some scenes on location and others in the studio. You can then put the final programme together in the studio – combining the pre-recorded scenes, adding sound effects and music as required, and incorporating the narrator/audio tutor's voice to complete the presentation.

An example from Tanzania

In the HESAWA project in the Lake Regions of western Tanzania (see Chapter 1) audio drama was used as stimulus material for a village-based water and health education programme.

Four series of audio cassette programmes were produced. Each consisted of ten half-hour drama episodes, with tutorial linking and commentary. The series dealt with subjects such as digging wells, providing latrines, maternal and child health.

The audio and supporting print materials were produced in four-week workshops. The audio drama was semi-scripted. The script outlines were prepared by workshop participants – local health, water, education and community development officers – who also acted in the dramas.

Because no studio was available, all the drama was recorded on location, using a Uher open-reel portable

recorder and an omni-directional microphone with a boom stand. Indoor scenes (clinic, office, meeting hall) were recorded in a local house. Outdoor scenes (farm, market, well) were recorded in the garden, where trees provided shade.

Spot effects were produced by the participants. For instance, the sounds of people drawing water from the well were produced using plastic buckets and a large plastic bath full of water. The sound of a wheelbarrow carrying stones was produced by a wheelbarrow carrying stones.

The programmes were edited (by cutting) on the Uher. Cassette copies were made by a local music store. They were listened to by about 200 village study groups, who dug wells, planted vegetable gardens, built latrines and weighed babies – and seemed to enjoy the programmes.

Post-production editing

In an ideal world, your final script should produce a piece of drama that is of exactly the right length for the time-slot available. However, the world is seldom ideal and it is very difficult to predict the final duration accurately. This is generally true for scripted drama. It is even more true if the drama is improvised. For this reason, post-production editing will often be necessary to reduce the drama to the required length. However, this process also gives you an opportunity to tidy-up and polish the final production through the judicious use of fine-editing.

A checklist on audio drama

- Why do you want to use drama? What do you want to achieve through it?
- What will be the main theme of the drama? What is it essentially about?
- Where will the drama take place? Who are the main characters?
- What will happen in the drama? What is the story-line? How will you structure it?
- What are the sources of conflict and tension? How will it be resolved?

- Will the drama be scripted or improvised?
- If scripted, who will write the script?
- Do you have access to experienced audio drama writers and actors?
- If unscripted, who will prepare the outline? Who will brief and direct the actors?
- Will the drama be recorded in a studio or on location?
- What facilities will you need? Are they available? Can they be obtained?

Using music in educational audio

As we discussed in Chapter 2, there are several ways in which you can use music in audio materials for distance and open learning:

- As a 'signature tune' – to identify and mark the beginning and end of a radio or audio cassette presentation
- As a 'marker' – to indicate and reinforce the structure of a radio or audio cassette programme, to show that you are moving from one section to the next
- As a 'signal' to your students – e.g. to stop the cassette to do an exercise or activity
- As a way of reinforcing the main content of a programme – e.g. using a song to remind listeners of the main message(s) of a non-formal distance education programme
- As a way of creating atmosphere or increasing the impact of educational audio, similar to the use of incidental music in theatre and films

In addition, of course, music will form an integral part of audio materials for courses on specifically musical and cultural themes – usually for purposes of illustration, demonstration and analysis.

Types of music

We can think of music in audio for distance and open learning as being of two main types – instrumental and vocal.

Instrumental music

This is widely used for signature tunes; for marking the structure of programmes; for signaling student activity; and for adding to the emotional impact and appeal of feature and dramatic materials.

When choosing instrumental music, you should bear in mind:

- Its social and cultural appropriateness and its likely appeal to the audience
- Its suitability to the subject matter and its role in the programme
- Its capacity to be smoothly faded in and out, and be held under speech

Vocal music

This is generally less useful for signature tunes, indicating structure, signaling student activity, and enhancing the impact of audio material. This is because the words that are being sung can distract from the content of the programme.

However, vocal music can play a very positive role – particularly in non-formal education – in capturing and communicating the essential message(s) of an audio programme – and doing so in a memorable and educationally effective way.

Vocal music generally has to be played for longer in programmes than instrumental music, since it usually needs more time to establish and convey its message. Also, as a general rule, vocal music does not usually lend itself well to being faded and held under speech. There tends to be a tension between the words that are being sung and those that are being spoken, which the listeners usually find disturbing and distracting. If vocal music is used for a signature tune, it should normally be faded after the words have finished.

Whatever type of music you decide to use, provided it's used well, it is likely to add to the tone and texture of your audio materials, to their attractiveness and appeal to the audience, and to the enjoyment and satisfaction which your students are likely to derive from the material.

Sources of music

We can divide the sources of music used for audio into two main types:

- Existing pre-recorded music, usually commercially available
- Music recorded specially for a particular audio programme or series

Commercial music

Clearly this is the easiest and most convenient to use. However, there are some drawbacks in using commercially available music on CDs or cassettes:

- First, it may be difficult to find music which exactly fits the subject matter of your programme and/or the purposes for which you want to use it.
- Secondly, even if you can find suitable commercial music, its use may involve substantial copyright and performing rights payments. (Exactly what this involves will depend on the legal situation in your own country. But it is important that producers do not expose themselves and their institutions to legal action in this area.)

Specially commissioned and recorded music

As an alternative to using commercial CDs and music cassettes, it is also possible for producers to commission and record music for their programmes. Musicians – both instrumentalists and singers – should be commissioned, contracted, briefed, rehearsed and produced in a similar way to scriptwriters and other contributors to audio material.

The producer's role includes the following main tasks:

- To decide what style of music is required and what role it will play in the programme
- To communicate this information clearly and effectively to the musicians
- To contract them to perform a specified amount of music on a particular day
- To arrange for studio or location recording and to liaise with technical staff
- To direct and manage the recording session and be responsible for quality
- To select and edit the music that will be used in the audio programme(s)

Some general suggestions on the practical techniques involved in recording music, both in studios and on location, are included below.

Recording music for audio

Music recording is a specialist area, the details of which are beyond the scope of this handbook - and beyond the knowledge of the author. What is offered here is a brief and general introduction to the subject. The aim is to help distance educators and producers

appreciate some of the basic questions involved in music recording, and also to assist them in liaising with the technical staff on whose knowledge, skills and experience they will need to draw.

The basic questions that need to be asked are the following:

- Whether to record in a studio or on location
- What type of recording equipment and facilities to use
- How to use the equipment to get a good quality recording
- How to organise and manage the recording session most effectively

Studio recording

Using a studio for recording music has a number of obvious advantages:

- The studio will normally be isolated from unwanted outside noise and interference.
- It will usually offer a range of microphones, and sophisticated mixing, balancing, equalisation (sound modification), recording and monitoring facilities.
- The studio will also generally provide the services of one or more knowledgeable, skilled and experienced audio technicians.
- For the musicians, coming into a studio can also create a sense of occasion, which may well be reflected in the quality of the musicians' performance and music making.

However, there is one possible disadvantage of studio recording that producers need to be aware of. Many audio studios, particularly in educational institutions, are intended primarily for recording speech, They are therefore designed to have a fairly 'dead' acoustic – i.e. an acoustic with a short reverberation time. This is not necessarily the best acoustic in which to record music. Music recording generally benefits from a longer (though not too long!) reverberation time – i.e. a more 'live' acoustic.

In most modern studios, it should be possible to overcome this problem by using 'artificial' or electronic reverberation. This can be introduced from the mixing desk and will add reverberation to the sound emerging from the studio. However, if this facility is not available (e.g. in an older or less well equipped studio), there may be a case for moving out of the studio and recording in a location with suitably 'live' acoustics – e.g. in a larger bare room with plenty of flat sound-reflecting surfaces.

It was suggested above that one of the advantages of the recording studio is the technical sophistication of the equipment and facilities it offers – i.e. the capacity to mix, modify and balance sounds from a number of different sources. This capacity makes possible three basic ways of recording music:

- **Ensemble recording:** You can record a group of instrumentalists and/or singers as a whole ('ensemble'), using one or more microphones, and achieving an appropriate 'balance' between the different sounds by adjusting the position of the various instruments/singers in relation to the microphone(s); or to put it another way, by adjusting the position of the microphone in relation to the instruments/singers.
- **Differentiated recording:** Alternatively, you can place individual instruments/singers (or groups of instruments/singers) on particular microphones (ideally separated from each other by some sort of partition), each connected to a specific 'channel' on the mixing desk, which allows you to achieve a suitable 'balance' by adjusting the 'level' and 'equalisation' on each of the channels.
- **Multi-track recording:** If your studio is equipped with multi-track recording equipment, it is possible to record individual instruments and/or voices on different 'tracks'. This allows you to record each sound source separately; and to compile your final version (or 'mix') of the music by combining the various tracks, each of which can be individually modified and controlled on a particular 'channel' of the audio mixing desk.

The decision on which of these three methods to use for studio-based music recording will depend on the type of music you are recording and the technical facilities available to you. This is a decision on which you should take the advice of experienced technicians. These technicians should also take responsibility for the setting up of the studio, the arrangement of the musicians and the choice and positioning of microphones.

But whichever approach is adopted, it is still the responsibility of the producer to manage the recording session. As with drama or any other audio production, this will normally involve:

- A period for setting up and arranging the studio – a task which, as indicated above, will usually be delegated to the technical staff
- A period for checking sound levels, balance and equalisation – again, mainly a task for the technicians, but the producer needs to be satisfied that the quality of the sound is acceptable
- A period of warm-up and rehearsal – which, as suggested earlier for improvised drama, should normally be recorded, since the first performance will sometimes be the best

- A period for the recording itself – since you will not know until you have done the final recording whether or not it represents an improvement on the earlier rehearsal version
- A period for post-production editing – though be warned, whereas 'rough' editing of music is straightforward, 'fine' editing is generally more difficult than for speech – therefore, as far as possible, aim to record complete music items, rather than planning to put them together following the session

In most music recording sessions, several recordings ('takes') of each piece of music are made and the best version is selected for use in the programme. Sometimes, it will be immediately clear during the recording which version is the best. However, on occasions, this will not be self-evident; and it is therefore important to allocate time for listening to the different versions – perhaps with colleagues – before making a final judgement on which one to use.

Location recording

Although studio-based music recording has a number of advantages, there will also be occasions when you want to record on location. This may be to take advantage of a particularly good acoustic; or to add variety to the sound texture of your programmes; or for purely practical reasons – e.g. you don't have access to, or simply can't afford, studio facilities.

In addition, for non-formal programmes, you may want to use location recording – of both speech and music – as a way of involving your listeners in the process of programme making. Location recording can both promote and provide opportunities for participation in non-formal education programmes.

Choosing a good acoustic

The starting point for successful location recording of music – apart from good musicians – is to find a good acoustic. This can be indoors or outdoors: but clearly it should be in a place without too much unwanted background noise.

If you are working indoors, look for a room that has enough space and a fairly 'live' acoustic – e.g. a classroom or hall. But be careful not to choose somewhere that is too reverberant.

