

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 to 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?