TOPIC 2

Media Planning in Open and Distance Learning

A model for planning media usage in open and distance learning

1. Overview

These materials support a discussion on the topic of planning which media to use and integrating them into learning materials designed for use at a distance. These materials are introductory and 'broad-brush'. The topics that are introduced here are covered in greater detail in subsequent sections of the kit.

1.1 Source materials for this topic

Bates, T. (ed.) *Media and technology in European distance education.* Proceedings of the EADTU workshop on media, methods, and technology. Milton Keynes: Open University/European Association of Distance Teaching Universities, 1990.

Bates, T. *Technology in open learning and distance education: a guide for decision-makers.* Vancouver: The Commonwealth of Learning and the Open Learning Agency, 1991.

Bates, T. *Technology, open learning, and distance education*. London: Routledge, 1995.

Jenkins, J. *Materials for learning: how to teach adults at a distance.* London: Routledge and Kegan Paul, 1981.

Mason, R., and A. Kaye (eds.) *Mindweave: communication, computers, and distance education.* Oxford: Pergamon Press, 1989.

Thomas, J. Media patterns and combinations. Block B, Unit 7, Course 2, *The development of distance education.* Cambridge: International Extension College, 1994.

2. Terminology

2.1 What is a medium?

A *medium* is simply a means by which something is communicated.

The *electronic media* are all those media that use electronic equipment to convey messages, such as

- audio cassette and video cassette players;
- radio and television;
- telephones;
- computers; and
- various devices attached to any of the above.

The electronic media require both:

- *hardware*: things you can touch, like the cassettes and their players; and
- *software*: the actual messages, whether voices, pictures, texts, or some other form, and the computer programmes that control the machines.

2.2 What is open and distance learning?

Open learning is primarily a goal or an educational policy. It implies provision of learning in a flexible manner, built around the geographical, social, and time constraints of individual learners rather than those of an educational institution.

Distance education is a means of providing both open and more restricted learning. Distance education is one way in which learners can study flexibly.

Open and distance learning is a term that combines the two, and emphasises *learning* rather than *teaching*.

In some countries, for example, in Canada and Australia, the boundary between distance education and open learning is becoming blurred as the use of electronic media by campus-based institutions increases. Learners take degrees through a combination of campus and distance courses, with some of their campus courses originating on other campuses. Flexibility is greater each year.

2.3 Enrichment or instruction?

Media can be used for enrichment as well as for instruction:

- *enrichment*: sometimes called *indirect teaching*, may add to learners' understanding in a general way; and
- *instruction*: or *direct teaching*, is aimed at conveying specific knowledge and skills.

2.4 Why 'integrated' media?

When media are integrated into a course, they cease being supplementary elements, and become an integral part of the learner's experience, over which that learner has as much control as he or she has with print.

Integrated materials:

- combine the 'symbolic' strengths of the media involved with the 'control' benefits of print;
- offer the course designer a coherent and integrated teaching system; and
- provide the learner a rich, varied, and coherent combination of learning stimuli.

Integrating a variety of media into a course offers learners the opportunity to use media most appropriate to individual learning styles and preferences:

- For those who learn best by watching and then doing, a video component can be invaluable, for example.
- Others may learn better by listening than by reading, in which case audio is of central importance.
- Yet others may learn most effectively by reading and then writing, especially when the material is densely packed with conceptual terms and requires a great deal of thought and reflection; computer-mediated communication becomes a valuable tool in such cases.

However, it is also important not to make too many demands on learners in moving from one medium to another. Too rapid switching can

- undermine the coherence of a course; and
- over-stretch the patience of the learner.

In the end, learners will decide for themselves how they use the materials.

> *Examples*: Some institutions are intent on integrating media into their programming as completely as possible; see the case studies for Deakin University, Murdoch University, and the Open Access College.

> *Discussion*: It may be useful at this point to ask participants to reflect on some of the media they have used for learning tasks, and on their appropriateness to their own learning tasks and styles.

3. Media characteristics

Media can be discussed in terms of a wide variety of groups of characteristics. A useful way to begin is by looking at three of these:

- symbolic characteristics;
- access characteristics; and
- control characteristics.

3.1 Symbolic

Symbolic characteristics refer to the range and type of 'symbols' that a medium uses to represent and communicate knowledge. Examples include:

- written language;
- visual images (still and moving);
- spoken language; and
- other sounds (for example, music).

Different types of symbolic representation are appropriate to different types of teaching and learning.