If you are recording in the open air, try to position your musicians with a hard reflective surface behind them – e.g. on a veranda or against a wall. This will act as a 'sounding-board' and usually produces a better result.

Recording equipment

It is possible to obtain most of the equipment and facilities available in a studio in portable form for location recording. If you have access to such equipment, then you can mix, modify and balance sound on location very much as you would in the studio.

However, good quality equipment of this kind tends to be expensive and is not usually available in educational institutions. You are more likely to find yourself on location with a portable recorder (open-reel or cassette) and a single microphone. It is therefore on this situation that we concentrate.

- In general, 'cardioid' microphones (see Chapter 5) will give you better results than 'omni-directional' microphones. This is because they will cut out more of the unwanted background noise and focus the recording more directly on the music.
- You will also find it useful to have a tall microphone stand, ideally with an extending arm. This will give you much more flexibility in terms of positioning the microphone in relation to the musicians.
- If you are using a cassette recorder equipped with a Dolby NR (Noise Reduction) system, it is usually best to leave this control in the 'off' position when recording music. Although Dolby NR is very useful for speech recording, it tends to remove too many of the high frequencies for good music recording.
- A good quality pair of headphones are essential for location recording. They will allow you to monitor the sound as you record it and as it will be heard by listeners.

Positioning the microphone

As a general rule, avoid placing your microphone too close to the musical sounds you are recording. Here are some general guidelines:

- If you are recording a single voice or instrumentalist, the microphone should usually be located about two to three feet (60-90 cms) from the source of the sound.
- For a medium-sized group – say four to six singers and/or instrumentalists – you should group them together – e.g. in a half-circle – and move the microphone back to a distance of perhaps six to ten feet (2-3 m).
- With larger groups – e.g. perhaps ten to 20 singers and/or musicians – you should move the microphone further back to say between ten and 15 feet (about 3-5 m).
- Please note, however, that these distances are intended only as a rough guide. The most important thing is to do a test recording with the musicians, and to experiment with the microphone position to see where you get the best results.

Balancing sounds

Getting the balance right in music recording is very important – e.g. the balance between a soloist and a group of singers and/or instrumentalists, or between the different instruments within a musical group.

- When recording a soloist with an accompanying group of singers or instruments, if you only have one microphone, it usually makes sense to position this for the soloist – i.e. at a distance of two to three feet (60-90 cms) – and to arrange the other performers behind the soloist and further away – e.g. six to ten feet (2-3 m) for a medium-sized group, ten to 15 feet (3-5 m) for a larger group.
- For recording individual singers who are accompanying themselves on an instrument, it is usually best to position the microphone for the singer's voice rather than for the instrument.
- If you are recording fairly close to a small group of instruments in which one seems to dominate, move the microphone towards the weaker instruments, as you would for the weaker voice in an interview or discussion.
- But again, these are only guidelines. What is important is that you get to know your equipment and its capabilities. Try it out in different situations and listen carefully and critically to the results. In this way, you will gradually build up a repertoire of responses to a wide range of different recording situations. As a result, you will increase your chances of getting a good recording every time.

A checklist on music

- What uses of music are you likely to make?
- What type of music will you use? And for what purposes?
- Will you be using commercially produced music?
- If so, what is the situation regarding copyright/performing rights in your country?
- Are you planning to record any of your own music?
- If so, will you record it in a studio or on location?
- Do you have access to a studio suitable for recording music?
- Do you have access to location recording facilities and technical support?

So far, we have concentrated on the theory and practice of planning, development and production of audio materials for distance and open learning. In the next two chapters, we turn to the questions of how these materials are used and how we can measure their effectiveness.

Chapter 8

STUDENT USE OF AUDIO

Introduction

This chapter deals with the different ways in which students in distance and open learning – both formal and non-formal – can use radio and audio cassette materials. The chapter starts by identifying two main factors which determine the way audio materials are used:

- First, the question of whether they are broadcast or distributed on cassette
- Secondly, whether they are intended for individual use or for group listening

This suggests four main ways of using audio – represented in a 2 x 2 table – which are briefly described and discussed. The chapter goes on to identify ten factors that are likely to influence the choice of a particular pattern of audio use; and invites you to rank them in order of importance for your own situation.

There is then a discussion of three main requirements for effective student use of audio – information, resources and facilities, support and training These three requirements are considered further in subsequent sections; and the chapter concludes with a checklist of key questions on student use of audio.

Patterns of audio use

There are two main factors which affect the way students use audio material in distance and open learning:

- First, there is the way the material is distributed to the students – either through radio broadcasting or in the form of audio cassettes.
- Secondly, there is the question of how the material is intended to be used – either by individual students working on their own or by groups of students working together.

This means that there are four main ways students can use audio. We can represent this in a simple 2 x 2 table:

	Individual use	Group-based use
Radio	1	2
Audio cassettes	3	4

1. Individual use of radio

Students listen to radio programmes individually – usually at home. This has the advantage that large numbers of students can be reached simultaneously and at relatively low cost. It also exploits the personal quality of audio – giving the student a sense of having their own individual tutor at home.

Radio programmes also raise the public profile of an institution or project. More people know about the courses and the opportunities they offer if they hear the programmes on the radio.

However, this way of using radio also has some disadvantages:

- Students need to have individual access to radio sets and sources of power.
- Good quality radio signals may not reach all areas; reception may be poor.
- Transmission times may not be suitable or convenient for all students.
- Students have little control over how they use a broadcast medium.
- Students listening to radio individually do not usually have the opportunity to follow up what they have heard with other students.

2. Group-based use of radio

Students listen to radio programmes in groups – usually in local study centres equipped with radio receivers – and often with support and supervision from local tutors or facilitators.

Radio still suffers from some of the disadvantages listed above – e.g. poor reception, unsuitable transmission times, a low level of student control. However, provided the study centres are within easy reach of students, they can help to overcome some of the problems of individual access to radio sets.

In addition, group-based listening also offers students the major advantage of being able to discuss what they have just heard and share their reactions with fellow students and often with tutors. It also allows students to participate in a range of group-based follow-up activities – applying knowledge, practising skills, exploring attitudes and values. These activities are an important part of learning, which are not generally available to the individual student listener at home.

3. Individual use of audio cassettes

As suggested in Chapter 1, audio cassettes – particularly in combination with visual materials – offer a powerful educational technology to distance learners. They overcome most of the limitations of radio. Students can use cassettes when, where and as often as they like. They also have a high level of control over how they use the material. They can stop, start and re-wind the tape as they wish; and this also allows a closer integration of audio and print than is possible with radio.

However, there are two major limitations to the individual use of audio cassettes:

- First, for courses with large student enrolments, the costs of producing individual cassettes for each student can be substantial.
- Secondly, for students to use cassettes individually, they need individual access to cassette players and sources of power, which may not always be possible.

In addition, as with the individual use of radio, students using audio cassettes individually do not normally have the opportunity to share their experience of listening with other students; nor are they able to participate in group-based learning activities which can add substantially to the educational impact and effectiveness of audio and audio-visual materials.

4. Group-based use of audio cassettes

Using audio cassettes in a group context overcomes the main limitations of individual use suggested above:

- Fewer cassettes need to be produced, so production costs are less.
- Students do not need personal access to cassette players and power sources.
- Students gain the benefits of audio-based group learning suggested above.

However, the possibility of this type of audio use rests on two important assumptions:

- That the institution or project is in a position to set up and support a network of local study centres which are within a reasonable distance for most of its students;
- That the institution or project is willing and able to equip these centres with audio cassette players suitable for group listening and (if necessary) stand-by sources of power, together with regular servicing and maintenance.

It is also possible to combine these different types of audio use. For instance, an institution could produce radio programmes or audio cassettes for individual use; but also provide alternative listening facilities in local study centres for students who do not have individual access to radio sets or cassette players. It would also be possible for tutors to use radio programmes or audio cassettes aimed primarily at individual students, as a resource for group-based tutorial work at the local centres, for students who want to take advantage of the service.

Choosing types of audio use

The choice between these different patterns of audio use depends on a number of inter-related factors. Among the more important, we can identify the following:

- The material and human resources available to an institution or project and the extent to which it is willing to allocate them to audio
- The availability, extent and cost of radio transmission slots
- The extent and quality of radio coverage
- The suitability for students of the available transmission times
- Individual student access to radio sets, audio cassette players and sources of power
- The extent to which an institution or project can set up, support and equip a network of local study centres
- The accessibility and attractiveness of these study centres to students
- The extent of collaboration with other institutions and agencies in providing tutorial support
- The subject matter of the courses being offered and the learning needs of the students
- The numbers and distribution of students following a particular course

Making the choice

- How important is each of the ten factors listed above in your own situation?
- Can you arrange these factors in order of importance for your own institution or project?
- Are there other factors that you think should be added to the list?
- Do you have accurate and reliable information on each of the factors?
- What additional information do you need? How can you obtain it?
- Who should be involved in deciding what type of audio to use?
- How should the decision be made?

One possible approach was suggested in Chapter 1:

> Radio still has a role to play, especially in communicating fairly simple messages to large numbers. It is still important in most countries as a source of news and information. Radio is also likely to be important for mass education campaigns and for courses with very large student enrolments. But for most other purposes, the advantages of audio cassettes, even if they involve additional costs, are likely to be overwhelming. And, as we shall see later, the problem of costs can be addressed by exploring the possibilities of the group-based use of audio cassette technology.

Some questions to consider

- Would the above approach be useful for your institution or project?
- What developments or modifications to the approach would you suggest?
- What pattern of audio use would you adopt fur your own particular situation?

Requirements for effective student use of audio

Whichever pattern of audio use is adopted for particular courses, the general aim will be to maximise the effectiveness of audio for teaching and learning at a distance. To maximise the effective use of audio, two conditions need to be fulfilled:

- The audio material itself needs to be of high quality. It needs to be carefully planned, designed and developed to meet the needs of the students. It also needs to be skilfully and professionally produced.
- In addition, the audio material needs to be supported by an organisation and managerial system which enables the students to use the material effectively and to derive the maximum educational benefit from it.

So far in this handbook, we have concentrated mainly on the first of these two conditions – suggesting patterns of good practice intended to encourage and promote the design, development and production of high quality audio materials for distance learning. Here we turn to the second of the two conditions – to the organisation and managerial systems necessary to ensure the effective use of audio.

We can think of this second condition in terms of four main organisational and managerial functions that need to be fulfilled if the use of audio is to be effective:

- **Information –** the provision of adequate information to students about the availability and purpose of audio materials
- **Resources and facilities –** the provision of appropriate resources and facilities to make possible the effective use of audio
- **Support and training–** the provision of relevant support systems and training for students and tutors in the use of audio materials
- **Monitoring and evaluation –** the setting up and operation of systems to monitor and evaluate the use of the audio materials

In this chapter, we use the first three functions as a framework for discussing the organisation, administrative and management requirements for the effective use of audio. We look at the fourth function – monitoring and evaluation – as part of a wider discussion of this subject in the next and final chapter of the handbook.

