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ABSTRACT

Teaching functions for which television, radio, and audiocassettes are particularly appropriate are considered, based on the use of broadcasting at the Open University. Television is useful for the following purposes: to demonstrate experiments or experimental situations; to illustrate principles involving dynamic change or movement; to illustrate abstract principles through the use of physical models; to illustrate principles involving more than one dimension of space; to demonstrate the visual picture of an area or building; to provide primary resource material or case-study material; to demonstrate decision-making processes; to change student attitudes; to study films or dramatic performances; and to teach sketching, drawing, or painting techniques. Audiocassettes are more appropriate than radio to analyze detailed visual material, to review complex arguments, and to witness naturally occurring events. Radio is more appropriate than audiocassettes to provide remedial tutorials; to relate course material to current events; to provide criticism or alternative viewpoints to course material; and in other cases when only hearing the material would be sufficient. (SW)

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APPROPRIATE TEACHING FUNCTIONS FOR TELEVISION,
RADIO AND AUDIO-CASSETTES IN OPEN
UNIVERSITY COURSES

- A Summary of Functions Proposed in Successful
Course Team Bids -

Broadcasts can be considered as having two distinct aspects: the actual content of the program, in terms of the topics or concepts contained in the program; and the way in which this content is used, by either the teacher or the students. The latter might be called the intended teaching function. Experience in the use of broadcasting at the Open University suggests that television and radio are particularly appropriate for certain teaching functions. Some of these are listed below:

GENERAL

There are several functions particularly appropriate to both television and radio which nevertheless are so general that they would apply to all programs in the OU context.

1. to increase students' sense of belonging; identification of and with course designers; making the teaching less impersonal;
2. to reduce the time required by students to master content from reading alone;
3. to pace students; to keep them working regularly; to break inertia of beginning to study in evening;
4. to recruit or attract new students (either to the University or to specific course); to interest general viewers in subject matter;
5. to establish academic credibility of course to "outside" world.

In a situation though of scarce resources, course teams are expected to propose more specific teaching functions for television and radio. Some of these functions are associated with courses in some faculties more than others and these are indicated in the margin.

TELEVISION

1. To demonstrate experiments or experimental situations, particularly

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Science/
Technology/
Psychology

- a. where equipment or phenomena to be observed are large, expensive, inaccessible or difficult to observe without special equipment;
- b. where the experimental design is complex;
- c. where the measurement of experimental behavior is not easily reduced to a single scale or dimension (e.g., human behaviour);
- d. where the experimental behaviour may be influenced by uncontrollable but observable variables.

Maths/
Science/
Technology

2. To illustrate principles involving dynamic change or movement.
3. To illustrate abstract principles through the use of specially constructed physical models.
4. To illustrate principles involving two-, three-, or n-dimensional space.
5. To use animated, slow-motion, or speeded-up film or video-tape to demonstrate changes over time (including computer animation).
6. To teach certain advanced scientific or technological concepts (such as theories of relativity, or quantum theory) without students having to master highly advanced mathematical techniques, by using instead animation, physical models, televisual representation of two-, three-, or n-dimensional space, and of dynamic change or movement.
7. To substitute for a field visit (e.g., to a factory, museum, archeological or architectural site, geographical location, etc.). Field visits may be used for a number of purposes, for example:

Science/
Technology/
Social
Sciences/
Educational
Studies/
Humanities/

- a. to provide students with an accurate, comprehensive visual picture of the site, or to provide an overall visual context or environment for certain phenomena, in order to place their study in context.
- b. to demonstrate the relationship between different elements of the particular system being viewed (e.g., machinery, production processes, ecological balance).
- c. to observe differences in scale and process between laboratory and mass-production techniques.
- d. to assist students to differentiate between different classes or categories or phenomena in situ.

8. To bring to students primary resource material, or case-study material, i.e., film or recordings of naturally occurring events, which, through editing and selection, demonstrate or illustrate principles covered in the units. This material may be used in a number of different ways, for example:

Social
Sciences/

- a. to enable students to recognize naturally occurring categories, symptoms, phenomena, etc. (e.g., teaching strategies, mental disorders, examples of certain kinds of human interaction, etc.).

Technology/

- b. to enable students to analyze a situation, using principles or criteria established elsewhere in a unit; or to test students in this way.

Educational
Studies/

- c. to enable the course team to demonstrate ways in which more abstract principles or concepts established elsewhere in a unit have been applied to the solution of "real-world" problems, where visualization of the application in its total environment is necessary to understand the way the principle has been applied, and the difficulties encountered.

9. To demonstrate decision-making processes

- a. by filming or observing the decision-making process as it occurs;
- b. by dramatization;
- c. by simulation or role-playing.

10. To change student attitudes

Social
Sciences/

- a. by presenting material in a novel manner, or from an unfamiliar viewpoint;

Technology/

- b. by presenting material in a dramatized form, enabling students to identify with the emotions and viewpoints of the main participants;

Educational
Studies
(contd.)

- c. by allowing the students to identify closely with someone in the programme who overcomes problems or himself change his attitudes as a result of evidence presented in the programme or televised exercise.