> *Example*: Print is in many ways a good substitute for conventional teaching. It offers a powerful combination of written symbols — mainly words and numbers — and a wide range of illustrations such as charts, diagrams, tables, maps, photographs, and drawings.
>
> Taken together, these symbols are capable of expressing clear and precise meanings. If they are used skilfully, within a sound design, they allow the teacher to communicate effectively on a wide range of subjects.
>
> However, it is also important to remember the symbolic representations that print does not use — sound and moving

pictures, for instance. As a result, some subjects are either impossible or very difficult to teach using print alone.

Discussion: Ask your participants to provide examples of subjects that are difficult to teach using print alone. Possibilities include listening and speaking skills in language teaching, an appreciation of performance in drama and music, and subjects and skills in science and technology that involve dynamic processes and movement.

3.2 Access

Access characteristics refer to the extent to which teachers and learners are in a position to use, and have the capacity to use, particular media for teaching and learning.

In terms of access, planners need to consider:

- the knowledge and skills necessary to use a given medium effectively; and
- the resources and costs that are involved in its production and use.

The subject of access is dealt with in greater detail below, in the closing section of this topic, and again in Topic 4 (Media Characteristics).

3.3 Control

Control characteristics refer to the extent to which both learners and teachers are able to exercise individual influence and choice over the way in which they make use of the medium.

This aspect includes:

- the degree to which the medium allows active learning on the part of the learner; and
- the degree to which the medium allows individualised interaction between teachers and learners.

These characteristics of the media available for use in open and distance learning are discussed more extensively under Topic 4 (Media Characteristics). Some of them also receive further attention in the final section of this topic.

4. Teaching functions of media

4.1 Terminology

The intended *teaching function* of a medium is the way in which the content of the message is used, by either the teacher or the learners.

4.2 General teaching functions

Some teaching functions of media are so general that they apply to all teaching media. These include:

- to increase learners' sense of belonging and identification of and with course designers, making the teaching less impersonal;
- to reduce the time required by learners to master content from reading alone;

- to pace learners, keeping them working regularly, to break the inertia of beginning to study;
- to prompt and promote discussion, whether between tutor and learners, between learners and other learners, or between learners and colleagues, family, and friends;
- to model behaviour that cannot be adequately communicated via the printed page, such as collaborative learning, or some practical skill such as speaking another language or performing some technique appropriately;
- to make the inaccessible accessible, such as the visual and aural presence of a renowned expert, or the culture of a group to whom learners would likely never have access;
- to recruit and attract new learners, whether by the novelty of the medium (for example, the World Wide Web, which learners want to learn about) or by the public nature of the programming (for example, radio and television programmes that anyone can listen to or view); and
- to establish academic credibility of a course — and an institution — to the 'outside' world, again through publicity and the use of the 'latest' media.

> *Discussion*: You and your participants are welcome to add to this list any media functions that have been important in your and their own experiences.

4.3 Specific teaching functions

In situations of scarce resources, which are typical of distance learning organisations around the world, course teams are expected to propose more specific learning functions for the media they intend to use. Some of these more specific functions include:

- to demonstrate experiments or experimental situations, especially when the equipment or phenomena to be observed are large, expensive, inaccessible, or difficult to observe without special equipment;
- to illustrate principles involving dynamic change or movement;
- to illustrate abstract principles through the use of specially constructed models;
- to illustrate principles involving two-, three-, or n-dimensional space;
- to use animated, slow-motion, or speeded-up film or video cassette to demonstrate changes of time;
- to substitute for a field trip, giving learners a comprehensive visual picture of a site, or demonstrating the relationship between different elements of a particular system;
- to present learners with primary resource material, or case-study material, enabling them to recognise naturally occurring categories, symptoms, and phenomena, or to analyse a situation;
- to demonstrate decision-making processes, by filming, dramatisation, simulation, or role-playing;
- to change learner attitudes, by presenting material in a novel manner or from an unfamiliar viewpoint, or in a dramatised form that enables learners to identify with the emotions and viewpoints presented;

- through performance, to demonstrate methods of techniques of dramatic production or different interpretations of plays and novels;
- to analyse through a combination of graphics and sound the structure of music;
- to demonstrate the way in which instruments or tools can be played or used;
- to record specific events, experiments, species, places, people, and buildings that are crucial to the content of a course but are likely to disappear, die, or be destroyed in the near future;
- to explain or demonstrate practical activities that learners are to carry out themselves; and
- to condense or synthesise into a coherent whole a wide range of information that would require considerable length in print, and that in print would not provide the richness of background material necessary for learners to appreciate fully the situation.