The provision of information

Unless students know about the availability of audio material, they will not be in a position to listen to it. The more they know about its purposes and how to use it, the more they are likely to learn from it.

What do students need to know about audio?

To derive maximum benefit from audio, students need to know the following:

- **What** audio material is available to them – on radio and/or cassette
- **When** they can or should listen to the material – radio transmission schedules or suggestions about the best time to use audio cassette material and audio-vision packages
- **Why** they should listen to audio material – in terms of its aims and objectives, its relationship to other media and learning activities (e.g. printed texts, face-to-face tutorials, assignments and examinations), and its particular contribution to the teaching and learning process
- **How** they should listen – so that they derive the maximum benefit from the material – how they should prepare for listening, how they can actively engage with the material and how they can reinforce their learning through follow-up activities

What form should the information take?

Here we need to make a distinction between formal and non-formal education.

Formal courses

For formal courses, there are usually two main options for providing information about audio to students.

- First, information on audio can be included in the main printed text(s) for the course. This has the advantage of presenting audio and printed materials in a fully integrated way. However, this approach can present the production team with practical problems. For instance:
  - Even in the best planned courses, the schedules for the development and production of audio tend to lag behind those for printed texts. As a result, all the information students need about audio may not be available at the time the text has to be delivered to the printer.

  - If subject specialists are under pressure to produce new courses, what often happens is that they concentrate their efforts on the preparation of printed materials; and courses are launched initially without audio support, which is then added later, e.g. in the second year of presentation.
  - Also, if the course is using radio, transmission schedules tend to vary from year to year; and it is therefore not possible to include accurate and up-to-date information about when programmes will be broadcast in the main course text(s), which would normally be used over a number of years.
- Secondly, as an alternative to including audio information in the main course text(s) – for instance, in the examples cited above – the information can be presented in specially prepared and separately bound audio notes. The main course text(s) will usually contain brief references to audio; but the detailed information about the audio material and how to use it will be presented in the separately published audio notes.

In both cases, there is also a strong case for repeating and reinforcing essential information (aims, objectives, how to use the materials, follow-up activities) in the audio material itself. If students receive the information from at least two sources, there is a better chance that it will get through to them and be absorbed.

Non-formal courses

The two options outlined above – plus the inclusion of information in the audio materials themselves – can also be used with audio for non-formal education. However, many non-formal courses will be aimed at audiences with a significant proportion of non-literate or semi-literate listeners and learners. In these cases, the use of printed information alone will have limited impact. In this situation, distance educators need to look to other ways of communicating with the target audience.

Here, general programmes on radio and television can play an important role in reaching the target audience. They can provide information on what is available, when and where it can be heard, and how to enrol in non-formal education courses. However, announcements in the mass media are unlikely in themselves to motivate and mobilise the potential audience into active participation in non-formal education. These messages need to be supported and reinforced by credible local sources of information and advice.

For this reason, in addition to promoting and publicising non-formal courses through the mass media, you also need to gain access to a range of local communication networks, which can support and endorse the mass media messages. In the formal sector, such support is often available through a network of local study centres. However, these centres tend to be fully occupied with the support of formal

courses and are unlikely to have the resources to extend their activities to the non-formal sector. So for non-formal courses, you usually have to seek out and work through alternative networks to reach and support students. (This is a subject that is explored further in the next section.)

How should the information be communicated?

Here again it is important to distinguish between the provision of information for formal and non-formal courses.

Formal courses

Providing information on audio for students who are registered for formal courses should not create too many difficulties. You are usually in direct and regular contact with these students. The audio material is usually a component of a print-led multi-media package. Information on audio can therefore be included in the main course texts which are distributed to students – usually by post or via local study centres – or in separate **Audio Notes** which can be distributed with the main texts and other course materials.

Even in this case, however, there can be problems. These are likely to relate mainly to scheduling – e.g. coordinating the schedules for the development and production of audio and printed materials, so that information about the audio component is available when it is required for presentation in print. In addition, as with any distance education materials, there can also be problems in situations where the physical distribution of materials to remote areas presents difficulties.

Non-formal courses

As suggested above, much greater problems tend to arise in the communication of information about non-formal courses – for instance, where radio is being used as the main medium in a mass education campaign. In this case, you are unlikely to have the same sort of direct contact with potential students that is available (through local centres) for formal courses.

Instead, you will need to explore and establish alternative channels of communication; and this in turn will involve research, dialogue, liaison, cooperation and collaboration with a wide range of other institutions and agencies that are in a position to offer such alternative communication systems.

The specific institutions and agencies will depend on the particular audiences at which the non-formal programmes are aimed. For instance:

- A radio-based course designed to improve agricultural practices might seek to communicate with potential students (i.e. farmers) through a national or regional network of agricultural extension workers.
- A non-formal health promotion course or campaign might seek to disseminate information through local health workers and clinics. It might also involve national or regional women's organisations.

In both these cases and others, you might also seek to promote the courses and involve potential students through a number of other networks. For instance, the networks of local personnel offered by the formal education system (schools, colleges, universities); by the structures of national and local government; or through a range of well-established and respected NGOs and other voluntary agencies with a particular interest or involvement in non-formal education.

The challenge that presents itself to those involved in using audio for non-formal distance and open learning is therefore:

- To identify appropriate networks through which to contact and communicate with specific target audiences for non-formal education
- To establish and develop close working relationships, characterised by mutual trust and respect, with the institutions and agencies that have access to and control over these communication networks
- To design and deliver persuasive messages that will inform, motivate and mobilise potential students to involve themselves actively in non-formal audio-based courses

Responding to this challenge requires a substantial investment in planning and research, and in establishing and maintaining successful collaborative partnerships. This activity inevitably takes time and money. One of the key questions, therefore, is what proportion of the audio budget should be invested in promotion and publicity for non-formal courses.

Checklist on communicating with potential non-formal students

- Who do you see as the main target audience for the course?
- How will you inform them about the course and encourage their participation?
- What institutions or agencies could you usefully collaborate with in promoting and publicising the course?
- What will the collaboration involve? How might it be extended?

Resources and facilities for audio use

In the case of individual listening to audio materials, it is usually assumed that students will have individual access to their own radio receivers and/or audio cassette players; and that they will also have regular access to adequate sources of power. However, it is also widely recognised, particularly in poorer countries, that such access to audio equipment and facilities cannot always be guaranteed.

This raises important questions of equity for those involved in distance and open learning. If some students have access to audio, while others don't, does this give the students who have access an unfair advantage over those who do not?

A common response to this problem is to make audio an 'optional extra' in courses, rather than an integral component of the teaching and learning package. As a result, the status of audio is down-graded. It tends to be seen (by teachers and students) as a non-essential part of the course. As a result, the full potential of the medium is rarely achieved and exploited.

For these reasons, many distance and open learning institutions provide radio and audio cassette listening facilities in their local resource and study centres. In this way, students who do not have individual access to audio equipment and/or sources of power can come into their local study centre, provided it is within a reasonable distance of where they live, and listen to the audio materials for their courses.

If it is reasonable to assume that all students will be able to listen either at home or in a study centre, then the status of audio can be up-graded, it can be defined as an essential part of the teaching and

learning system, and there is a better chance that the full potential of the medium will be realised.

In addition, once local resource and study centres have been equipped with audio listening equipment, it also becomes possible to start producing audio material, both radio and especially cassettes, designed specifically for group listening. As argued earlier, this also makes it possible to offer students a wide range of audio-based group learning activities:

- Applying knowledge in the local environment
- Developing and using practical skills
- Discussing and evaluating attitudes and opinions
- Sharing experience and learning from each other

Group-based use of audio, especially in combination with print, can also provide tutors with additional resource material, make tutorial sessions more varied and interesting, and generally add to the attractiveness and satisfactions of learning at a distance.

Providing facilities such as those suggested above makes significant demands in terms of human and material resources. In effect, the system would require:

- Equipping each study centre with at least one (and preferably more than one) radio-audio cassette players, with sufficiently powerful speakers to use them in group situations of up to say 20 students, and also with headphones for individual listening.
- Providing the centres with either stand-by generators or sufficient supplies of dry-cell batteries to enable the equipment to be used when mains electricity is not available; in this connection it might also be worth investigating the comparative costs of using solar power or of investing in the recently developed clockwork radios, due to be followed by a clockwork cassette player.
- It would also be necessary to set up a system for the servicing, maintenance and repair of the equipment – with spare radio-cassette players to cover periods when equipment was out of action.
- Study centres would also need to be supplied with a complete set of audio cassette and audio-visual materials; and these would need to be catalogued for easy access by students and tutors.
- Once these resources and facilities are in place, it would also be necessary to appoint someone to take responsibility for their management and control, and also to provide a means of storing them securely – e.g. a locked steel cupboard.

Some questions to consider

- Would your institution or project be justified in allocating scarce resources to equipping local centres as suggested above?
- What would be the main arguments for and against such an allocation of resources?
- If funds were not immediately available, what other sources of funding might be worth exploring?

So far, we have been looking at fairly elaborate provisions. However, in certain circumstances, simple solutions can also work well – as the example below illustrates.

SOLO in Sudan

The Sudan Open Learning Organisation – see Chapter 1 – provided audio cassette players to 80 study groups in refugee camps in eastern Sudan for use in its Primary Health Care (PHC) Campaign.

The cassette players were provided by an international donor agency. They were distributed to the groups – together with cassettes, flip-charts and spare batteries – via the group leaders, who collected the equipment and supplies during a brief training course they attended.

The group leaders took responsibility for the safe keeping of the equipment and supplies. The cassette players were returned at the end of each phase of the PHC Campaign for servicing. No cassette players were lost or stolen. All cassettes and flip-charts were returned for use by other refugee groups.

Support for audio use

It is generally accepted that the effective use of audio will be increased if students are provided with support and guidance on how to use the materials. This support and guidance can be provided in three main ways:

- In printed form – either in the course text(s), or in specially prepared **Audio Notes**

- Through the provision of specially trained tutors or study group leaders or facilitators
- By a combination of both methods – print plus tutorial or facilitator support

Printed support

As indicated earlier, printed information and tutorial support for students using audio – particularly for individual use in formal education – is usually provided, either in the main course text(s), or in specially prepared **Audio Notes**. In whatever form the information is presented, it usually contains the following main elements:

- A statement of the aims and objectives of the audio material and its accompanying print – what the student can expect to learn from listening to the material and doing the associated activities
- A brief introduction to the main content and structure of the material – what subjects are covered, in what order, who is taking part, what they have to offer, plus any background information which is relevant to what the students will hear
- Suggestions on how to prepare for listening – sections of the course text that should have been completed, knowledge and skills assumed, and (in the case of audio cassettes) an indication of when it would be most useful to listen
- Any visual material to be used in conjunction with the audio – e.g. charts, diagrams, tables, maps, illustrations etc. which the students will need look at while listening – plus (in the case of cassettes) any activities or exercises to be done when the tape is stopped
- Details of any follow-up activities to be completed after listening to the audio material – plus (where appropriate) self-check answers to exercises undertaken during the programme, a glossary of new words and key concepts and suggestions for further reading and study activities

Similar support material is often provided for audio material that is mainly intended for group listening. This is particularly the case in formal distance education programmes; but such materials are also sometimes produced (though less frequently) for non-formal courses.