11. To bring students examples of films or television programmes, where the critical study and analysis of film or television itself is the subject material of a course.

All Areas

- 12. To record specialty events, experiments, species, places, people, buildings, etc., which are crucial to the content of units, but may be likely to disappear, die, or be destroyed in the near future.
- 13. To explain or demonstrate practical activities that students are to carry out themselves (e.g., home experiments, interviewing, project work).
- 14. To condense or synthesize into a coherent whole a wide range of information which would require considerable length in print, and which in print would not provide the richness of background material necessary for students to appreciate fully the situation.

Humanities/

- 15. Through performance, to demonstrate methods of techniques of dramatic production, or different interpretations of plays and novels.

Technology

- 16. To teach sketching, drawing, or painting techniques (e.g., the sketching of three-dimensional engineering components, the construction of fresco, the drawing of perspective, etc.)
- 17. To demonstrate the way in which instruments or tools can be played or used; to demonstrate the skills of craftsmen and their relationship with the materials and tools which they use.
- 18. To analyze, through a combination of graphics and sound, the structure of music.

RADIO AND AUDIO CASSETTES

The respective advantages and disadvantages of radio cassettes are discussed fully in OU/77/5 (IET Papers on Broadcasting No. 79).

In general, radio has a clear cost advantage over cassettes for courses with more than 750 students per annum; otherwise cassettes have clear educational advantages over radio, with one or two exceptions described below. Audio material intended for distribution on cassette only will usually require a different production style and format than audio material designed for radio transmission, although teaching functions may be similar.

More Appropriate for Cassettes (cost factors being equal)

- 1. To analyze or process detailed visual material. This visual material may take the form of mathematical equations or formulae, reproduction of paintings, graphs, statistical tables, "real" objects such as rock samples, technical drawings, architectural drawings, maps, etc. (The purpose of the cassette is to "talk" students through the visual material).



2. To enable students through repetition to obtain mastery in learning certain skills or techniques (e.g., analysis of language, language pronunciation, analysis of musical structure and technique, mathematical computation).
3. To analyze or critically review complex arguments, or carefully structured logical arguments.

Appropriate for Cassette or Radio (cassettes are still likely to have educational advantages over radio, but radio would not be inappropriate for the factors listed below)

1. To bring to students primary resource material, i.e., recordings which, through careful editing and selection, can demonstrate principles covered in the units. This material may be used in a number of ways, for example:
 - a. recordings of naturally occurring events, e.g., political speeches, children talking, concerts of performances, talks previously recorded for other than OU purposes (e.g., Reith lectures), eyewitness interviews at historical events;
 - b. to provide students with a selection of sources of evidence to analyze.
2. To bring to students the views of knowledge of eminent people who can condense in an interview the essential points of an argument or opinion, or who can be edited afterwards, to provide the essential points, which otherwise in written form may have been more complex or lengthy.
3. To record specially the voices of people who have not been recorded before, but whose contribution to the course would provide a unique experience (e.g., famous poets reading their own work, civil servants talking--perhaps anonymously--about their role in decision making).
4. To change student attitudes
 - a. by presenting material in a novel manner, or from an unfamiliar viewpoint;
 - b. by presenting material in dramatized form, enabling students to identify with the emotions and viewpoints of the main participants.
5. To provide the student with a condensed argument, in lecture form which may
 - a. reinforce points made elsewhere in the course;
 - b. introduce new concepts not covered elsewhere in the course;

- e. provide an alternative view to that presented in the correspondence text and/or television programmes;
 - d. analyze material contained elsewhere in the course, especially in carefully written broadcast notes or television programs.
 - e. summarize the main points of the block or course as far as it had gone, providing integration and orientation;
 - f. draw on quotation, recorded information, interviews, etc., as evidence in support of (or against) the argument.
6. To enable students to perceive that different points of view exist, and observe ideas being challenged, through discussions and interviews.
 7. To provide students with performance of music, drama, poetry, for appreciation.

More Appropriate for Radio (cost factors being equal)

1. To provide remedial tutorials, or some other form of tutorial based on feedback.
2. To provide corrections, where print re-make budgets are limited, or where print cannot reach students quickly enough.
3. To relate course material to current events (e.g., news stories, recent natural hazards, social, environmental, political or industrial developments), emphasizing the relevance or application of principles or concepts covered by the print material.
4. To up-date course material, to take account of events during the life of the course.
5. To provide external criticism or alternative viewpoints to course material in second or subsequent years of presentation as a result of exposure of course material to public review.
6. Radio can be used where only one hearing of the material would generally be considered sufficient. This might cover a number of circumstances:
 - a. an introduction, summary, or overview of a unit or block.
 - b. a discussion, where the raising of issues and counterviews is considered to be more important than the actual arguments themselves.
 - c. where an experience--such as a performance of music, a dramatization, a poetry reading--is considered to be of more value than an intellectual analysis of concepts, or the provision of information.

- d. a single argument or story, again where analysis of the argument or story is less important than familiarizing the student with the argument or story, or reinforcing ground covered elsewhere in the course.

Prepared for the Broadcast Subcommittee by

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