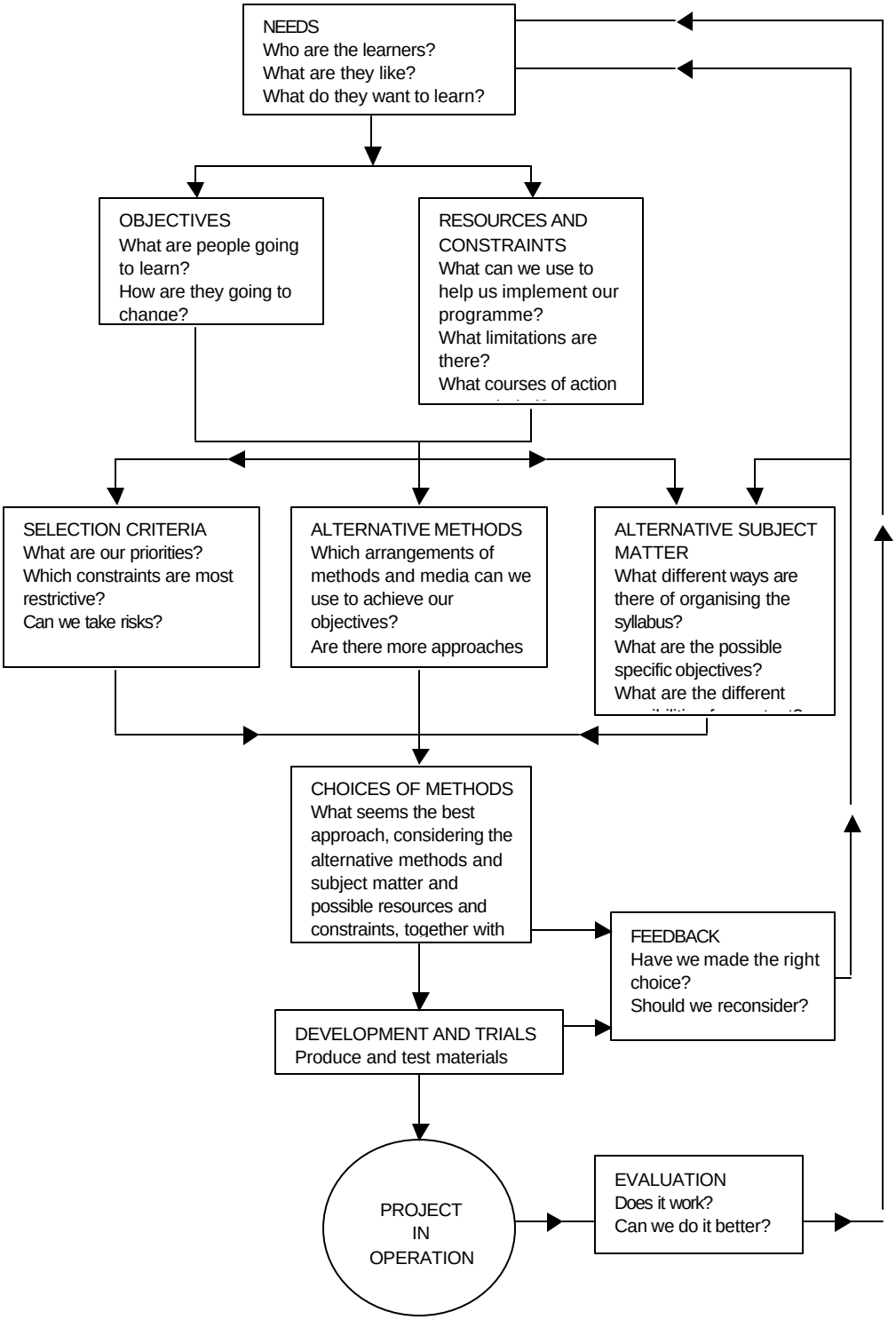
> *Discussion*: Again, you and your participants will be able to add to this list a number of specific functions arising from your own experience.

5. Media choice and combinations

5.1 A systems approach

To apply the knowledge that is available about the various media and their characteristics in the practical task of choosing appropriate media and media combinations, a basic model of the planning process within open and distance learning is needed. The following example is based on a model proposed by Janet Jenkins (1981).

A systems approach for planning open and distance learning



(Source: Jenkins, 1981:36)

5.2 Identifying audiences and defining educational needs

Often, audiences and needs are determined from outside the institution, for example, by governments. This identification tends to be at a very general level, however. Media planners usually require much more detailed information about the characteristics of the audience and its specific educational needs. These require research.

> *Discussion*: Ask your participants what some of the characteristics of audiences might be, and of their educational needs. These characteristics are dealt with in greater detail in Topic 3 (Instructional Design).

5.3 Access to media

The key concept in choosing media is access:

- What access does your institution have to different media?
- What access do learners have?