However, when audio is produced mainly for group listening, whether in formal or non-formal education, in addition to providing printed support materials, it is also usual to provide face-to-face tutorial support or study group leadership designed to facilitate the group-based use of the audio material.

Personal support

The provision of face-to-face tutors and study group leaders or facilitators in support of audio involves three main activities – recruitment, training and providing support and supervision.

Recruitment

In most formal distance education systems it is not usually necessary to recruit tutors to work specifically on audio. Normally, local part-time tutors will have been recruited to provide general tutorial support for students, which will include work with audio materials. However, it is important to take account of the role of audio in recruiting part-time tutorial staff – for instance:

- In defining the tutors' role and responsibilities, and preparing job descriptions
- In negotiating terms and conditions of employment and drafting contracts
- In selection procedures and in initial briefing and induction programmes

In non-formal education, you are more likely to be recruiting local part-time tutors or study group leaders to work specifically with audio-based learning groups. As with general face-to-face tutors, it will be necessary:

- To define roles and prepare job descriptions
- To negotiate terms and conditions of employment
- To draft and issue formal contracts of employment
- To devise selection and induction procedures

However, whereas part-time tutors for formal courses will tend to be drawn from conventional education (schools, colleges, universities), non-formal tutors and study group leaders/facilitators will typically come from a much wider range of institutions and agencies. This is an area in which effective collaboration will be very important – with government departments, voluntary organisations (NGOs) and the private sector.

In some areas of non-formal education, you may lack professional experience and expertise. It is also possible that you may not have the grass-roots contacts to be able to recruit suitably qualified and experienced local tutors, trainers and facilitators. Collaboration with government departments, NGOs and the private sector will therefore be essential.

For these collaborations to work well, they need to begin early in the course development process. Consultation needs to start at the planning and design stage. Collaboration needs to be continued through the development and production of materials and the setting up and staffing of local study centres. It is also important that partner agencies should be involved in the monitoring and evaluation of projects, their modification and improvement, and the development of new initiatives.

Training

Once the local part-time tutors and study group leaders have been recruited and introduced to the idea of distance and open learning, they then need to be trained in how to help students derive the maximum benefit from audio and accompanying printed and visual materials. This applies equally to formal and non-formal education.

In formal courses, audio training will normally be included as part of a more general package of tutor training. A similar approach may also be adopted for non-formal courses; though here training in the use of audio will often need to play a more prominent part.

The specific content of audio training will vary from course to course. But the general principles underlying the process remain essentially the same.

Identifying training needs – Most of your potential tutors and facilitators will have had relatively little experience of using audio for education and training. Your first task is therefore to identify and analyse their training needs:

- What knowledge, skills and attitudes will their role require?
- What do they know already? What skills do they already have?
- What knowledge and skills do they need to acquire? What attitudes and values need to be challenged or reinforced?

Designing training courses, workshops and materials – Once you have identified the training needs of your tutors/facilitators, the next task is to design and develop a programme of training to respond to these needs. This may be delivered independently, or as part of a broader programme of tutor training.

The specific content of the training will be determined by the background and experience of the trainees and the specific course for which they are being trained. However, most training programmes will probably include the following main items:

- An introduction to the students, their background and learning needs
- An overview of the course as a whole and its main components
- An introduction to the role of audio and audio-vision in the course
- A review of the aims, objectives and content of the audio and associated print
- How to organise and manage an audio-based tutorial or training session
- How to encourage and support student participation and active learning
- How to monitor, evaluate and improve audio-based teaching and learning

You may also find it useful to develop a tutors' audio handbook to accompany the training programmes; or alternatively, to contribute an audio section to a more general tutors' handbook. This can be organised in two parts:

- Part I – providing general advice and guidance on using audio materials with adult students
- Part II – providing specific information and advice related to a particular course

This type of handbook can be used both as a resource for training courses and workshops, and also as a practical guide and reference manual for tutors and group leaders when they are working with the students. Part I could be standard for all tutors/facilitators using audio in their tutorial or training sessions; Part II could be varied according to the particular course in which the tutors/facilitators are involved.

Support and supervision

Once tutors and facilitators have been trained in the use of audio, it is important to provide them with continuing support and supervision. This will help them develop their skills and improve the quality of service they offer to the students.

In addition, there also needs to be a system that ensures the technology necessary for audio (radio-audio cassette players, sources of power and supplies of audio cassettes) is properly serviced and maintained.

There are several ways in which a system of support and supervision can be organised. The system adopted will obviously depend to a considerable extent on the size and scope of the institution or project. Here, as an illustration, we look at what might be provided in a fairly large institution operating at local, regional and national levels.

Smaller organisations would be likely to have a less elaborate structure; but they would still need to fulfil the same functions.

- **Local mentoring –** At the local level there should be a system of 'mentoring' – i.e. tutors/facilitators with successful experience of using audio should be appointed as 'mentors', to provide informal day-to-day advice, guidance and support to new or less experienced tutors in how they can make the best use of the medium.
- **Regional supervision –** At the regional level, more senior staff should be appointed to take special responsibility for the support and supervision of the use of audio. This would involve, for instance:
  - Making regular visits to local tutorial/study groups – to monitor and evaluate the use of audio; to check on equipment, facilities and resources; and to provide advice, guidance and support to tutors on their use of audio.
  - Making regular reports and providing feedback on the impact and effectiveness of radio, audio cassettes and audio-vision, and putting forward suggestions on how the quality of audio materials and tutorial service might be improved.
- **Central coordination –** At national level, a senior member of the student support staff should be appointed with special responsibility for:
  - Coordinating, analysing and interpreting information and feedback received from the regional staff on the use, impact and effectiveness of radio and audio cassette materials.
  - Providing regular reports to subject specialists and producers on the use of radio, audio cassettes and audio-vision, with recommendations on how the materials and services could be improved.
  - Providing support and supervision to the regional staff responsible for audio; keeping them informed on developments in relation to audio at the national level; and representing their interests and needs in policy and planning discussions.

Organising and managing the recruitment, training and support of staff with responsibilities for audio makes substantial demands on institutions and projects. In return, however, not only is the impact and effectiveness of audio likely to increase, but (as indicated above) you will also have access to an extensive network of trained tutorial staff, in close and regular contact with your students. These tutors and facilitators will be in an excellent position to provide valuable information and advice on the audio materials you are producing and on how your audio services can be improved. This is a topic that is

developed further in the next chapter on the monitoring and evaluation of audio.

Checklist on student use of audio

- What type of audio would be most appropriate for your students – radio or audio cassettes, individual or group use?
- How will you inform your students about the availability and purpose of the audio material? How will you encourage them to listen?
- What support can you offer your students in their use of audio – in print and/or face-to-face?
- If you are offering face-to-face support, how will you recruit, train and support your tutors and/or study group leaders/facilitators?
- How can you use this network of tutors and facilitators to gain information about the effectiveness of your audio materials and how they can be improved?

Chapter 9

MONITORING AND EVALUATING AUDIO

Introduction

This chapter is about monitoring and evaluating the use of audio materials in distance and open learning. It deals with four main topics:

- The purpose of monitoring and evaluation – which emphasises its role in improving the quality, relevance, effectiveness and efficiency of the use of audio
- The objects of monitoring and evaluation – which makes a distinction between audio 'products' (radio programmes, audio cassettes, audio-vision) and the 'processes' through which they are created and used (planning, design, development, production, distribution, student use)
- The question of who should be involved in monitoring and evaluation – Is it the specialist task of researchers and evaluators? Is it mainly the responsibility of managers and senior staff? Or is it an activity in which all those involved in producing audio should be involved?
- How monitoring and evaluation should be carried out – which identifies some of the basic approaches and methods you can use (internal and external review, surveys, observation, focus groups) and looks at how they can be applied in distance and open learning

The chapter concludes by stressing the importance of collaboration and communication in monitoring and evaluation. And it ends with a reminder that the main aim of evaluation is not to make personal judgements about individuals or institutions, but rather to improve the quality of the audio materials and support services we offer our students.

Four key questions

In this final chapter, we consider the process of monitoring and evaluating the use of audio materials in distance and open learning –

in terms of both the demands it makes on distance educators, and the benefits that can be derived from it.

Within the context of education, evaluation is a particular kind of research. It is designed to assess the quality, relevance, effectiveness and efficiency of an educational process, with a view to improving it. Monitoring is the process of collecting the data on which evaluation is based.

From the point of view of those involved in the use of audio for distance and open learning, we monitor and evaluate in order to offer a better educational service to our students:

- We identify significant areas of our activity
- We collect information about how they operate
- We analyse, interpret and make judgements based on this information
- We use these judgements to improve our decision making and the way we carry out our activities

Evaluation is therefore a continuing process designed to improve our performance as distance educators and the quality of educational experience we offer to our students.

Four key questions

We can analyse the process of monitoring and evaluation, and explore its implications, in terms of four key questions:

- What is the purpose of monitoring and evaluation?
- What needs to be monitored and evaluated?
- Who should be involved in the process?
- How should it be carried out?

We shall use these four questions as a framework for our discussion in the rest of this chapter.

What is the purpose of monitoring and evaluation?

We can identify at least three main reasons for monitoring and evaluating the use of audio materials:

- **Quality, relevance and effectiveness –** to improve the quality, relevance and effectiveness of radio programmes, audio cassettes and audio-visual materials
- **Efficiency –** to improve the quality of decision making in relation to audio and to ensure that the resources allocated to the medium are used as efficiently as possible
- **Accountability –** to justify to management and funding agencies the allocation of resources to audio, and to account for the use of such resources

> Can you think of other reasons for monitoring and evaluating audio-related activity, or other purposes which monitoring and evaluation might serve?

What needs to be monitored and evaluated?

Here it is useful to make a distinction between the 'products' and the 'processes' of distance and open learning.

- The 'products' are the learning materials produced for a course – in the case of audio they include radio programmes, audio cassettes and audio-vision packages.
- The 'processes' are the activities through which these products are created and used – planning, design, development, production, distribution, use by students and evaluation itself.

Evaluating products

The first and most obvious thing that needs to be monitored and evaluated is the quality and educational effectiveness of the audio and accompanying printed materials we produce. We need to make judgements about three main aspects of these materials:

- **Professional credibility –** Are the audio materials accurate, authoritative and up-to-date, in terms of their content and the

approaches they adopt? Do they reflect the highest professional standards of which we are capable? Do they match (or improve on) the standards achieved by other comparable institutions?

- **Educational impact and effectiveness –** Are the materials designed and presented in a way that will make an effective contribution to the teaching and learning process? Are their objectives clear? Is the content appropriate? Does the structure reflect sound principles of instructional design? Are the materials likely to achieve their intended learning outcomes?
- **Production values –** Do the materials achieve the highest professional and technical standards currently recognised within the world of educational broadcasting, audio cassette production, and the production of audio-visual learning packages? Is the standard of audio matched by the professional quality of the printed and visual support materials?