Learning objectives need to be developed in terms of:

- what media choices the institution can realistically offer; and
- which media in practical terms learners are in a position to use.

Print

The advantage of print is that:

- most institutions have access to print; and
- at post-literacy levels, most learners are able to use print.

Broadcast media

Access to broadcast media normally depends on:

- the national priority given to a project;
- the distribution of the target audience;
- the availability of receiving equipment; and
- the existence of dedicated broadcasting facilities.

Cassettes

Audio and video cassettes are highly accessible because they:

- require similar production and reception equipment as broadcast media; and
- do not need transmission facilities.

Computers

The accessibility of computers in learning is:

- still largely limited to industrialised countries.

Face-to-face instruction

Access to face-to-face instruction is based on the fact that:

- most institutions provide at least some face-to-face instruction; but
- costs of tutors and geographic dispersion of learners may limit the extent of face-to-face instruction.

5.4 Choosing among alternatives

Designing a media mix involves:

- relating learning objectives and content to the media available;
- originating the design because no scientific formula for a particular design;
- assigning varying quantities of media to different courses, an ability most institutions find always limited; and
- moving rapidly from one medium to another, an ability most learners find imposes limitations.

What tends to happen, is that:

- institutions decide on the 'main medium' of communication; and
- then decide how they can best use 'supporting' media.

In more formal systems:

- the main medium tends to be print; and
- face-to-face and electronic media take a supporting role.

In less formal systems:

- the broadcast of recorded media tends to take the lead;
- face-to-face contact provides focus; and
- print is used as additional support.

5.5 Development and production

In developing and producing the media components of learning materials, some points that are often neglected, including the importance of:

- establishing close working relationships between subject specialists and media professionals at the earliest stages of planning; for example, to establish the course team structure;
- monitoring media effectiveness through pre-testing and formative and summative evaluation, leading to the modification and progressive improvement of teaching and learning materials; and
- seeing media selection in a wider institutional context, allocation of scarce resources, and legitimate conflicts of interest.

6. The ACTIONS model for selecting media

When selecting media for your open and distance learning programme you can use the simple acronym, ACTIONS, to help you make your decision (Bates 1991).

The ACTIONS Model for Selecting Media

A	**Accessibility**	Is the equipment your programme requires available to the learners? Where will they be learning? At home? In the workplace? At a learning centre?
C	**Cost**	Are the costs of production, delivery, and maintenance using this technology affordable? Are the costs appropriate to the number of learners who will be enrolled?
T	**Teaching ability**	Does the technology convey the level of facts, attitudes and skills your programme requires? Is it suited to the kinds of learning required?
I	**Interactivity and user-friendliness**	Is the technology user-friendly? Can it convey adequate and timely feedback to the learner?
O	**Organisation**	How open is your organisation to change and the introduction of new media?
N	**Novelty**	Is it important to your organisation to be 'leading edge'? Is this a technology that learners will want to try?
S	**Speed**	How fast can your programme implement this technology? How much training do staff and students need in order to be able to use it? Will its use enable you to revise your materials as quickly as you need to?

6.1 Access

Factors to be considered when evaluating access include:

- Who is the target group? Who are the priority target groups to be served?

  learners denied access to conventional institutions?

  disadvantaged or equity groups?

  the unemployed?

  the working poor?

  workers needing upgrading or further qualifications?

- What is the most appropriate location for this learning? For example,

  at home?

  in a local centre dedicated to open learning?

at a local public education institution that shares its facilities?

at work?

- Which technologies do learners have available to them?
- What proportion of potential learners have access to a particular technology?
- If you make the use of a particular technology optional for learners, is it worth using at all?

6.2 Costs

There are some important distinctions to be made between and among the various technologies available in terms of their costs.

What are the capital costs?

Television and computing, for example, require high initial capital expenditure – a computing network or mainframe, a television studio and equipment.

What are the recurrent costs?

Television, for example, also has high recurrent costs because of the production staff needed to operate the capital equipment.

What are the fixed production costs?

Fixed costs for producing one hour of teaching material have been estimated as follows:

- face-to-face lecture 1 unit
- audio cassette, radio, or teleconference 2 units
- televised lecture 2 to 5 units
- computer-mediated communication 2 to 5 units
- print 2 to 10 units
- high-quality television programme 20 to 50 units
- pre-programmed computer based learning 20 to 50 units
- computer-controlled video disc 50 to 100 units

Will there be large numbers of enrolments over which to spread any high fixed costs?

Can the materials be used for a number of years, thereby spreading the costs?

What are the variable costs?

For example, if audio cassettes are used, then the delivery costs vary in direct proportion to the number of students.

Technologies vary considerably in their fixed and variable costs:

- audio cassettes and radio have low fixed and low variable costs;
- face-to-face teaching, computer-mediated communication, and tutor-mediated courses have low fixed costs but high variable costs;
- good quality broadcast television has high fixed costs and low variable costs; and
- pre-programmed computer-based learning and video discs have both high fixed and high variable costs, if work stations are to be provided.

Some of the newer interactive technologies such as computer conferencing and audiographics reduce fixed costs but have high variable costs, which make them suitable only for courses with relatively low student numbers.

Broadcast distribution is likely to be uneconomical for national distribution with less than 500 students per course for radio or less than 1,000 students per course for television.

6.3 Teaching functions

Media differ in the extent to which they can represent different kinds of knowledge:

- Most media can handle abstract knowledge, but some such as television are excellent for representing concrete knowledge.
- The representational possibilities of a medium like television are particularly important for non-academic learners, who often require concrete examples or demonstration rather than abstract theory.
- However, this form of television — which is symbolically very rich — is much more expensive to produce than televised lectures, which can be equalled symbolically by audio plus printed notes.

Media also differ in the extent to which they can help develop different skills. This is related to the control characteristics and the representational features of the medium. For example, computers are excellent for presenting and testing rule-based procedures, or areas of abstract knowledge in which answers are clearly correct.

Course designers therefore need both a good understanding of what is required to teach a particular subject and knowledge of the pedagogic strengths and weaknesses of the different media.

6.4 Interactivity and user-friendliness

Learners have much more control over permanent technologies such as books, cassettes, and computers than over ephemeral technologies such as lectures or broadcasts. This control enables learning from media to be much more effective.

Interactivity — the ability for the learner to respond in some way to the teaching material and obtain comment or feedback on the response — considerably increases learning effectiveness. There are two kinds of interactivity:

- *social interactivity*: learners' interaction with teachers and with each other via the medium; and

- *learning material interactivity*: learners' interaction with the medium; the level and the immediacy of feedback the medium itself provides; the extent to which the medium will accommodate the learners' own input and direction.

Media such as print and broadcasting that provide one-way interaction, need to be supplemented by media that provide two-way interaction; that is, social interactivity with tutors, via the following media:

- telephone;
- correspondence;
- computer communication; or
- face-to-face tutorials.

Computer-mediated communication provides:

- two-way communication at a distance;
- asynchronous contact, at the user's convenience;
- relatively low cost communication; and
- potentially the means for freeing students from the centralised control of pre-prepared and constricted curricula.

But computer-mediated communication also bears high variable costs, because of the amount of time a tutor must spend on-line.

6.5 Organisation

The existing technological infrastructure within a country or an institution is a major factor in influencing media selection. For example, if an existing broadcast network is under used, it is much easier to introduce television for open and distance learning purposes. On the other hand, the need to exploit an existing technology can also be a very conservative influence on media choice.

Existing funding arrangements for course production are another important factor. For example, it is often difficult to shift funds from existing, 'traditional' technologies to newer technologies, because of the threat to existing budgets and power bases.

Innovation in this area depends essentially on 'champions for change' at a high level, such as that of vice-chancellor or dean. However, those in influential positions may sometimes champion a technology because it is new or 'leading edge' even though it may not be an appropriate choice for the programme in question.

6.6 Novelty

Caution is well-advised if the pressure to use new media comes from a desire for novelty or status. For example, audio cassettes combined with print can be a very low-cost and effective medium, but it is often easier to get funding for *new* uses of technology because they are more spectacular.

Novelty may be an important criterion in a highly competitive market, however. The fact that your programme looks 'leading edge' because it is using the latest in multimedia technology may make it more attractive to learners who have a choice between your programme and several others that use only one or two more 'traditional' media.

6.7 Speed

Open and distance learning programmes are plagued by the problem of time; specifically,

- the time it takes to produce a course; and
- the time a course must continue to be offered without changes once it is produced.

In some subject areas, such as public policy or information technology, courses need to be put on quickly and easily updated. Electronic publishing can enable relatively minor changes to be made, but the initial design process is still slow.

Some of the more interactive technologies such as audio conferencing and computer conferencing do allow for a quick development of a course and continuous updating.

7. Practice exercise

7.1 A model for planning media use in open and distance learning

Instructions: Divide the participants into small groups. Ask each group to spend 20 minutes reflecting on the ACTIONS model for selecting media for use in open and distance learning. Ask each small group to choose one medium for analysis using the model, and then to report their results to the group as a whole.

Timeframe: Approximately one hour, depending on the size of the group.

Materials: Flipchart paper or overhead transparencies, pens.