Traditionally, within distance education, the process of evaluation tended to stop at this point. It concentrated mainly on the quality of learning materials – the public face of distance education – and was less concerned with the processes through which they were produced, or the ways they were used.

However, judging the quality of the 'product' alone is not in itself enough. While such evaluation can provide you with information on the professional acceptability of the materials and on the quality of their instructional design, there are a number of things it will not necessarily tell you. For instance:

- The extent to which the audio materials have achieved their objectives
- The specific reasons for their success or failure as teaching and learning materials
- What needs to be done to improve the quality and effectiveness of the materials

To answer these questions, you need to look, not only at the 'products', but also at the 'processes' involved in their planning, design, development, production, distribution, and the way they are used by students.

Evaluating processes

The emphasis on 'processes' as well as 'products' in distance and open learning reflects current management approaches which stress the importance of achieving 'total quality' within an organisation – i.e. achieving high quality in all aspects of an organisation's operations which contribute to the goods and services which it offers to the public.

This type of approach has important implications for the monitoring and evaluation of audio within distance and open learning, both in terms of what needs to be evaluated and also who needs to be involved in the evaluation process.

To illustrate the range of questions that need to be asked and answered, it may be useful to look back over the main 'processes' discussed earlier in the handbook; and to try to identify some of the key questions that need to be addressed in monitoring and evaluation.

The suggestions that follow are stated at a fairly general level. They are intended mainly to illustrate the type of questions you will need to deal with. You will probably have much more focused questions, relating specifically to your own situation and drawn from your own experience of a particular institution or project.

Institutional planning

- Who is involved in the policy making and planning decisions which affect audio use? How does the system operate?
- Is there a case for involving a wider range of staff in policy-making and planning?
- What opportunities are there for subject specialists and producers to put forward reasoned bids for the allocation of resources to audio?
- Are the criteria used for allocating resources to audio clearly defined and accessible to subject specialists and producers?
- Are sufficient funds allocated to audio? Is there a case for increasing the allocation?
- How could institutional planning and policy making for audio be made more efficient and effective?

Design and development

- Who is involved in the design and development of audio materials? Are there sufficient staff for the work? What additional skills are needed?
- Are staff sufficiently trained in the use of audio for distance and open learning? Is additional training and professional development required?

- Are suitable structures in place to encourage and facilitate collaborative design and development work on audio? Do subject specialists and production staff work well together?
- Is the design and development process well-managed? Are realistic schedules prepared? How is progress monitored? Is remedial action taken when necessary?
- Do particular problems arise from the use of part-time external writers? If so, what are they? How are these problems addressed? How could the situation be improved?
- Is audio being effectively integrated with other media and learning activities? Is sufficient printed/visual support material being designed and developed?
- What quality assurance procedures are in place? Are draft materials subject to review and revision? Is there provision for external assessment and advice?

Audio production

- Are there sufficient equipment and facilities for audio and audio-visual production? What additional resources would be useful?
- Are budgets for audio production adequate? How efficiently are production resources used? How could the situation be improved?
- Are the personnel involved in audio production adequately trained and suitably experienced? Is additional training and professional development necessary?
- Are audio producers' workloads reasonable? Is their level of productivity satisfactory? How could their efficiency and effectiveness be increased?
- Is audio production well managed? Is recording suitably scheduled and well organised? Is audio material generally produced on schedule and within budget?
- Are audio materials produced to high professional and technical standards? How do they compare with materials produced by comparable institutions?

- Is there adequate provision for developmental testing and formative evaluation? How is this process carried out? Do the findings influence the production process?
- In general, how might the process of audio and audio-visual production be made more efficient and effective?

Distribution

In relation to radio transmission:

- What proportion of students have individual access to radio receivers and sources of power? What proportion have group-based access? How could individual and/or group access be increased?
- Is enough transmission time available to meet the needs of the students? Is there a case for seeking additional air-time? How much is needed?
- Are the available transmission slots suitable and convenient for students – for individual listening and/or listening in groups? Are any groups discriminated against by the times?
- Are radio signals clearly audible in all parts of the area you cover? If not, what additional arrangements could be made for areas where reception is poor?
- To what extent do students listen to radio programmes broadcast for their courses? What are the reasons for this? How can radio listening be encouraged?
- What type of relationships exist between the institution or project and the broadcasting authority? Are they well managed? How could they be improved?
- Are the costs of transmitting radio programmes justified in terms of their contribution to the students' learning experience? Is there a case for switching to audio cassettes?

In the case of audio cassettes:

- What proportion of students have individual access to audio cassette players and adequate sources of power? How many can listen in study groups?

- Is the multi-copying, labeling, packaging, storage and distribution of audio cassettes carried out efficiently and effectively? How could the system be improved?
- Do students receive the correct cassettes, properly labeled and combined with the appropriate support material, at the time they need them for their studies?
- Are the costs of distributing audio materials on cassette justified in terms of their contribution to the students' learning experience? Is there a case for switching to radio?

Student use

In relation to individual listening:

- Do students receive adequate information about audio material linked to their courses? Is the information accurate and relevant? Do they receive it in good time?
- Are students provided with sufficient and suitable support in terms of when, why and how they should listen to and use the audio material?
- What additional information and support material would increase the effectiveness of the radio programmes, audio cassettes or audio-vision?
- How efficient and effective is the system for communicating with students? How could it be improved – e.g. by using a wider range of communication networks?
- Is there an adequate system for inviting and responding to student comments and feedback on audio and associated materials?

In the case of group listening:

- Do students and tutors/facilitators receive sufficient and timely information on the audio material available to them?
- Are they provided with enough information on when, where, why and how to use the audio and accompanying print materials?

- Are the group listening facilities accessible to students and tutors/facilitators? To what extent do they make use of them – and why?
- How well equipped are group listening facilities? Is the equipment well maintained and in good working order? Is the atmosphere conducive to group learning?
- Are suitably qualified and experienced tutors/facilitators recruited? Do they receive adequate training, support and supervision in the use of audio materials?
- Are the costs of providing group listening facilities justified in terms of the benefits the students derive from them? Could the money be better spent?
- How might the quality, relevance, efficiency and effectiveness of the group-based use of audio be improved?

As suggested earlier, these are just an indication of the type of questions that might be asked in the process of monitoring and evaluating the use of audio. No doubt you will want to add your own more specific questions, reflecting your own particular use of audio and the context in which you are using it.

It is also important to emphasise the positive purpose of monitoring and evaluation, and the constructive contribution it can make to the life and work of an institution or project. The object of the exercise is not to sit in judgement on individual colleagues or on the organisation as a whole; but rather to make a positive and constructive contribution to improving the quality, relevance, efficiency and effectiveness of the service you are providing to your students.

It must always be remembered that it is our students who are the ultimate beneficiaries of monitoring and evaluation. But we too will benefit. We will gain the professional and personal satisfaction of providing the best possible education service that we can.

Who should be involved in monitoring and evaluating audio?

Is monitoring and evaluation a specialist task? Should only those who are formally labeled as 'researchers' or 'evaluators' be involved? Or should all those who are engaged in providing audio materials have a part to play?

Clearly, research and evaluation involve specialist skills. The more sophisticated the research task, the higher the level of skill and experience required. Most distance and open learning institutions have at least some provision in this area – though often on a very small scale. In most institutions, the number of research and evaluation personnel is likely to be very limited. It is also likely that they will concentrate their efforts on the evaluation of 'products' and on student access and responses to them. This work is obviously important. But it also leaves a large area of 'process' uncovered – particularly the planning, design, development and production processes.

So who should be responsible for monitoring and evaluation in these areas? And also, when specialist evaluation skills are limited, who should take responsibility for the monitoring and evaluation of distribution and student use?

Clearly, senior staff – department heads and heads of sections – have a major responsibility in this area; and this needs be written into their job descriptions. In particular, their responsibilities should include:

- Establishing agreed procedures, ways of working and performance standards within their areas of responsibility
- Communicating these norms, values and expectations to the staff involved, and negotiating their acceptability
- Monitoring and evaluating activity within their area of responsibility – identifying problems, seeking solutions and securing their implementation – in consultation with the staff involved
- Creating an awareness and acceptance of the idea of 'total quality' by all staff, and motivating them to take responsibility for achieving high standards of quality, effectiveness and efficiency

From this it is clear that senior staff on their own cannot carry responsibility for monitoring and evaluating performance and ensuring high standards of quality. Procedures and standards of performance need to be negotiated, agreed and accepted by all staff if high standards are to be achieved.

However, senior staff do have a special responsibility for providing leadership and establishing a 'culture of quality' within their areas of responsibility – a set of attitudes and behaviours, permeating the organisation, that reflect a commitment to the values of quality, relevance, effectiveness and efficiency in distance and open learning. Achieving this, however, is perhaps less easy than stating it!

Recognising that monitoring and evaluation of audio is not just the responsibility of a small group of research and evaluation specialists has two major implications:

- The need to set up on-going systems for monitoring and evaluating audio-related activities at all levels within an organisation
- The need to provide training in the techniques of monitoring and evaluation – in particular for management, but also for a wider range of staff involved in the design, development and delivery of audio materials

A possible agenda for discussion with research and evaluation specialists

- What do they see as their main priorities in terms of research and evaluation?
- What sort of approaches and methods do they use or are they planning to use?
- What role do they see for subject specialists and producers in the evaluation of audio materials? And what assistance can they offer in carrying out this task?

How should monitoring and evaluation be carried out?

It is not possible in a handbook such as this to go into a great deal of detail about the methods and techniques of monitoring and evaluation. However, it may be useful to make some more general points, which are perhaps of particular relevance to institutions and projects which have limited resources and specialist skills to invest in this area.

Methods and techniques

A wide range of research methods and techniques are available for the monitoring and evaluation of audio-related activities in distance education. Among the more important are the following:

- **Internal review** – in which colleagues (e.g. members of a course team or department) review, discuss and evaluate their own procedures, practices and performance. This can be done formally by setting targets and reviewing progress on a regular basis. Such reviews can be conducted individually (e.g. through staff appraisal procedures) or collectively (e.g. in staff meetings). Internal review can also take place informally – for instance, as part of the normal day-to-day activities of course teams or other working groups.

- **External assessment –** in which outside experts review specific areas of audio-related activity, and provide evaluative comment and suggestions for improvement – e.g. external assessors and examiners for particular courses, outside consultants advising on the design, development, production and delivery of audio materials.
- **Sample survey methods –** in which questionnaires and interview schedules are used to collect monitoring and evaluation data from representative samples of people involved in or affected by the use of audio – e.g. students, tutors and facilitators. This data is recorded, analysed and interpreted – often with the aid of computers and statistical techniques – and forms the basis of monitoring and evaluation reports. These reports present and analyse the data, draw out its implications and usually make recommendations for improving the system.
- **Focus groups –** a method widely used in marketing and advertising (and increasingly in politics), which involves bringing together a representative group (e.g. in our case, students and/or tutors) to discuss in depth some aspect of the subject under review – e.g. the use of drama in non-formal education or ways of improving an audio-vision package designed for individual student use.
- **Observation –** which involves systematically watching and listening to, recording and subsequently interpreting, the behaviours of people who are either designing and producing audio, or are using the materials (individually or in groups). This type of data collection, if it is to be used seriously, requires special training. It is generally used in conjunction with other data collection methods – such as sample surveys or focus groups.

These methods can either be used individually or in combination. As a general rule, the combined use of different methods is likely to produce more valid and reliable data; and therefore provide a better and more reliable basis for suggesting and implementing changes in procedures and practices.

The last three methods outlined above can also be used by different people – by research and evaluation specialists, by subject specialists and producers, by part-time tutors and facilitators. However, if the methods are being used by non-specialist staff, it always makes sense to take advice from people with knowledge and experience of research and evaluation, either internally or from another institution or project. Such people can provide useful advice on, for instance:

- The design of questionnaires, interview schedules and observation schemes
- Their use in data collection, subsequent analysis and interpretation

- The selection of samples and the setting up of focus groups
- The preparation and presentation of reports and recommendations

Finally, it is also important to emphasise that research and evaluation data does not interpret itself; nor does it tell you directly what action needs to be taken. Merely collecting the data is not enough. Data has to be analysed and interpreted. And this interpretation needs to lead to action – action for change and improvement in distance and open learning systems and in our case action to improve the impact and effectiveness of audio. Evaluation without action is no evaluation at all; it is merely rhetoric.

Areas of application

Different methods of monitoring and evaluation are appropriate for different stages of the audio process. In what follows, we review some of the key questions that need to be addressed; and suggest some of the main methods through which monitoring and evaluation can address them. We deal briefly with planning, design and development, production, distribution and student use of audio.

Planning

At the planning stage, both for institutional planning and the overall planning of audio in support of particular courses, internal review and external assessment and advice are important. Those involved in policy making, resource allocation, planning and scheduling need to establish clear targets and performance criteria. They need to review progress and achievements regularly and take remedial action where necessary.

In relatively new institutions or projects, or situations where new planning systems are being introduced, it is also useful to seek external advice and assistance. There is now a good deal of relevant international experience and expertise in the setting up and operation of structures and processes for planning in distance and open learning, both at the institutional level and in terms of course planning.

Each institution or project will need to develop its own procedures and practices in this area. But it would be unwise not to have them monitored and evaluated as they develop by external experts with access to a wider range of appropriate international experience.

Design and development

As suggested earlier, in designing and developing audio materials, it is important to monitor and evaluate both the 'products' that are being developed and the 'process' through which this is taking place.

There are three main ways in which the quality of audio materials can be monitored and evaluated as they are emerging during the design and development process:

- **Peer review –** in which audio materials (usually in detailed outline or draft script form) are reviewed and commented on by one or more fellow members of a course team
- **Critical reading –** similar to peer review, but involving subject specialists and producers who are specifically asked to review emerging material and offer constructive criticism and suggestions for improvement
- **External assessment –** a more formal review of emerging materials by a specially appointed 'external assessor', usually a senior figure from another comparable institution or project, who is responsible for ensuring the quality and acceptability of the material

It is worth noting that these procedures have emerged mainly in relation to the development of printed materials in distance and open learning. They are more difficult to apply to audio, because of the way audio is developed and produced. Nevertheless, in the interest of quality, it is worth exposing initial audio ideas, series outlines and draft scripts to this kind of critical review, which needs to involve both subject specialists and producers.

In addition, it is also worth 'pre-testing' materials, both audio and printed support, as they are being designed and developed, particularly if they are using new approaches which you have not tried before. It is difficult to say exactly when pre-testing should take place – i.e. whether it should be part of the development process, or come early in the production phase.

Perhaps the best answer is that as soon as you have a sample of audio material that you think it would be useful to try out on your students you should do so. This does not need to be a completed audio package. Nor do you need to pre-test it on a statistically representative sample. You can usefully try out parts or segments of the material on one or more informal groups of fairly typical students, depending on the time you have available.

A ten-point plan for pre-testing audio and associated materials

- Be clear about your objectives – what you want your students to know or be able to do as a result of listening to/looking at the material.

- Prepare your research instruments – e.g. questionnaire, interview schedule and/or observation plan – designed to find out how effective the material is and how it can be improved.
- Seek the assistance of colleagues. Pre-tests can usually be administered more efficiently if there are several people to handle the observation, questionnaires or interviews and discussion.
- Make arrangements for the students to use the material – either individually or in groups, with or without a tutor – as they will when it is delivered as part of the course.
- When you meet the students, explain the purpose of the pre-testing exercise – emphasising that it is not designed as a test of their abilities, but rather as a way of helping you to improve the quality of the audio materials.
- Observe the students (as unobtrusively as possible) while they are using the material. You will probably find that an observation plan/checklist will help you do this more effectively. If possible, have more than one person making the observations, so that you can compare and cross-check your results.
- When the students have finished using the material, and while the experience is fresh in their minds, ask them to complete the questionnaire or conduct your interviews with them.
- If possible, follow this with a group discussion, giving the students an opportunity to share their experience of using the material and provide information not tapped by the questionnaire or interviews. This also gives you a chance to thank the students (and the tutor or facilitator, if one has been involved) for their help.
- As soon as possible after the pre-test, analyse your data, draw out the implications for the material, prepare your report and recommendations, circulate them to colleagues who are involved in developing the course, and arrange an opportunity for the discussion of the findings.
- Apply what you have learned to the materials you are continuing to develop. Remember, that without action for improvement, pre-testing is a pointless activity and a waste of time.

In addition to monitoring and evaluating emerging audio 'products', it is also important to be self-critical about the design and development 'process'. We need to be concerned about the following type of questions:

- Are suitable structures and procedures in place? Are they working well?
- Is adequate leadership and direction being provided? Is there effective consultation?
- Is the work being realistically scheduled? Are schedules being followed?
- Are working relationships satisfactory – e.g. between subject specialists and producers?
- Are external advisers, writers and contributors being adequately managed?
- Are internal and external quality assurance mechanisms operating satisfactorily?
- How can the system be improved and made more efficient and effective?

To some extent, an awareness of these questions and of ways the system can be improved will emerge as a natural by-product of regular course team meetings. However, it is also important that from time to time they should be addressed directly within the group. Here the managers and leaders of course teams and other working groups have a particular responsibility. For instance, they need to:

- Establish good working practices and standards of performance
- Monitor team activities to make sure they are being observed
- Identify problems and take appropriate remedial action
- Provide support and supervision where it is needed

However, such activities will only succeed if there is a consensus within the group about ways of working and acceptable standards of performance. Managers and group leaders need to build up this consensus. They also need to establish an atmosphere in which monitoring and evaluation are seen as a legitimate, valuable and non-threatening aspect of working life. Setting standards and making sure they are observed needs to become a shared and accepted value within the group.

Production

The production phase for audio grows out of (and usually overlaps) the design and development phase. It involves transforming a set of ideas for audio into finished radio programmes, audio cassettes or audio-vision packages, ready for distribution and student use.

Since production is a continuation of design and development, most of the methods and approaches to monitoring and evaluation discussed above are continued into the production phase. And again attention has to be paid to both 'products' and 'processes'.

As far as 'process' is concerned, our earlier discussion identified a number of key areas and activities that need to be monitored and evaluated in relation to audio production. In particular:

- equipment and facilities
- budgets and use of resources
- staffing provision
- skill levels and training needs
- producer workloads
- production scheduling
- management of recording
- professional and technical standards

These questions are essentially the concern of the managers of audio production and the production of associated materials. As with other managers in distance and open learning, they need to:

- Establish and promote good working practices and standards of performance
- Measure activities and achievements against these norms and expectations
- Identify areas in which performance falls short of professional requirements
- Take remedial action to ensure and maintain high standards of output

But also, as in other areas, these responsibilities can only be carried out within a 'culture of quality' which reflects a shared commitment to a set of professional values that involves all staff in a continuing process of aiming for and achieving the highest standards of production.

The 'products' of the production stage are radio programmes, audio cassettes and audio-vision packages, ready to be broadcast or distributed to students and ready for student use. Once again, it is important to monitor and evaluate the quality of these 'finished' materials.

To some extent, this can be achieved, as at the design and development stage, through peer review, critical listening/viewing and expert assessment. However, although these methods are still useful, now that the audio materials are in recorded form, it is possible to take the process further. It is possible to go beyond making judgements about professional credibility and instructional design, and begin to look at the educational effectiveness of materials as they are being used by students. This process is normally called 'developmental testing' or 'formative evaluation'. (Here the terms are used interchangeably.)

The main aim of developmental testing/formative evaluation (within the context of audio) is to monitor and evaluate the use of selected audio and associated print materials – usually those developed early in the production process for a course – so that the findings of the evaluation can be fed back into the development and production of later materials in order to improve their quality and effectiveness.

It is usual, therefore, for course teams to select one or two fairly typical examples of radio programmes or audio cassette materials from the early part of a course; to subject them to developmental testing/formative evaluation; and to feed back the results into the production process, so that later materials are improved.

The approach and methods used for developmental testing/formative evaluation are essentially the same as those suggested earlier for 'pre-testing'. The main difference is that now you are dealing with a complete audio-based learning package. In addition to the audio material, this will usually involve – particularly for formal courses:

- Preparatory work on the relevant parts of the course text(s)
- Learning activities linked to the use of the audio or audio-visual material
- Follow-up activities design to reinforce knowledge and skills acquired from audio

This means that the process of developmental testing or formative evaluation usually takes longer than that for pre-testing. You will also normally be asking a wider range of questions than you would when you are pre-testing materials.

A ten-point plan for developmental testing/ formative evaluation of audio and associated print materials

- Select the audio and associated print materials you are going to formatively evaluate; and produce sufficient copies for the numbers of students you are intending to involve.
- Design, test and reproduce the research instruments – e.g. questionnaires, interview schedules, study diaries, observation schemes, tests/assignments – you are planning to use for the evaluation.
- Identify, select and arrange training for any colleagues/assistants you will need to involve in the organisation and administration of the evaluation.
- Identify and select the individual students or student groups, plus any tutors/facilitators, you will invite to participate in the evaluation process.
- Arrange one or more meeting(s) at which you will:
  - brief the students on the purpose and requirements of the evaluation
  - distribute the learning materials and research instruments to them
  - agree a timetable for the conduct and completion of the evaluation
  - arrange for the de-briefing of students/tutors involved in the exercise.
- Students will then work on the materials in the same or similar conditions to those in which they normally study – e.g. individually at home or in local study groups.
- When they have completed the work, students (and tutors/facilitators where appropriate) will record their reactions to the material by filling in questionnaires, being interviewed, completing tests/assignments etc.
- If practicable, the students/tutors involved in the evaluation should be brought together for a de-briefing and discussion of their experience of using the materials.

- The data derived from this process will be sent to/collected by the evaluation team, analysed, interpreted, reported on, circulated to and discussed by the evaluation team and others involved in or affected by the development and production of the audio/audio-visual material.
- The findings of the developmental testing/formative evaluation will then be fed back into the development and production of the remaining audio materials for the course, and also for other related or analogous courses.

As a result of this type of activity, you should be able to find answers to the following type of questions about the audio and printed support material:

- Are the aims and objectives of the material clear and easy to understand?
- Are the links between audio and other study materials and activities clear?
- Is the content relevant, interesting and appropriate to the subject matter?
- Is the structure and sequencing of the material clear and easy to follow?
- Are the language and concepts of the material pitched at about the right level?
- Are there sufficient practical examples and illustrations in the material?
- Is the pace of the material right? How long will it take students to complete it?
- Does the material engage the active interest and involvement of the student?
- Which parts of the material do the students find particularly easy or difficult?
- How can the effectiveness of the material and its value to the students be improved?

- Are there other questions to which you think developmental testing and formative evaluation might be able to provide the answers?
- Are there other ways – perhaps involving less time and effort – in which you might be able to find the same kind of information?

Distribution

The 'product' of distribution is the successful delivery of radio programmes and/or audio cassettes, together with support material, to distance and open learning students. Its 'process' usually requires cooperation with a number of different organisations. For instance:

- The broadcasting agencies responsible for transmitting radio programmes
- The postal services or couriers who deliver cassettes and support material to students
- Local study centre staff – if they are involved in passing on materials to students and/or providing listening facilities

All of these operations need to be monitored and evaluated on a regular basis. Performance criteria need to be established. The efficiency and effectiveness of delivery systems need to be measured and assessed. Where performance falls short of what is required, remedial action needs to be taken.

Checklist on the distribution of audio and supporting materials

In relation to radio programmes:

- Are the correct programmes being broadcast at the right times?
- Are the programmes preceded and followed by appropriate announcements?
- Are the broadcast signals strong enough to reach students in all areas?
- Do students have adequate access to radio receivers and sources of power?

- Are they able to use the equipment successfully to obtain a clear signal?
- Are efficient and effective systems in place to measure these variables?
- Is appropriate corrective action taken when and where it is necessary?
- How can the efficiency and effectiveness of the system be improved?

In relation to audio cassettes and audio-vision:

- Are the materials being stored in a clean, dry and well ventilated place?
- Are they adequately packed for the means of distribution being used?
- Are the materials in good condition when they reach the students?
- Do the right materials reach the right students at the right time?
- Are the costs of distribution reasonable? How are they checked?
- What procedures are in place to monitor the distribution system?
- Is the necessary action taken when performance standards are not achieved?
- How can the distribution system be made more efficient and effective?

The responsibility for monitoring and evaluation of distribution and delivery systems will usually be shared among a number of different individuals and organisations:

- Those who develop and produce the materials
- Those involved in storing materials, collating and packing them for distribution
- Those responsible for broadcast transmission or physical distribution
- Those involved in the distribution and use of materials at the local level

Detailed arrangements will obviously vary from institution to institution and from project to project. However, in most cases, because of the range of different organisations involved, it makes sense to identify one person with overall responsibility for coordinating the monitoring and evaluation of the distribution process.

The main methods employed are likely to be the direct observation of the distribution process – with careful recording of faults in the system and responses to them – and regular sample surveys of students and tutors/facilitators about their experience of receiving audio and other materials. The surveys should reveal the nature and extent of any problems in distribution. Observation should identify the causes of the problems and suggest appropriate remedial action.

Student use

Monitoring and evaluating the particular contribution of audio materials to student learning – i.e. the 'product' of audio in use – is generally quite difficult. The main reason for this is that, in most distance and open learning systems, audio is only one of a number of media which students are using. In well designed systems, the use of audio is closely integrated with the use of print and other media and learning activities. As a result, it is difficult to separate out the specific contribution of audio, and distinguish it from that of print and other media.

However, there are a number of indirect ways in which the impact and effectiveness of audio can be measured, and from which we can draw inferences about the level of satisfaction with the medium and its probable contribution to the process of teaching and learning. Some of the more important indicators are suggested below.

- The extent to which students listen to radio programmes when they are broadcast, and make use of audio cassettes either individually or in groups
- Students' judgements about the value of audio materials as part of their study activities, and their views on the contribution audio makes to their learning
- The views of teaching staff, tutors and facilitators on student attitudes to the audio materials that form part of their courses
- Their observations of student reactions and responses to audio – e.g. levels of use at local study centres, indications of audio in assignments and examinations

The main ways of obtaining information like this are through the use of sample surveys, interviews and discussions with students, tutors and facilitators, and reports from full- and part-time staff at local centres.

Some practical suggestions on collecting data on student use of audio

Surveys: One simple and effective way of obtaining survey data is to include an audio evaluation form with students' printed course materials or audio notes. This form can ask the sort of questions suggested earlier – in the discussion of formative evaluation.

- This technique can also be used as a source of data for 'piloting' audio materials – i.e. trying out and evaluating audio material the first time a course is offered, with a view to revising and improving it for subsequent presentations – and as a source of data for broader 'summative evaluations' of courses.

Interviews and discussions: There are usually plenty of opportunities for local staff to meet with students to discuss their reactions to using audio. Such contacts are often more difficult for course development and production staff; and there is always a danger that they can become out of touch with their students.

One way of overcoming this is for central staff to visit local centres as often as possible – e.g. when they are pre-testing or formatively evaluating materials, or in connection with the recruitment, selection and training of local tutors or facilitators. In addition, residential courses and weekend schools provide useful opportunities for holding focused discussion with students and tutors about audio – and of course other media!

Local networks: Many institutions and projects have well developed local networks of study and resource centres. As suggested above, it is important to make use of these networks for monitoring and evaluating audio. Local centres – and also the networks offered by government agencies and NGOs – not only provide a way of distributing materials and information, they also allow the systematic collection of feedback on course materials and study activities throughout your area.

For these networks to work well, clear areas of responsibility need to be defined at central and local levels; and channels of communication need to be opened and maintained between levels. Establishing and sustaining such networks takes time and effort; but the rewards in terms of feedback on our professional activity are substantial.

Establishing priorities: The catalogue of activities suggested above – and in the earlier parts of the chapter – clearly require a good deal of time, effort and resources. Unfortunately, for most educational institutions and projects, especially in relatively new institutions, time and effort are at a premium, and resources tend to be in short supply.

In terms of monitoring and evaluating audio, it is therefore essential to establish priorities. It will not be possible to do everything – so what are the most important tasks to be undertaken and how should you approach them? Rather than offering a suggested answer to this question, it makes more sense to invite you to think about it for yourself.

Establishing priorities for monitoring and evaluating student use of audio

- What do you see as the main priorities for monitoring and evaluating student use of audio within your own institution or project? What information would be most useful to you in terms of improving the use of your audio materials?
- Who should take the main responsibility for organising and coordinating this activity? Who else should be involved and in what ways?
- What methods of monitoring and evaluation will be most appropriate, given the resources available to you and the context within which you are operating?

That concludes our discussion of some of the basic issues involved in the monitoring and evaluation of the use of audio in distance and open learning. In many ways, this last stage of the audio process is the most important. Without effective monitoring and evaluation, how can we judge the quality, relevance, effectiveness and efficiency of the way we plan, design, develop, produce and distribute our audio materials, and the way our students use them? And without evaluation, how can we improve our professional performance and the quality of the educational services we offer to our students?

Checklist on the monitoring and evaluation of audio in distance and open learning

- What monitoring and evaluation of audio already takes place at your institution or project?
- Is this mainly the evaluation of audio 'products' – or does it also take into account the 'processes' through which audio materials are created and used?
- Can you identify further needs for the monitoring and evaluation of audio?

- What more could be done to evaluate the quality of audio materials – in terms of their content, instructional design and production standards?
- In the planning, design and development of audio materials, is sufficient use made of peer review, critical reading/listening and external assessment?
- To what extent is pre-testing used, particularly in the design and development of new types of audio material and printed support?
- Are audio materials and their printed support produced as efficiently and effectively as they should be? How could this process be monitored and evaluated?
- How well organised is the process for labeling, packaging, storing, retrieving and collating audio and associated print? Could it be more efficient and economic?
- Is the transmission and reception of radio programmes adequately monitored? Is a system in place for monitoring and evaluating the distribution of cassettes?
- How much do you know about your students' access to radio receivers, audio cassette players and reliable sources of power – both individually and at local study centres?
- How much do you know about the extent to which your students listen to audio material, the way in which they use the medium and their reactions to it?
- What resources – human and financial – are available within your institution or project for the monitoring and evaluation of audio?
- Among the areas identified above, which do you see as having the highest priority in your own situation? What do you know already? What do you urgently need to find out?
- For your priority area – and for other areas of monitoring and evaluation – what approach will you adopt?
- What would be the purpose of the activity? Who should be involved? What methods would be appropriate? Who would benefit from the work and in what ways?

SOURCES OF FURTHER INFORMATION AND ADVICE

This information is in two main parts. The first part gives some suggestions for further reading and reference material. The second part lists a number of institutions and agencies which can offer information, advice and training in the use of radio, audio cassettes and audio-vision for distance and open learning.

Further reading

What follows is a briefly annotated selection of titles which you might find useful for further reading and reference. It is presented in two parts. The first is general and consists mainly of studies of the use of broadcast and recorded media – especially radio and audio cassettes – for formal and non-formal education. The second part focuses more on practical techniques in the planning, design, development, production and delivery of radio and audio material for education. Unfortunately, some of the titles are out of print; but you may be able to obtain them from libraries or through inter-library loan schemes.

General

Bates, A W (1981) **The planning and management of audio-visual media in distance learning institutions** (Paris: International Institute for Educational Planning) – a useful review and analysis of the use of radio, TV, audio and video cassettes at 12 open universities worldwide.

Bates, A W (1984) **Broadcasting in education: an evaluation** (London: Croom Helm) – especially chapters 4-10 – a review of the use of broadcasting for formal and non-formal education, with a useful though now dated bibliography.

Bates, A W (ed) (1990) **Media and technology in European distance education** (Milton Keynes: Open University for the European Association of Distance Teaching Universities [EADTU]) – especially section 3.

Bates, A W (1995) **Technology, open learning and distance education** (London: Routledge) – on the role of technology and media in distance and open learning.

Bates, A W et al. (1982) **Radio – the forgotten medium?** (Milton Keynes: Open University, Institute of Educational Technology [IET] Papers on Broadcasting, No. 185) – a collection of research papers on the British Open University's use of radio for distance education.

Crowley, D et al. (1978) **Radio learning group manual: how to run a radio learning group campaign** (Bonn: Friedrich-Ebert Stiftung) – a practical handbook for non-formal education.

de Fossard et al. (eds) (1993) **Interactive radio instruction** (Washington, DC: USAID) – a series of studies of 'interactive radio instruction' (IRI).

Hall, B L and Dodds, T (1977) **Voices for development: the Tanzanian national radio study campaigns** (Cambridge: International Extension College) – case study on the use of radio for non-formal education.

Hawkridge, D and Robinson, J (1981) **Organising educational broadcasting** (London: Croom Helm) – a thoughtful review of the management and administration of educational broadcasting.

Jamison, D and McAnany, E (1978) **Radio for education and development** (London: Sage) – a study of the use of radio for education, particularly non-formal.

Laurillard, D (1993) **Rethinking university teaching: a framework for the effective use of educational technology** (London: Routledge).

Mason, R (1994) **Using communications media in open and flexible learning** (London: Kogan Page) – an interesting review of the media used in distance education, including radio and audio cassettes.

McAnany, E (1976) **Radio's role in development: five strategies for use** (Washington, DC: Academy for Educational Development) – a brief analysis of the potential role of radio in education and development.

Robinson, J (1982) **Learning over the air: 60 years of partnership in adult learning** (London: BBC publications) – a review of the use of radio and television for non-formal adult and continuing education in the UK.

Spain, P L et al. (1977) **Radio for education and development: case studies** (Washington, DC: World Bank) – two volumes of international case studies, accompanying Jamison and McAnany (1978) above.

University of London **External Diploma/MA in Distance Education** – see especially, Thomas J (1991) 'Media patterns and combination', Unit 7 of Course 2 on 'The development of distance education', and Thomas, J (1994) 'Managing radio and audio', Unit 7 of Course 4 on 'The organisation of distance education' (Cambridge: University of London/International Extension College). See also Course 6 on 'Electronic media'.

Warr, D (1992) **Distance teaching in the village: a case study of basic functional education for rural development**, Allama Iqbal Open University, Pakistan (Cambridge: International Extension College) – a

detailed case study of a non-formal distance education programme using audio cassettes, printed/visual materials and study group meetings.

Practical techniques

Adam, G and Harford, N (1998) **Health on air** (London: Health Unlimited) – a handbook for health education broadcasters.

Ahmed, D and Grimmett, G (eds) (1979) **Educational broadcasting – radio** (Kuala Lumpur: Asia-Pacific Institute for Broadcasting Development)

Ash, W (1985) **The way to write radio drama** (London: Elm Tree Books) – not specific to education, but very useful nevertheless.

Aspinall, R (1973) **Radio programme production: a manual for training** (Paris: Unesco) – a brief practical guide to radio production for education, somewhat dated but still useful.

Banerjee, S (1977) **Audio-cassettes: the user medium** (Paris: Unesco).

Borwick, J (ed) (1994) **Sound recording practice** (London: Oxford University Press, 4th edn) – a standard technical text for analogue and digital recording techniques.

Boyd, A (2001) **Broadcast journalism: radio and TV news** (London: Heinemann, 5th edn) – although aimed mainly at news journalists, includes useful and relevant practical advice and guidance for educational broadcasters.

de Fossard, E (1997) **How to write a radio serial drama for social development: a script writer's manual** (Johns Hopkins University, School of Public Health, Center for Communication Programmes)

Hancock, A (ed) (1976) **Producing for educational mass media** (Paris: Unesco).

Herbert, J (1976) **The techniques of radio journalism** (London: Adam and Charles Black) – a brief practical guide, aimed at radio journalists, but relevant to educational broadcasting.

McLeish, R (1988) **The technique of radio production** (London: Focal Press, 2nd edn) Ð a very good general text on practical techniques of radio programme development and production.

Nisbett, A (2003) **The sound studio** (London: Focal Press, 7th edn) – a standard text on studio-based recording techniques. Previous editions published as "The techniques of the sound studio".

Nisbett, A (1994) **The use of microphones** (London: Focal Press, 4th edn) – a brief practical guide to audio recording and the use of microphones. (Now out of print, but content included in "The sound studio", see above).

Roberts, M (1985) **Sound production: technical notes for the non-technician** (Paris: Unesco).

Rowntree, D (1990) **Teaching through self-instruction** (London: Kogan Page, 2nd edn) – a practical guide to course development and production (including audio) with examples and illustrations.

Rowntree, D (1994) **Preparing materials for open, distance and flexible learning** (London: Kogan Page).

Rowntree, D (1994) **Teaching with audio in open and distance learning** (London: Kogan Page) – a practical self-instructional guide with an accompanying audio cassette of examples and illustrations.

Welsh, B W W (ed) (1973) **A handbook for scriptwriters of adult education broadcasts** (Bonn-Bad Godesberg: Friedrich-Ebert Stiftung – 2 vols) – practical guidelines and examples of script writing for non-formal adult and continuing education.

Information, advice and training

The following organisations offer information, advice and training in the use of media for distance and open learning, including radio, audio cassettes and audio-vision. These are not the only institutions which offer such services; but they are the main ones that operate on an international scale.

The Commonwealth of Learning (COL)

The Commonwealth of Learning
Suite 600, 1285 West Broadway
Vancouver, British Columbia
Canada V6H 3X8

Tel: +1 604 775 8200
Fax: +1 604 775 8210
E-mail: info@col.org
www: http://www.col.org

COL was established by the Commonwealth Heads of Government in 1988. It has a mandate to create and widen opportunities for learning, by promoting cooperation between Commonwealth educational institutions, with a particular emphasis on the potential of distance education and open learning, and the application of communication

technologies to education. The overall aim of the organisation is to help strengthen the capacities of Commonwealth member countries to develop the human resources required for their economic and social development.

COL provides a wide range of services in many Commonwealth countries – particularly those that are less well endowed and in need of increasing educational access to their people. Through COL's expertise and world-wide network of practitioners, assistance is available in the application of innovative educational technologies, the provision of model learning materials, support for the development of open and distance learning systems, and in the training and professional development of distance educators.

COL is particularly active in the areas of technical/vocational education and training; teacher education; training for distance educators; non-formal and adult basic education; cooperation and collaboration between educational institutions and media organisations; and gender issues in education and development. COL publishes a quarterly newsletter (**Connections**) and a wide range of reports, directories, manuals and papers – details of which, together with information on COL projects and services, are available from the address above.

International Centre for Distance Learning (ICDL)

International Centre for Distance Learning
The Open University
Walton Hall
Milton Keynes MK7 6AA
United Kingdom

Tel: +44 1908 653537
Fax: +44 1908 654173
E-mail: icdl-enquiries@open.ac.uk

ICDL was created in 1983 with funding from the United Nations University. It is based at the British Open University as part of its Institute of Educational Technology. ICDL's main role is to monitor developments in distance education at all levels of education and training worldwide, and to disseminate information worldwide, but particularly to developing countries. ICDL offers two major services: first its research library collection and services, and secondly its distance education database.

ICDL boasts the largest distance education library in the English-speaking world. It acquires copies of all current books, journals, journal off prints, research reports, conference papers, dissertations, and other types of published, semi-published and unpublished

literature relating to the theory and practice of distance education worldwide. The library is continually up-dated. Newly acquired literature, together with details of forthcoming conferences, seminars and other events, is listed in ICDL's quarterly publication **ICDL Update**, and then in the literature section of the database, whose entries include abstracts and some full texts of documents. ICDL is in the process of compiling and publishing bibliographies. Subject to copyright restrictions, it can also provide copies of documents. Researchers and other visitors are welcome to work in the ICDL Library; and searches are undertaken for people who are unable to visit in person.

The ICDL distance education database is designed for ease of use by people with little experience of using computers or databases. It can be searched in a variety of ways; and entries can be printed off for future reference. The database is accessible on-line (via Telnet, WWW and gopher) and on CD-ROM. It provides a comprehensive tool for researching information in three main areas:

- **Courses and programmes:** The database has over 30,000 detailed entries describing distance-taught courses and programmes offered by more than 500 institutions – mainly in member nations of the Commonwealth – including Australia, Canada, India, New Zealand, South Africa and the United Kingdom.
- **Institutions:** More than 900 institutions worldwide offering distance-taught courses are included on the database.
- **Literature:** The database contains over 8000 document descriptions concerned with all aspects of the theory and practice of distance education and training worldwide.

For further information on ICDL's Library services and details of on-line and/or CD-ROM access to its database, or if you would like to receive a regular copy if **ICDL Update,** contact the Director of ICDL at the address above.

International Extension College (IEC)

International Extension College
95 Tenison Road
Cambridge CB1 2DL
United Kingdom

Tel: +44 1223 353321
Fax: +44 1223 464734
E-mail: iec@iec.ac.uk
www: http://www.iec.ac.uk

The IEC is an educational charity which was established in 1971. Its main purpose is to provide a service of information, consultancy and

training in the use of distance education and open learning, mainly in developing countries.

The IEC offers a wide range of services:

- information – available from its extensive Resource Centre in Cambridge, UK, which includes a wide range of publications and course materials from throughout the world, and also from the international network of contacts established by IEC staff and associate consultants;
- consultancy and advice on the planning and design of distance education and open learning; the design, development and delivery of materials, courses and programmes in formal and non-formal distance education; the provision of student support services; and the monitoring and evaluation of distance education and open learning systems;
- training courses in materials development, student support, and the organisation and management of distance education, delivered either in the UK or overseas; and opportunities for professional development in distance education through the University of London's **External Diploma/MA in Distance Education**, which is taught at a distance, with tutorial support from experienced IEC staff.

For further information about the IEC, its publications and the services it offers, contact the Executive Director at the address above, or visit the website.

Additional contacts

In addition to the international organisations listed above, you should also be able to get useful information and advice from institutions and projects using audio for education in your own region – for instance, broadcasting organisations, open colleges and universities, and a range of non-formal education projects. Further information about local and regional contacts should be available from your own ministry or department of education. But if you have any difficulty in obtaining the information you need the IEC or ICDL (details listed above) may be able to help.

About the author

John Thomas was born in 1937. He was educated at the University of Durham in the UK and Yale University in the USA. He taught politics at the University of Essex from 1964 to 1969, when he joined the BBC to produce social science radio programmes for the newly established Open University. In 1971, he was appointed senior producer, and spent most of the next ten years working mainly on adult and continuing education programmes for the BBC. From 1978 to 1980, he was seconded as an adviser in the educational use of broadcast media to the Allama Iqbal Open University in Pakistan. From 1981 to 1987, he taught radio and educational broadcasting at Christ Church College in Canterbury in the UK.

Since 1983, John Thomas has been involved in consultancy and training in the use of media — particularly audio — for distance and open learning, working mainly under the auspices of the International Extension College (IEC) in a wide range of developing countries. He joined the full-time staff of the IEC in 1991, and remained with the organisation until 1997, when he retired from full-time consultancy and training because of his failing sight. He is the author of *Distance education for refugees* (IEC, Cambridge, 1996), and a contributor to Retamal, G. and Aedo-Richmond, R. (eds) *Education as a humanitarian response* (Cassell, London, 1998). He is currently living in Thailand, where his wife Anne Cameron is working as a volunteer with Voluntary Service Overseas.